

# A Case Study Investigation into the Performance of Gifted, Transition Year Students Participating in a Dual Enrolment Programme

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## Abstract

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This study follows the development of a dual enrolment programme called Early University Entrance (EUE) that allowed transition year students, with intellectual ability in the 95<sup>th</sup> percentile to participate (part-time) in 1<sup>st</sup> year, degree programme modules on a university campus. Over the course of one semester social, emotional, personal and academic integration of the students was evaluated. The study used mixed methodologies, with a predominantly qualitative approach. A battery of psychological measures was employed, along with focus groups, student diaries and questionnaires. Data was collected from the participants themselves, as well as their parents and teachers.

In adapting to the new learning environment, they experienced some difficulties. The students adopted a mature attitude toward their university study in coping and overcoming the issues they encountered. In their end of semester examinations, the early entrants, on average, performed as well if not better than their first year classmates. In terms of self-concept, there was a significant decrease at the mid-point however, this recovered to pre-programme levels by the end of the programme.

The study found that the students integrated well into the university from a social perspective, both in terms of the early entrance cohort and in their interactions with first year students. They did however experience some difficulties in maintaining links with their school friends.

There was a shift in their attitude toward school. Initially disparaging, they gained greater perspective as the semester progressed, and were ready to reintegrate by the end of the programme.

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Figure 4.2 – TOT scores on the Piers-Harris 2 Self-Concept Scale

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## Thesis Notes

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EUE	Early University Entrance Programme
schools	As second level institutions
Schools	As departments within the University
Eng	Common Entry to Engineering (degree programme)
AP	Applied Physics (degree programme)
PL	Politics and law, from the B.A. in Economics Politics & Law
-A	The first cycle of the pilot study; e.g. PL-A
-B	The second cycle of the pilot study
gifted	Refers to students found to function intellectually (mathematically and verbally) in the 95 <sup>th</sup> percentile, or at or above an IQ of 130.

Degree Programme	Year I Students	Year II Students
<b>B.Sc. Applied Physics</b>	Sarah Ruth John	Ryan Clodagh Ciaran Fintan
<b>B.A. Economics, Politics &amp; Law</b>	Julianne Maria	Henry Alannah Alice Philip Sally
<b>Common Entry Engineering</b>	Naomi Martin Michael	David Brian Alex

Participating Students by Degree Programme

Typical Age	Year - Ireland	Grade - United States
14 years	3rd Year	Freshman
15 years	Transition Year	Sophomore
16 years	5th Year	Junior
17 years	6th Year	Senior

School Year Comparisons between Education Systems in Ireland and the United States

“But too little thought has been given to the risks run by an able student in an unchallenging environment in *not* entering college early. As one of the Scholars wrote in his senior essay: “There is some danger that a young student’s talents will be harmed by being thrust among older students who do not accept him. But the greater danger is that he will be allowed to stagnate in secondary school and will arrive in college lacking imagination and ambition, these having been ‘educated’ out of him. The harm to him and society is great.””

(The Ford Foundation, 1957, p. 90)

# Chapter 1

## Introduction

---

This piece of research sets out the progress of a group of academically talented students who studied degree programme level, alongside regular first year students at a university in the Irish Republic. In a country, where educational acceleration would appear to be the exception rather than the rule, this was made possible by a purpose-developed programme entitled **Early University Entrance at Dublin City University** (EUE). With an average age of 15 years and having previously been identified as possessing high intellectual potential by the Centre for Talented Youth Ireland (CTYI), the students took part in this EUE programme during their fourth year (“transition year”) of secondary school. The programme was set up to be a part-time school, part-time university undertaking. Participants selected one of three, degree programmes to pursue – B.Sc. in Applied Physics, Common Entry to Engineering or B.A. in Economics, Politics & Law. The programme occurred in two cycles: during semester two of the 2008-2009 academic year and semester one of the 2009-2010 academic year, with 20 participants over the course of the two cycles.

Using a pragmatic, mixed methodology with a case study design, this study sets out to evaluate the progress of the early entrants over the course of the programme on a social, emotional and academic level. It explores their integration into the university environment and the effect of the programme on their school-life during this time. It also examines their reintegration into school following the conclusion of the programme.

The Early University Entrance programme provided a new trajectory for education in Ireland and one that showed little evidence of being previously explored. Its setup therefore was a noteworthy undertaking. As an introduction to the study, this chapter will elaborate on the context within which this programme is set. It will provide some background to the programme’s development, before presenting the layout of the remainder of the thesis.

## Acceleration: The Dual Enrolment Model

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The custom designed programme discussed in this study was based on elements of the concurrent (or dual) enrolment model commonly found in the United States. One of 18 interventions for gifted and talented students, concurrent enrolment falls under the umbrella of *acceleration* (Southern & Jones, 1991). Accelerative interventions progress intellectually able students by one or more academic years, in one or more subject areas. The principle is that course material from later years is more challenging and thus provides a more fitting intellectual fit (often referred to as *optimal match*).

In several ways, the programme developed for this thesis was different to the customary format of concurrent enrolment typically evidenced in third level institutions in the United States, where it is most prevalent. The system of education in Ireland across primary, secondary and tertiary levels is different to the US in many ways, and therefore some alterations were necessary. For example, the programme was only available to high ability students; it took place over a set period of time (what in Ireland is termed the Transition Year); and the opportunity to continue accessing further university modules during the fifth and sixth years of secondary school was not available. All of these alterations were necessary so that Early University Entrance at DCU could come about.

It is important at this point therefore to explain the educational landscape in relation to transition year and gifted education in Ireland.

## Context

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### THE STATUS OF & PROVISION FOR GIFTED STUDENTS IN IRELAND

Specialised education programmes for school-going children in Ireland with high academic ability, exist solely outside of the school system. Save for some individual school exceptions, the Centre for Talented Youth, Ireland is the only formal provider of programmes for these students. In schools, the mainstream curriculum is expected to cater for the special needs of gifted children. The legislation around education

provision for students with high academic ability is limited, and little reference was made to this issue before the early nineties.

The Report of the Special Education Review Committee (1993) considered high ability children to be those functioning above an IQ of 130, though they warned that following this cut-off rigidly had its shortcomings. They believe that “exceptionally able or talented” children have as much a right, as any child, to an education that affords them adequate levels of stimulation and the opportunity to reach their potential. They acknowledged that the fulfilment of these needs would require “require special arrangements in addition to the range of educational activities which can usually be provided in the ordinary classroom” (1993, p. 160). The realisation of these provisions within mainstream schools was strongly urged by the Committee. The Special Education Review Committee (SERC) Report recommended the use of acceleration practices where necessary and appropriate.

“schools should be allowed to use their discretion regarding placement according to competence in the various curricular areas; accelerated promotion should be considered where it is thought to be educationally desirable and consistent with the pupil's social and emotional welfare, as well as academic development;” (Special Education Review Committee, 1993, p. 164).

The Education Act of 1998 placed a statutory obligation on schools to afford every child an opportunity to reach their potential. It requires that educational institutions cater for the needs of all children, particularly those with special educational needs. (It later specified that this responsibility lie with the Board of Management of each school).

“9. —A recognised school shall provide education to students which is appropriate to their abilities and needs and, without prejudice to the generality of the foregoing, it shall use its available resources to—

(a) ensure that the educational needs of all students, including those with a disability or other special educational needs, are identified and provided for.”  
(Education Act, 1998)

In the education act written into law six years later (Education for Persons with Special Educational Needs Act, 2004) however, no reference was made to children with above average intelligence.

In 2007, the National Council for Curriculum and Assessment produced a set of draft guidelines entitled “Exceptionally Able Children”, to raise awareness amongst the teaching community about the special social, emotional and academic needs of high ability students (National Council for Curriculum and Assessment, 2007). The guidelines were designed to assist teachers in devising appropriate lesson plans, and through differentiation techniques, would cater for the particular needs of this cohort (National Council for Curriculum and Assessment, 2011). It is worth noting that the NCCA define *exceptionally able students* as the top 10% of students in every school.

“... general intellectual ability or talent, specific academic aptitude or talent, visual and performing arts and sports, leadership ability, creative and productive thinking, mechanical ingenuity, special abilities in empathy, understanding and negotiation.” (National Council for Curriculum and Assessment, 2007, p. 8)

The Centre for Talented Youth, Ireland, which was established in 1992, is the only formal source of special education provision for children with high academic ability. The Centre runs enrichment programmes in a variety of subject areas that fall outside of the mainstream curriculum, outside of school hours. In 2010, CTY Ireland assessed 2250 students (1,430 students at primary school level and 820 at secondary school level) for high academic ability. It ran 120 academic courses for its 2,200 high ability students from primary and secondary school (O'Reilly, 2011).

While the programmes are fee-paying, the organisation is non-profit making, and provides financial assistance to students from low socio-economic backgrounds. Up to 2008, the Centre had received an annual grant from the Irish government, which accounted for 7% of its annual budget. The funding however was withdrawn in 2008 due to government cutbacks.

A number of advocacy groups for gifted children exist in Ireland, including *GiftedKids.ie*, *giftedandtalented.ie* and *dazzledandfrazzled.com*.

## TRANSITION YEAR

Transition year is offered as the fourth year of second level education in Ireland, when students are at the age of 15-16 years. This year follows the first round of



national examinations (the Junior Certificate), and occurs before the two-year preparation for the Leaving Certificate, the results of which will decide upon the university courses available to the student. Transition year is compulsory in some schools and optional in others. In 2007, over 30,000 students from 560 secondary schools participated in transition year (Second Level Support Service, 2009).

Transition year is a “uniquely Irish invention” (Flannery, 2008) that offers much in way of courses and work experience. It functions to promote personal, social and academic maturity.

“Maturity in studies by making students more self-directed learners through the development of general, technical and academic skills

Maturity in relation to work and careers by developing work-related skills

Personal maturity by providing opportunities to develop communication skills, self-confidence and a sense of responsibility

Social maturity by developing greater ‘people’ skills and more awareness of the world outside school

Maturity that will help the student make a more informed choice of subject for their Leaving Certificate studies”

(Second Level Support Service, 2009)

Within the education system therefore, transition year provides a period of flexible learning and personal development. This flexibility was seen as presenting an ideal opportunity for gifted students, close in age to regular university entrants, to access university level learning, and assist them in reaching academic maturity.

## Programme Development

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### INSTITUTIONAL APPROVAL

In 2007, the process of developing a programme that would take transition year students with high academic ability into degree programmes at Dublin City University began. The first of its kind at an Irish university, it was developed in accordance with international best practice. With no clear method for setting up such a programme, its foundation was as systematic as it was haphazard. As a venture that would involve

several departments as well as the university as a whole, the initiation of discussions to see it progress followed many avenues.

As a first step, the programme was presented to the transition year National Coordinator in September 2007. He approved the concept, but warned that schools may see it as another opt-out of their prescribed transition year programme.

Following the securing of support from the School of Education Studies (where the researcher was registered as a PhD candidate) and the Centre for Talented Youth, Ireland (CTYI) (where the researcher worked) the proposal to establish such a programme was presented to the Secretary of Dublin City University. It was framed as a potential new direction for the Centre and for the university. The Secretary showed interest and eagerness to see its development. As a next stage, he suggested that the proposal be next submitted to the University President. Immediately, the President forwarded the document to the university's Academic Strategy Committee (ASC), who has responsibility for, amongst other things, the validation of the university's academic programmes. It exists as a sub-committee of Academic Council and is charged with directing the university's academic matters, including the curriculum, teaching and learning provided at DCU. The EUE proposal seemed to fall outside the brief of the ASC, who was more familiar with the ordinary degree and postgraduate functions of the university. They seemed somewhat unsure about how to go about validating a programme that did not fall within the usual criteria. The programme thus remained with the ASC for a number of months, as they endeavoured to make a decision about the proposal.

Initially, they found the proposal interesting and innovative, but could not come to a decision because the original submission lacked details about its purpose and pastoral care provision. An amended submission was discussed at a second ASC meeting, where it was decided that the programme would need the approval of the Research Ethics Committee (REC) and the School of Education Studies if it were to be sanctioned. Based on this information, the chairperson of the ASC would decide if it needed to be returned to the full committee for sanction. Though approval was granted by the REC, it came with several stipulations. The university did not wish to

accept liability for students who were, in the eyes of the law, children. Following much discussion and clarification, the ASC agreed to endorse the programme if the students were registered as CTYI, and *not* DCU, students. This meant that the issues of pastoral care would fall upon CTYI. (The researcher acted as *the first and last port of call*. The students were required to sign in and out with the researcher each day, which also served as an informal way to assess their progress). The early entrants would be allowed to sit-in on lectures and take part in the exams that followed but would not receive an official university transcript for their grades. (The committee recommended a university certificate of some sort however). Critically, they would not be permitted to earn modular credits, but they could use the modules to obtain an exemption from some aspects of their course at a later stage (e.g. if a physics graduate went on to an engineering degree). The conditions meant that the students would exist effectively as *shadows* in the system.

Coincidentally, the questions around pastoral care were raised at the same time that the university was drafting its own child protection framework (where the researcher had some input in the early stages). It highlighted a situation that had been the case since the university's inception but largely overlooked; that *children* already formed part of the student population (i.e. full-time students, under the age of 18 years). (The university's policy thus states that the framework is applicable "whether the child is a student of the university or is otherwise under the care or supervision of university staff" (DCU, 2008)).

The programme was finally permitted to proceed, notwithstanding several stipulations. This was however just one, albeit important, aspect of the programme's progress. As the faculties within the university exist to a degree autonomously, the acquirement of places on the degree programmes had to be dealt with separately.

#### **FACULTY NEGOTIATIONS**

Six Schools were approached about providing places to the EUE programme. Chosen based on unfilled course places and on established relationships with the staff there, the School of Physical Sciences, School of Electronic Engineering, School of Law & Government, School of Education Studies, Business School and the School of

Biotechnology were contacted. These discussions were taking place in while the issues with the ASC were being addressed.

In the end, three schools agreed to take on students under the Early University Entrance programme: the School of Physical Sciences, School of Electronic Engineering and the School of Law & Government. Each expressed concerns about pastoral care but was happy to proceed with the programme once these were dealt with. A key factor however influencing their decision was that of funding. None wanted to be penalised for taking on additional students, and this brought the issue of finance to the fore very early on.

### **FEE STRUCTURES**

Once again, the proposal brought to the fore an issue with no clear solution. The university had no existing fee structure in place for unregistered students, and the matter of tuition costs proved to be complicated. When the issue was first raised with the internal finance unit the standard modular fee structure was quoted as a benchmark but this would have meant a prohibitive price, and did not equate to students who would not enjoy the benefits of university registration. A revision was therefore required. As a solution, it was suggested that the fees be benchmarked against those of CTYI. Following further discussion between CTY Ireland, the university's finance office and the university Secretary, an agreement was reached. The university would *absorb* the difference between the two quoted fees, given that this was a pilot programme. This would mean that students would pay a reduced fee; two-thirds of which would go directly to the facilitating Schools. Though the finance office laid down the fee in the first place (the modular fees set down by the university are made centrally - the Schools have no input), the contract would exist between CTY Ireland and each of the Schools.

The progress of the Early University Entrance proposal continued until September 2008, allowing student recruitment to begin.

## Student Recruitment

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Application forms and brochures (see Appendices A-E) were sent to the cohort of academically able students identified by CTY Ireland of appropriate age. The application consisted of a letter of motivation, two letters of recommendation (to be completed by their teachers), and evidence of high intellectual potential. Applicants were then interviewed by a panel composed of the Director of CTY Ireland, a lecturer from each of the cooperating Schools, and the researcher.

The total number of applicants for each course is detailed in table 1.1 below. Eight students were selected to participate in year one of the programme, and twelve students in year two. The full list of applicants is detailed in Table 1.2. (An explanation of the PSSS scores is given in Table 1.3).

Year	Total Applications	Politics & Law		Engineering		Physics		Total Participants
		Applicants	Early Entrants	Applicants	Early Entrants	Applicants	Early Entrants	
1	13	5	2	4	3	4	3	8
2	19	9	5	5	3	5	4	12

Table 1.16 - Applications for Early University Entrance

One student dropped out of the programme prior to the start each year: in year one from *Politics & Law*, and in year two from *Engineering*.

All students were invited for interview. While student selection was based largely on academic performance to date, there was a strong emphasis on maturity and ability to cope with failure and challenging social and academic environments. Candidates were asked to provide instances where they had experienced adversity, how they coped and moved forward. They were also asked to describe what they thought university would be like in both a social and academic context. This was important in establishing whether their expectations were realistic, and enabled the interview panel to decide whether university would be a good fit for them at this stage.

	Candidate	Gender	PSAT/PSSS – Verbal	PSAT/PSSS – Math	PSAT/PSSS – Writing Skills	Qualified In*	Background	School Type	#1 Course Preference	#2 Course Preference	#3 Course Preference	Course Offered	Year
Padraig	John	M	48	56	54	M & V	Eldest, Rural dweller	Public				AP	1
Mairead	Ruth	F	47	54	56	V	Eldest, Rural dweller	Public				AP	1
Aisling	Sarah	F	-	-	-	M & V	Eldest, Urban dweller	Public				AP	1
Peter	Martin	M	63	58	50	M & V	Eldest, Urban dweller	Private				Eng	1
Harry	Michael	M	59	49	55	V	Eldest, Urban dweller	Private				Eng	1
Eimhear	Naomi	F	51	60	60	V	Middle child, Urban dweller	Public				Eng	1
Niamh	Julianne	F	48	53	51	M & V	Eldest, Urban dweller	Public				PL	1
Yvonne	Maria	F	58	56	60	M & V	Only child, Urban dweller	Private				PL	1
John Crowther	1	M	52	55	48	V	Eldest, Urban dweller	Public	PL			-	-
Esme Dunne	2 **	F	33	52	47	V	Urban dweller	Private	PL			-	-
Allan Kilroy Gl	3	M	53	59	51	M & V	Middle child, Rural dweller	Public	PL			-	-
Andrew Reyno	4	M	41	37	50	V	Middle child, Rural dweller	Public	Eng			-	-
Marie Kelleher	5	F	44	52	51	V	Eldest, Rural dweller	Public	AP			-	-
Callum	Ciaran	M	55	56	42	M & V	Eldest, Urban dweller	Private				AP	2
Ashling	Clodagh	F	55	48	38	V	Eldest, Rural dweller	Public				AP	2
Louis	Fintan	M	61	59	60	M & V	Eldest, Urban dweller	Public				AP	2
Conor	Ryan	M	-	-	-	M & V	Middle child, Urban dweller	Private				AP	2
Daniel	Alex	M	60	56	53	M & V	Eldest, Urban dweller	Public				Eng	2
Darragh	Brian	M	57	53	53	V	Middle child, Urban dweller	Public				Eng	2
Declan	David	M	46	53	42	M	Eldest, Rural dweller	Public				Eng	2
Aoife C	Alannah	F	51	48	46	V	Middle child, Urban dweller	Public				PL	2
Aoife P	Alice	F	-	-	-	M & V	Eldest, Urban dweller	Private				PL	2
Samuel	Henry	M	60	48	56	V	Eldest, Rural dweller	Private				PL	2
Ronan	Philip	M	58	58	54	M & V	Eldest, Urban dweller	Public				PL	2
Annemarie	Sally	F	51	38	48	V	Middle child, Urban dweller	Public				PL	2
Barry Donoghue	6	M	64	67	63	M & V	Rural dweller	Public	PL			-	-
Charles Frisby	7	M	51	59	48	V	Only child, Urban dweller		PL			-	-
Gavin Doran	8	M	60	57	54	M & V	Rural dweller		PL			-	-
Ruadhan O’Laoi	9	M	62	49	56	M & V	Urban dweller		PL			-	-
Ihab Jameel	10**	M	64	49	50	M	Middle child, Urban dweller	Private	Eng			-	-
Grace Seery	11	F	50	55	48	V	Eldest, Rural dweller	Public	Eng			-	-
Tadhg O’Ferrall	12	M							AP			-	-

Table 1.17 – Applicant Characteristics

\* Students who qualified in Writing Skills or Verbal Reasoning are denoted by a V in the Qualified In column

\*\* Students offered places, but declined before the start of the programme.

Age taking the PSSS	Critical Reading/ Writing Skills	Math
up to 13 years, 6 months	51	53
13 years, 6 months to 14 years	53	54
14 years to 14 years, 6 months	56	57
14 years, 6 months to 15 years	58	58
15 years to 15 years, 6 months	61	60
15 years, 6 months to 16 years	62	62
16 years to 16 years, 6 months	65	65

Table 1.18 - PSSS Eligibility Chart

## Thesis Synopsis

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Composed of seven chapters, this study will follow the standard organisation of a humanities thesis. The content of each chapter is outlined below.

In chapter 2, Literature Review, the chapter presents the field of giftedness theory. Beginning with early definitions from the late 19<sup>th</sup> century, it charts the evolution of intelligence theory over the course of the 20<sup>th</sup> century. It examines their effect on giftedness theories to bring about the modern philosophies. The chapter then delves into the area of acceleration, and outlines its many forms in gifted education provision. In particular, it examines the nature of *concurrent enrolment* and *early university entrance*, the two forms that are prevalent in this piece of research. Finally, the review examines the nature of self-concept, and its use in this particular study.

Chapter 3, Methodology and Research Design, begins by outlining the research questions that underline the purpose of this thesis. It explores the author's impression of the nature of knowledge, and investigates the nature of giftedness research in the paradigm debate. It discusses the case study methodology before providing a theoretical framework for this single, evaluative case study that utilises a holistic approach. It describes the research design of a *QUAL + quan* approach. It

presents the data collection instruments that were used, the timeframe in which it was gathered, and consequently the means of analysis of the quantitative and qualitative data. The chapter concludes with a discussion about research reliability, how it can be gauged and ultimately improved.

Chapter 4, Findings, presents the qualitative findings in the form of a case study. The findings are arranged by topic and where possible, are arranged chronologically. The quantitative findings are then presented, with some brief discussion.

Chapter 5, Discussion, brings together the findings presented in the previous chapter and attempts to rationalise them collectively. Likely explanations of the findings are suggested.

Chapter 6, Recommendations, proposes a set of suggested programme changes and improvements.

Finally, Chapter 7, Conclusion, revisits the research questions put forward in the research design and assesses the overall success of the study in attempting to provide answers.



# Chapter 2

## Literature Review

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"I've always known I was gifted, which is not the easiest thing in the world for a person to know, because you're not responsible for your gift, only for what you do with it."

Hazel Scott

As the central topic of this thesis is gifted education, it is essential to provide a detailed background to the topic prior to examining the research undertaken. Attempting to define giftedness, (if one even accepts *giftedness* as an appropriate term) brings about a very complicated discussion about its very nature in terms of intelligence, which is further obscured by the question of what *intelligence* itself actually means. The chapter therefore begins by charting the nature of intelligence theory from the 18<sup>th</sup> century, through to modern day. It attempts to explain how changes in what was understood as intelligence altered the shape of gifted theory during this period.

It is worth acknowledging from the outset that no unified definition of giftedness exists, just a plethora of similar yet significantly different theories. These are formed against a backdrop of education legislation and policy at local and national level, and in a largely global, egalitarian society that struggles to surrender to any concept that might result in an elite class of student. As will be shown, several theories of giftedness attempt to embrace the negative biases, attitudes and opinions that are often expressed when the issue is discussed. What is interesting is that arguably these biases are based upon anecdotal experiences and rather than on the findings of methodologically valid, peer-reviewed research. As well as presenting a range of gifted theories and their underpinnings, the chapter also presents some biological research that explains the fundamental neurological processes occurring in those considered to have above-average abilities. The existence of these capabilities can only be ascertained through identification, which composes the next item of discussion. Here the different forms of identification are presented, followed by an examination of the issues and matters of validity.

With the scene firmly set, the chapter moves on to present the literature on principal features of the thesis, namely, acceleration practices as used as an intervention in gifted education. Beginning with a definition of acceleration and a description of some 18 different forms, the two major forms, *Concurrent Enrolment* and *Early Entrance to College*, are presented in detail. Initially concurrent enrolment, its origin and purpose are discussed, before a cross-section of programmes is highlighted, so that the breadth of difference between programmes can be fully understood. Research findings on concurrent enrolment are then put forward.

Concurrent enrolment research, both in gifted and general education terms, however insufficiently addressed the concerns about acceleration that were anticipated and observed in the university community, parents and cooperating schools in conducting this study. It was thus believed necessary to include rigorous research that dealt with the placement of gifted students in an optimally matched academic environment that also positioned them amongst an older peer group. (In a general education sense, this was also considered important). Thus, the chapter includes a segment on early entrance to college programmes, which are akin to, albeit an extreme version of, concurrent enrolment.

Taking the research approaches used in the concurrent enrolment and early entrance to college literature, this review concludes with a discussion on self-concept. Firstly explaining the term and its component parts, the psychological measures used to assess the different elements of self-concept are introduced, with associated research findings in the literature. These instruments form the array of quantitative measures utilised in this study.

As Hazel Scott, the musical prodigy from the 1930s describes in the quotation at the opening of this chapter, the gifted have a responsibility to themselves personally and to society for what they do with the '*supernatural*' aptitude bestowed upon them. This chapter is intended to go some way to explain the roots of this ability, to see what is educationally available to these students, and to explore the effectiveness of two such interventions in enabling these students to achieve their full potential.

# The Field of Giftedness

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## DEFINING GIFTEDNESS AND TALENT

“Intelligence theory influences the way we identify and assess students, our attitudes toward giftedness and gifted students, the models upon which we base our programs and interventions, and many other aspects of gifted education.”

(Plucker, 2001, p. 124)

Entering any theoretical field, an overarching definition is the critical first signpost. Within the field of giftedness however, there is no global agreement, and thus no singularly accepted definition exists. However, in the plethora that exists, a number of recurring terms are evident: *superior, high performance, exceptional, intellectual, demonstrated, potential* and *talented*. Cigman (2006, p. 206) for instance defines giftedness as “exceptionally high achievement in at least one significant area of learning”.

A useful definition of giftedness and talent is provided in the Marland Report of 1972 (U.S. Commissioner of Education, 1972), and helps to frame the discussion at this point.

“Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities are capable of high performance. ...Children capable of high performance include those with demonstrated and/or potential ability in any of the following areas, singly or in combination: general intellectual ability, specific academic aptitude, creative or productive thinking, leadership ability, ability in the visual or performing arts, (and) psychomotor ability” (U.S. Commissioner of Education, 1972, p. 5)

Some consider giftedness as actual accomplishment or achievement (e.g. authors such as Sternberg and Renzulli), while others think of it as potential (Mayer, 2005). Exhibiting giftedness however, as extraordinary accomplishment would make identification at a young age virtually impossible. How could a child be expected to demonstrate exceptional accomplishment? It is therefore thought to appear as precociousness in childhood, evidenced as quick attainment or mastery of new material, or high performance in activities such as Olympiads or competitions (Mayer,

2005). It is considered therefore as *high achievement potential*; where children show early signs of greater, later achievement. Theorists who have considered giftedness as potential in children and achievement in adulthood include Feldhusen, Gagné and Tannenbaum.

The concept of talent is an important consideration in any discussion on giftedness. In his *Differentiated Model of Giftedness and Talent (DMGT)*, Gagné (1985) was one of the first to provide separate definitions of giftedness and talent (Feldhusen, 1989), terms which had previously been used interchangeably. According to the DMGT, *giftedness* is a natural ability or aptitude, whereas *talent* relates to performance in a field of human activity (Gagné, 1985). He offers two definitions:

*“Giftedness designates the possession and use of untrained and spontaneously expressed natural abilities (called outstanding aptitudes or gifts), in at least one ability domain, to a degree that places an individual at least among the top 10 per cent of age peers.*

*Talent designates the outstanding mastery of systematically developed abilities (or skills) and knowledge in at least one field of human activity to a degree that places an individual at least among the top 10 per cent of age peers who are or have been active in that field or fields” (emphasis in original) (Gagné, 2004, p. 120).*

Once seen as ability just below the range of giftedness, talent is also considered to be personal life success, compared to success that leads to societal glory or acclaim (Feldhusen (1992) in Callahan (1997)), a developing skill (Csikszentmihalyi, Rathunde, & Whalen, 1997) or exceptional ability or aptitude in one or more areas of learning (Feldhusen, 1998; Gagné, 2004; CTYI, 2012). “(Consider talent) as a developmental rather than an all-or-nothing phenomenon....a process that unfolds over many years rather than a trait that one inherits and then keeps unchanged for the rest of life” (Csikszentmihalyi, Rathunde, & Whalen, 1997, p. 26). Feldhusen (1998) argues, “talents are capabilities in specific domains of aptitude.” This conception of talent is the same as that adopted by the CTYI (CTYI, 2012).

The variation in definitions of both giftedness and talent however is not without a solid foundation. It quickly becomes apparent that single-sentence definitions provide but a cursory understanding of a profoundly complex and frequently

controversial field. To attempt to understand the nature of *giftedness* one must begin with a sound understanding of *intelligence*.

The next section sets out the field of giftedness within the broader context of intelligence. It begins by tracing the trajectory of gifted theories that emerged in tandem with the changing notions of intelligence down the last 100 or so years. Beginning with Galton in the 19<sup>th</sup> century and then Binet and Terman, the text will present early notions of intelligence and conceptions of giftedness. It will examine the important events during the 1950s, which challenged gifted education and beliefs about intelligence, through to the period since 1970 when some of the major theories of giftedness that shape current thinking were formulated. The discussion will then explore the purpose of gifted education provision, before moving onto identification procedures (both formal and informal). The section will conclude with the different forms of special education provision, having illustrated their derivation through different definitions of giftedness.

#### CONCEPTIONS OF INTELLIGENCE & GIFTEDNESS THROUGH THE CENTURIES

One of the first major treatise on giftedness was by Francis Galton in the book, *Hereditary Genius* in 1869 (and further elaborated in its second edition in 1892). Galton, a first cousin of Charles Darwin (Linden & Hoover, 1994), believed that intelligence was based on mental capability and sought to establish whether it could be inherited. In his attempts to understand what he called ‘eminence,’ he first needed to find a measure of aptitude. In an effort to address this, he wondered if achievement or accomplishment provided him with proof of natural ability.

“Is reputation a fair test of natural ability? It is the only one I can employ—am I justified in using it? How much of a man's success is due to his opportunities, how much to his natural power of intellect?” (Galton, 1892, p. 37).

In asking so, he prompted the dialogue on whether innate or environmental factors influence performance the most (more recently referred to as *nature or nurture*). Concluding that it was simply *nature*, he defined eminence in terms of reputation and ability.

“By reputation ... I speak of the reputation of a leader of opinion, of an originator, of a man to whom the world deliberately acknowledges itself largely indebted. ... By natural ability, I mean those qualities of intellect and disposition, which urge and qualify a man to perform acts that lead to reputation. I do not mean capacity without zeal, nor zeal without capacity, nor even a combination of both of them, without an adequate power of doing a great deal of very laborious work” (Galton, 1892, p. 37).

In so doing, Galton pointed out some of the factors that would later emerge in modern theories of giftedness and talent. *Reputation* thereby assumes a notable, high performance, while *natural ability* is understood to comprise not only of intellectual capability, but as something affected by personal characteristics. Galton believed that achievement could only come about from high, natural abilities. “I feel convinced that no man can achieve a very high reputation without being gifted with very high abilities” (Galton, 1892, p. 49).

During this same period, Herbert Spencer coined the term “intelligence”, as the mental modification made when “internal relations” interact with “external relations” (Spearman, 1927).

The prevailing opinion about gifted individuals during this time was of ‘early ripe, early rot.’ The origin of this notion comes from a belief that giftedness must be tempered by an innate flaw; if all things are equal, those who are gifted must be deficient in some way (Silverman, 2010).

“Just as giants pay a heavy ransom for their stature in sterility and relative muscular and mental weakness, so the giants of thought expiate their intellectual force in degeneration and psychoses. It is thus that the signs of degeneration are found more frequently in men of genius than even in the insane (Lombroso, 1905, p.42, cited in Silverman, 2010).”

In the late 19<sup>th</sup> / early 20<sup>th</sup> century, intelligence testing was gathering apace. A research study that would prove significant in the history of gifted education had begun in the early part of the century. Lewis Terman was curious about gifted individuals and keen to test the periods widely held notions. He focused his studies on the differences between gifted and, what he termed, mentally slow children using, amongst others, the Binet-Simon Intelligence Scale, which measured cognitive and perceptual abilities (Terman, 1954). In its 1908 version, the scale arranged these

abilities into classes or *intellectual levels*. Children would take the test according to their age level, and if successful (or unsuccessful) would take subsequent higher (or lower) tests until they failed (or succeeded), thus determining their ability in terms of *intellectual level*, which was later changed to *mental age* (Boake, 2002). A revised scale, the Stanford-Binet Intelligence Scale (Terman, 1916), included some additional measures. Critically, Terman exchanged the concept of *mental age* with *IQ* or an *intelligence quotient* “as a preferred composite score” (Boake, 2002, p. 386). Thus, “IQ” was coined. IQ ranges are illustrated in **Table 1.1 - Applications for Early University Entrance**

Table 1.2 – Applicant Characteristics

Table 1.3 - PSSS Eligibility Chart

Table 2.1. The gifted range is widely considered as two or more standard deviations (15 IQ points) above the mean (90-110) (Osbourne, 2010).

IQ Range	Interpretation
<b>≥130</b>	Very superior
<b>120-129</b>	Superior
<b>110-119</b>	High Average
<b>90-109</b>	Average
<b>80 – 89</b>	Low Average
<b>70 – 79</b>	Borderline
<b>≤69</b>	Extremely Low

Table 2.19 – Wechsler’s Classification of IQ Ranges (Wechsler, 1997)

## DO INDIVIDUALS HAVE GENERAL OR SPECIFIC TALENTS

In 1904, Spearman conceptualised intelligence as ‘g’, a universal ability that pervades every intellectual field. It was necessary because intelligence tests at this time lacked any psychological underpinning. Borland (1997, p. 9) elaborates:

“(Spearman) extracted from arrays of test intercorrelations a factor he called *g*, which he identified as that universal thing possessed in varying amounts by all people that is responsible for individual differences in mental test scores

and academic performance. This soon came to be regarded as *general intelligence* ...”

Terman (1954) described “g” as the “ability to form many sharply defined concepts, to manipulate them, and to perceive subtle relationships between them; in other words, the ability to engage in abstract thinking” (p. 224). This narrow facility was a power that could be applied across different learning domains, but was itself domain-free. Terman included it on intelligence tests as a means to identify potential.

Terman’s most renowned study stretched over nearly a century. It produced six volumes of the *Genetic Study of Genius* (Terman, 1926; Cox, 1926; Burks, Jensen, & Terman, 1930; Terman & Oden, 1947; Terman & Oden, 1959; Holahan & Sears, 1995). The study continues to this day with 200 or so remaining participants (Leslie, 2002). It began with a model of intelligence that was empirically measurable, and based on the theory that giftedness was achievement at levels above chronological age. Selecting 1500 children with an IQ at or above 140, he set out to identify their characteristics of these individuals (Terman, 1954). Like Galton, he believed that individuals with high intellectual ability were capable of great feats, and so his longitudinal study aimed to discover the factors that affected whether or not they achieved the great accomplishments expected of them. He followed their progress through every aspect of their lives. Through his research, Terman identified several non-cognitive factors: “‘persistence in the accomplishment of ends,’ ‘integration toward goals, as contrasted with drifting,’ ‘self-confidence,’ and ‘freedom from inferiority feelings’” that separated those most and least successful at capitalising on their high ability (Terman, 1954, p. 229). In a related study, Oden (1968) found perseverance, self-confidence, and parental support in youth distinguished the performing and non-performing groups.

Terman identified some of the traits of ‘successful’ gifted individuals based on the narrow notion of giftedness in the first place, which has been subject to criticism.

“... much of Terman's interpretation of his data was shaped by his pre-existing beliefs and his determination to prove that precocity matters and that IQ is synonymous with genius. In fact, Terman equated giftedness with high IQ and expressed the view on many occasions that from high-IQ children ‘and nowhere else, our geniuses in every line are recruited’. (Kauffman, 2009)”



## THE 1950s ONWARDS

The address by J.P. Guilford to the American Psychological Association in 1950 altered the accepted wisdom on intelligence. While calling for further research into creativity, he challenged APA members to broaden the conception of ability (Starko, 1990). In response to Guilford, Getzels and Jackson (1958) published findings on creativity, and suggested it to be considered another form of intelligence. Thus, *creative giftedness* was possible (Borland, 1997). Just like intellectual giftedness, creativity was regarded as “a ‘thing’ that people possessed to varying degrees” (Borland, 1997, p. 12). Consequently, creativity became “an adjunct to IQ giftedness, a quality that must be attended to but that does not challenge the field’s fundamental commitments to IQ-based giftedness” (Feldman, 2003, p. 10), and featured in subsequent definitions of giftedness (Borland, 1997). The definition put forward by DeHaan and Havighurst in 1957 contained similar terms (cited in Ziegler & Heller, 2002).

As has been illustrated so far, the concept of giftedness was derived from a narrow view of intelligence that was slowly changing midway through the 20<sup>th</sup> century. The 1970s saw the emergence of a broader notion of intelligence, and a seminal point came with the publication of, what was commonly known as, the Marland Report in 1972 (U.S. Commissioner of Education, 1972).. Prior to the Marland Report the term ‘talent’ had a multiplicity of definitions. It was frequently regarded as somewhere just short of giftedness, as giftedness in a non-intellectual domain or ability in one academic area. The Report conjoined the two terms (Callahan, 1997), and its definition encompassed the notion of a universal intelligence but extended the definition to include all of what Callahan (1997) described as meaning talent, as well as including creative and physical abilities.

## Current Thinking on Giftedness

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Recent theories of intelligence have broadened out and moved away from a singular notion of intelligence (e.g. Spearman’s ‘g’) and the use of IQ to identify gifted students. Feldman (1979) concluded that giftedness could be specific to one domain,

i.e. it could occur as mathematical giftedness, verbal giftedness, etc., which accordingly began to break down the concept of a general ability or 'g'. Thus, a broader conception of intelligence meant that giftedness did not comprise a general ability. Howard Gardner, like Marland, preferred to regard it as "a set of relatively autonomous intelligences" or multiple intelligences (MI) (Gardner, 2003) that individuals possess in differing amounts. He identified seven types of intelligence; logical-mathematical, spatial, bodily-kinaesthetic, interpersonal, intrapersonal and verbal-linguistic (Gardner, 1983), later extending it to nine, with the addition of naturalistic and existentialist intelligences (Gardner, 1999). His theory conflicts with the traditional thinking on intelligence.

"While there is no reason that these competencies must be called intelligences, we have deliberately chosen to do so as a challenge to those who consider logical-mathematical and linguistic capability on a different plane other than capacities considered in MI theory" ((Ramos-Ford & Gardner (1997, p. 55) cited in Callahan (1997)).

Gardner conceded that the singular notion of 'g' could not be disproved (Sternberg & Gardner, 1982, cited in Delisle, 2003). The position is to consider intelligence (and giftedness) in broadened terms, so that all abilities would be treated similarly by school systems and valued equally by society (Feldman, 1979).

Other authors have purposely moved away from the intellectual domains, to refocus the attention on high performance in other areas of human activity (e.g. Bloom; Csikszentmihalyi, Rathunde & Whalen, see Callahan (1997) (Sternberg, 1985).

"Although there is no question that a general cognitive ability – something like Spearman's g factor – underlies accomplishment in many domains, it is also clear that in our culture we have exaggerated the importance of this abstract rational ability and enthroned it as some sort of superdomain that takes precedence over all others. Performance on IQ tests has become a domain in its own right, whether or not such performance has any consequences in other areas of life; and the testing industry has become a powerful field advocating its importance." (Csikszentmihalyi, Rathunde, & Whalen, 1997, p. 25)

Though there are numerous theories on giftedness, there generally remains uniformity of agreement that it involves an above average level of intelligence. These broadened conceptions of giftedness however have altered the traditional

orientation of a singular reference to a superior range IQ. Though the pre-requisite of a high IQ remains constant for the most part, there has been a palpable blurring of the ranges.

Mayer (2005), in one of the more comprehensive texts on conceptions of giftedness (edited by Sternberg and Davidson (2005)), described the extent of discontent that still exists around a global understanding of giftedness. The accepted wisdom is that giftedness, in whatever form of intelligence and at whatever cut-off point, is something innate but subject to environmental and personal factors. Others however conceive giftedness as a developmental process, beginning as a raw, inherent competence, to be transformed, through a series of catalysts, into accomplishment. Questions about how the abilities of those who fall into the gifted range are nurtured, tell much about the manner in which they are regarded by that society. What, if any, expectations are held of them? How does society go about helping them to achieve? Subotnik (2003) maintains that while gifted individuals must take increasing levels of ownership and responsibility of their own development, the field also has a duty to “nurture potential in children to high levels” and “stoke exceptional achievements in adolescents and adults” (p. 15).

When the responses to these questions are considered, two other schools of thought emerge. On one side, giftedness is viewed as a “national resource”; on the other, it exists as meriting “special education” (Borland, 1997, p. 15). To clarify these positions, some authors take the opinion that gifted children are “an undeveloped national resource of considerable potential worth to society”; or an “investment in the future” (Borland, 1997, p. 15). The “special education” perspective takes a more individual, case-by-case standpoint that insists on developing the child through an education appropriate for them.

“(There are implications for) the constructs of giftedness built on these conceptions. If the national resource model is invoked, the rationale for gifted education is the promotion of the common good, identification is a matter of predicting adult giftedness on the basis of childhood behaviors and traits, and differentiated curriculum serves to develop potential so that adult productivity is realized. On the other hand, if the construct of giftedness is predicated on a special educational conception, the rationale for gifted education is a commitment to meeting individual needs, identification is a

matter of recognizing educational needs that derive from exceptional ability, and curriculum differentiation is an attempt to make the child's current curriculum better suited to his or her present needs." (Borland, 1997, p. 15)

The discussion now moves to a broadened conceptualisation of giftedness, the notion of *talent development for all*. The discussion then addresses the narrower view that focuses on the progression of a gifted few.

### TALENT DEVELOPMENT FOR ALL

The talent development for all models of giftedness emerge from the notion of making specialised educational interventions available to all, in the knowledge that the gifted will naturally come to the fore. It is based on the theory that giftedness is not only composed of a superior intelligence but also in the translation of ability into something concrete.

"Children are only talented in the sense of future potential; to fulfill that potential, they will have to learn to perform to state-of-the-art standards and will have to find opportunities for using their talent after their skills are developed (Csikszentmihalyi, Rathunde, & Whalen, 1997, p. 26)."

Perhaps it was no longer right or just to call someone gifted if they never managed to translate their exceptional ability into actual accomplishment, or at least to make a distinction between those who did and those who did not. Ziegler and Heller (2002) observe the common belief that the gifted are those who can realise success more easily, and those who do not accomplish according to their potential are considered underachievers.

In this section, the theories and, where available, consequent models of gifted education provision, put forward by Renzulli (1978), Gagné (1985), Horowitz (1987), Sternberg (1985) and Sternberg and Zhang (1995) will be discussed.

### JOSEPH RENZULLI

The *Three-Ringed Theory of Giftedness* by Joseph Renzulli (1978) is one of the most recognised in the field. It defines giftedness as the confluence of above-average

ability, task commitment and creativity applied to an assignment; described by Ziegler and Heller (2002) as a “lucky coincidence” (p. 10). Contrary to Terman, who believed that gifted individuals came from IQ ranges in excess of 130 (or the 95<sup>th</sup> percentile), Renzulli’s theory is based on the notions that “more creative and productive persons come from below the 95<sup>th</sup> percentile than above it”. His preference is for *above-average* over *high* or *superior* ability (Moon & Dixon, 2006, p. 10). The Three-Ringed Model tends more toward a creative-productive conception of giftedness and assumes a multi-domain conception of intelligence. In this theory, Renzulli implies that giftedness is demonstrated through something that is created. Thus it involves more than high ability in a given domain; it is composed of creativity, motivation and perseverance, which are necessary for accomplishment. It is thought that Renzulli included *motivation* in his theory in response to its absence in the Marland Report definition (Gagné, 1985).

In the Three-Ringed Theory, Renzulli attempts to distinguish two types of giftedness: *schoolhouse giftedness* and *creative-productive giftedness* (Renzulli & Reis, 2002). *Schoolhouse giftedness* refers to the more traditional notion of superior ability easily measured on IQ or achievement tests, often called “test-taking or lesson-learning giftedness” (Renzulli & Reis, 2002, p. 369). It is very different from *creative-productive giftedness* where “a premium is placed on the development of original material and products” (p. 370). Schoolhouse giftedness may never realise later achievement, though the potential (as early precociousness) was detectable through aptitude tests (e.g. IQ). This distinction highlights the polarity of disagreement on what actually constitutes giftedness.

Renzulli’s model seeks to identify individuals with above average ability across a broad spectrum of intelligences. He identifies a ‘talent pool’ (15-20% of students) for specialised programming using a wide range of identification procedures that includes IQ, achievement test scores, nominations, observations and a portfolio of work. The talent pool are then eligible to participate in enrichment activities, and the opportunity to undertake creative-productive work if the student so wishes. The theory is that the gifted should rise to the top of the talent pool, while all students selected benefit from the opportunity to work to their potential. Thus a ‘gifted’

individual, by virtue of his or her performance, might be someone performing in the 80<sup>th</sup> percentile that may otherwise have not been identified were the traditional, 95<sup>th</sup> percentile cut-off been adhered to. Over the past few years, Renzulli has expanded his conception of giftedness to include “co-cognitive” factors such as “optimism, courage, passion, empathy, energy and destiny” in supporting the translation of talent or potential into giftedness or creative output (Moon & Dixon, 2006).

#### FRANCOYS GAGNÉ

Giftedness and talent may also be distinguished as occurring in “*domains of ability and fields of performance*” (Gagné, 1985, p. 108). The *domains of ability* (giftedness) are creative, intellectual, socio-emotional and sensorimotor, purposely defined in broad domains so that any later additions or distinctions can be facilitated (Gagné, 1985). (Physical giftedness was later included (Gagné, 2004)). Giftedness is thus a high level of aptitude or competence within a particular field, and talent is the high level of skill or mastery developed within this field. For example, a person with high creative competence that becomes a talented designer. Gagné’s conception regards giftedness as “potential talent...implicitly recognized through exceptional talent” (Callahan, 1997, p. 25). *Exceptional talent* is what Renzulli called *giftedness*.

The DMGT suggests that talent development is a developmental process beginning with giftedness as an aptitude in a general domain, through to talent in a specific field (Gagné, 2004). Two catalysts affect this process of transition: *intrapersonal catalysts*, i.e. motivation, volition, physical characteristics (e.g. health), self-management, and personality, and *environmental catalysts*, i.e. aspects such as milieu or background, provision, persons (who provide support such as parents or teachers), and events (unexpected occurrences that affect the process) (Moon & Dixon, 2006). Extending on from the work of Tannenbaum, *chance* was also considered a catalyst in the maturing of giftedness into talent, believing that chance affects where one is born, who one is genetically, who one is born to, etc. (Gagné, 2004).

Like Renzulli, Gagné shares the view that motivation is an important feature of talent development (or giftedness for Renzulli), although he disagrees that creativity as a

component of giftedness, seeing it rather as a feature of some domains (Gagné, 1985).

#### **FRANCES DEGAN HOROWITZ**

Horowitz (1987) also provides a development model. She presents environmental and inborn features on a three-dimensional grid to illustrate how “superior development could be the result of a highly facilitative environment and/or characteristics in the child that enable the child to make extremely good use of any and all environmental output” (Horowitz, 1987, p. 167). The visual framework also provides means to capture extreme cases, such as individuals who emerge from especially adverse situations to realise great feats and those gifted individuals whose natural ability does not appear early in their life.

#### **ROBERT STERNBERG**

Another leading theorist, Sternberg has produced a number of theories of both intelligence and giftedness. His *Triarchic Theory of Intelligence* (Sternberg, 1985) perceives intelligence in three forms: analytic, creative and practical, comprising of “metacomponents, performance components and knowledge-acquisition components” (Feldhusen & Jarwan, 2002). The model thus affords three forms of giftedness:

“...the analytically gifted are strong in analyzing, evaluating, and critiquing; the creatively gifted in discovering, creating, and inventing; and the practically gifted in using, utilizing, and applying” (Sternberg, Ferrari, Clinkenbeard, & Grigorenko, 1996, p. 129).

Analytical ability may be measured on intelligence tests however practical or creative intelligences are not (Sternberg, Ferrari, Clinkenbeard, & Grigorenko, 1996). The Sternberg Triarchic Abilities Test is composed of nine multiple-choice subtests, based on three aspects of intelligence; *creative, analytical and practical* (Sternberg & Clinkenbeard, 1995), and three components; *figural* (measuring inductive reasoning ability), *verbal* (the ability to deduce contextual meaning) and *quantitative* (inductive reasoning ability in the mathematical range) (Sternberg, 1991).

Another of Sternberg's significant contributions to the field is the *Pentagonal Implicit Theory of Giftedness* (see Sternberg & Zhang, 1995), whose intention is "to capture and systematize people's intuitions about what makes an individual gifted.... (Having) as its object people's conception of giftedness rather than giftedness itself" (Sternberg & Zhang, 1995, p. 89). Explicit theories are those given by educational or psychological theorists, whereas implicit theories are formulated in the minds of regular individuals. Sternberg's theory is important because it challenges the latter group to explain why it is that their gifted provision or identification methods are as they are. The theory states that giftedness requires five conditions.

- Excellence – enhanced performance in a domain relative to one's peers
- Value – that the eminence is in an area that is valued by society
- Rarity – the superior performance must be uncommon or rare
- Productivity – the excellence must develop or have the potential to develop into a tangible outcome
- Demonstrability – the high ability must be verifiable through assessment or performance

Sternberg and Zhang (1995) believe that the implicit theory challenges educationalists to 'nail their colours to the mast' because their individual interpretation or conception of giftedness, consequently affects how gifted students are distinguished and ultimately provided for.

"If we care about the potential of an individual to contribute to him/herself, others, and society in a productive way, then we need to justify why the measures we use will help identify such potentially productive individuals" (Sternberg & Zhang, 1995, p. 93).

Thus Sternberg perceives the gifted as those who realise or *produce* something, while those individuals identified as having potential, but who fail to *produce* or accomplish, are considered to be "gifted with qualifications" (Sternberg & Zhang, 1995, p. 90).

In the last decade, Sternberg developed two further conceptualisations of giftedness: the Expertise model (Sternberg, 2002) and the WICS model (Sternberg, 2003). The Expertise model suggests that giftedness is a developing proficiency. The model assumes that expertise can be attained by all, through knowledge, motivation,



learning skills, meta-cognitive skills and thinking skills, within a particular context, but that the gifted will differ by an enhanced “rate and asymptote of development” (Sternberg, 2002, p. 60). His more recent conceptualisation is the WICS (*wisdom, intelligence, and creativity synthesised*) model (Sternberg, 2003). Like the expertise model, it focuses on “successful intelligence” where the three elements fruitfully combine to translate *potential* into *achievement*. Wisdom relates closely to the *value* component in Sternberg and Zhang’s Implicit Theory of Giftedness, where accomplishments must be considered to be for the common good (Moon & Dixon, 2006).

Feldhusen (1998) however is critical of “the faddish inclusion movement” which seeks to address the needs of gifted students in age-grouped classrooms. He argues that these interventions are weak, and result in precocious students turning to private schools, and outside enrichment and acceleration programmes.

#### CHILD-CENTRED CONCEPTIONS GIFTEDNESS

Some educationists prefer a more holistic conception of giftedness; one that does not focus solely on demonstrable ability but in the uniquely personal experience brought about by superior intellectual ability. It is quite unlike those that attempt a more inclusive “talent development for all” approach (Morelock, 1996), which often overlooks the special developmental needs of children whose mental development is faster than their physical, social and emotional development. This viewpoint believes that gifted individuals are different because they often combine several developmental ages; e.g. functioning as a 3 year old physically, a 6 year old intellectually and a 5 year old emotionally (Tolan, 1989, cited in Silverman, 1997). “Giftedness is not simply what one does, it is who one is” (Delisle, 2003, p. 13). One of the first to recognise the distinctive social and emotional needs of high IQ children was Leta Stetter Hollingworth (Morelock, 1996).

An advocacy group, known as the Columbus Group, define giftedness in more holistic, child-centred terms:

“Giftedness is asynchronous development in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm. This asynchrony increases with higher intellectual capacity.” (Columbus Group, 1991)

This inconsistency involves “complexity, intensity, heightened awareness, risk of social alienation, and vulnerability” (Silverman, 1997, p. 36), and brings with it its own developmental difficulties.

“To have the mental maturity of a 14-year-old and the physical maturity of an 8-year-old poses a unique set of challenges analogous to those that face the child with a 14-year-old body and an 8-year-old mind...Only one of these conditions receives societal recognition, sympathy, and public support. Gifted children...must deal with their concerns alone; few appreciate the magnitude of the task.” (Silverman, 1997, p. 37)

Grant and Piechowski (1999) question why some theories have sought to evaluate giftedness in external or extrinsic ways, rather than in internal or intrinsic terms, commenting that

“The models and theories set to maximize giftedness regard gifted children much as farmers regard cows and pigs, with an eye to getting them to produce more. They do not describe how giftedness works – how the gifted think, feel, and experience.” (p. 8)

Grant and Piechowski (1999) believe that theories on giftedness should derive from this ground up approach through naturalistic inquiry.

Roeper’s model of gifted education has strong holistic roots. The model is based on the assumption that education should be for life and not just geared toward short-term achievement. It aims to provide an environment where students can self-actualise, to become independent and autonomous as learners and as individuals. In a conversation with Kane (2003), Annemarie Roeper expounds her *Self-Actualization and Interdependence* (SAI) approach.

“The goal of education was to help the child to become who he was, which included all the academic work and everything that was needed to help this particular person. It is a mistake to think that if you think about the Soul, academic work is not part of it. It is a very important part of it, but the goal is a different one. The goal is to help the Soul rather than to get into college. So we tried to create the kind of school that allowed children to do that. We realized that one of the basic concepts was the community aspect, that the

feeling of being embedded in a supportive community for the Self was most important. That implied many, many ways of working together. That implied, actually, a participatory democracy. As time went on we learned more and more that it wasn't going to work for us to be the benevolent dictators. We needed a group that worked with each other, and that was the staff as well as the children. That was really the basis.” (Kane, 2003)

Likewise, Grant (2005) supports the notion of education for self-development.

“Education for self-development is not about academic achievement, socialization, schooling, career preparation, serving the nation, or job training. The task of education is the task of living: finding or creating a self and a sense of the world of things, people, and other beings, and finding meaningful ways of fitting self and world together. Education is about living out one's passions and purposes and creating a coherent life, a workable individuality. It is premised on the perennial humanist idea that the only life worth living is one's own life, not a copy of someone else's, not one made of an unexamined hodgepodge of stuff from state-mandated curricula and the youth culture created by preventing children from fully participating in civic life (cf. Decarvalho, 1991; Goodman, 1983; Maslow, 1962; Rogers, 1983)” (p. 178).

These holistic theories however pertain more to the education system as a whole, than to specialised gifted education, unlike the theories described in the earlier section which are developed more as additions to the school system.

Taking a step back, one can see with clarity the dichotomy that separates the field of gifted education. Theorists like Gagné, Sternberg and Renzulli appear to hail from the post-positivistic paradigm, developing concepts, in a bid to come up with something that is generalisable. On the other side, authors like Hollingworth, Roeper and Terman seem to approach the field with a naturalistic style, trying to get to grips with the lived experience of the gifted so that their educational interventions serve them individually with no direct societal purpose in mind.

Education does not serve only to ensure future economic gain, but serves social and holistic purposes also. The talent development theories of giftedness that exist appear to be output, production oriented, akin to the economic function of education. In stark contrast, those who believe that giftedness is something that makes a person inherently *different*, make no apology that this lends itself to

exclusivity. Though the conceptions of giftedness down the centuries have been many, they have palpable egalitarian and non-elitist undertones. They very much suit a school context where broader notions of intelligence and thus broader, more inclusive theories of giftedness are more acceptable to the masses. In a period when ascribing value to education has become increasingly political, the broad philosophical position taken when addressing the meaning of giftedness in an educational context can be seen to take on a whole range of different and quite complex ideological overtones.

Morelock (1996) observes a field that remains “a house divided against itself” (p. 4). What is clear is that both sides, (‘the talent development’ and ‘the holistic’), disagree fundamentally on the point of what giftedness is and thus opinions about intelligence and subsequent provision are at odds. Delisle (2003), for instance, resolutely admonishes those who believe that IQ and ‘g’ provide too limited a view of intelligence and proposes “radical shifts in our thoughts about what intelligence is, what it looks like, and how it is measured” (p. 12). In doing so, he believes they bow to “political expediency,” instead of acknowledging that individuals who have advanced intellectual capabilities are inherently different. Silverman (1997) believes that America moved to *depersonalise* giftedness, speaking about it in terms of behaviour, programmes and accomplishments. Perhaps for reasons of egalitarianism (i.e. calling one person gifted implies that another is not), and ignorance of the lived experiences of truly intellectually gifted individuals, conceptions of giftedness have bent and shaped to fit into a modern education system. Nevertheless, this is always going to be a contentious point for those who, like Annemarie Roeper, believe that in a self-actualising education based on “recognizing children in their own right, attending to them according to their development, and making learning natural and enjoyable” (Grant & Piechowski, 1999, p. 6).

It seems that the Talent Development models do not overtly ignore or notice the special needs of gifted children, but appear to be primarily product-oriented. They seem to be based on the premise that individuals who in another realm might be deemed gifted, but who do not perform as one might expect, are not, under the Talent Development model considered gifted, or perhaps at the very least are gifted

underachievers. Those who have IQ scores lower than what is typically accepted as the gifted cut-off, but who perform at a superior level, are considered gifted. The productive requirement of this model is perhaps more palpable to the wider education community, who often struggle to see that the educational and personal needs of gifted and talented students (the special needs model of gifted education), differs greatly to those functioning in the average range.

This is a debate, however that dogs the wider field of social science (and will be discussed in much detail in the Research Design chapter). Until some agreement comes about, both sides of the giftedness field, no more than social science itself, will remain entrenched.

As Mayer (2005) explains, some believe that conceptions of giftedness, however imperfect or interim, are needed in this still emerging field, while others believe that the term giftedness should be eliminated altogether. Whatever the conception of giftedness, the way is paved for the subsequent identification procedures and types of education provision made available (Sternberg & Zhang, 1995). In fact, these three areas must be tackled as a composite, because elucidation of the conception of giftedness upon which the identification-means and programme are based is of necessity (Mönks, Heller, & Passow, 2002).

## Giftedness - A Socially Constructed Concept

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The story so far has illustrated the changing scholarship on giftedness and intelligence over the last 120 years. With a better sense of the field, it is worth considering the position offered by James Borland in his article, *The Construct of Giftedness* (1997). Borland argues that giftedness, and indeed intelligence, are social constructs. Intelligence was not something that was discovered within people, but was instead something believed to exist, but invisible. Intelligence and giftedness were not tacit, but more like qualities. From this viewpoint, giftedness could only be observed through a measuring device. Borland (1997) points to the development of cognitive tests, which, having scientific validity, gave rise to these theories of intelligence and

consequently giftedness. He finds however that the socially constructed nature of giftedness is frequently glossed over by many authors.

“Yet, despite the fact that, when pressed, many will concede the socially constructed nature of the construct of giftedness, as a field we do not always act as if this were the case and we do not always appreciate the consequences of the ways in which we shape the construct.” (Borland, 1997, p. 7)

The simultaneous emergence of the two concepts, Borland (1997) believes, is no coincidence. The concepts of intelligence and giftedness have appeared in subtly differing forms. First, as a measured quality (IQ), even though what was measured was not fully understood. Then, as greater clarity of understanding about intelligence came about, the instruments were refined. Characteristics common to high IQ individuals were studied. Alternative ideas about intelligence as well as giftedness were put forward. Creativity was suggested as a form of intelligence, and later qualities that extended beyond the school-subject variety were considered appropriate to the definition. Since the publication of the Marland report, conceptualisations of giftedness continued to adapt to emerging theories of intelligence. The result is that today, broadened definitions of intelligence exist, that still form the basis for conceptualisations of giftedness; the notion of exceptionally high intellectual ability however has yielded a complicated field of its own.

## Cognitive Neuroscience & Giftedness

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One might question whether gifted individuals are indeed intrinsically different and whether the movement that seeks to attend to their uniqueness is with foundation, but recent neurological research upholds this position. This segment begins with a brief explanation of the cognitive functioning of the brain, and subsequently the gifted brain. It will then cite recent findings in the literature that are of interest to the discussion.

Learning is a complex neurological process whereby information is committed to memory. The nucleus of the body, the brain, is composed of approximately one trillion cells. Nerve cells or *neurons* account for 10% of these cells, while *glial* or support cells make up the remainder. Put very simply, neurons fire electrical signals

to each other when the brain is stimulated by new information, i.e. when learning takes place. These signals are received by another neuron, and a linkage or *axon* is created. Communication between the two cells then takes place through a chemical exchange. These chemicals, known as neurotransmitters, are many and include examples such as dopamine and serotonin. The axon between the communicating neurons is insulated by what is known as a *myelin sheath* (Squire et al., 2003). Repeated communication causes the insulation to mature, improving the rate of transmission. Miller (1994) deduced that *myelination* could physiologically explain why young gifted individuals have intellectual proficiency comparable with an older age group. Sousa (2003) explains:

“As the repetition of stimuli causes neural circuits to become more associated and efficient, the threshold for forming new circuits lowers. Consequently, subsequent learning may form strong neural circuits with less repetition, thereby increasing the speed of learning. This process describes *neural efficiency*. If an important aspect of intelligence is speed of learning, then it is likely that individuals born with a predisposition for developing neural circuitry rapidly are destined to be gifted in some way. Further, this trait is likely to appear during the early years in a child’s development when neuron circuit building is at its peak. And so, the child genius appears” (pp. 22-23).

Recent research has endeavoured to understand the cognitive processes that set gifted learners apart using increasingly sensitive testing techniques. Geake (2008) put forward the notion of *fluid analogizing* in an attempt to clarify the cognitive distinction that is giftedness. He begins by outlining that “Historically, the most enduring conceptualisation of human intelligence is that it is essentially analogical ...That is, the essence of intelligent behavior lies in making insightful metaphors or analogies” (p. 187). The “fundamental cognitive process” of making correlations or analogies with new, received information that results in improved retention is known as *fluid analogizing*. Those who do so with ease and high ability may be considered gifted (Geake, 2008).

The neural activations observed with fluid analogizing are similar to those associated with undertaking items from conventional IQ tests because of a common dependence on working memory, the gifted having a greater working memory capacity and capability...the neural resources dedicated to fluid analogizing in our fMRI studies correlate positively with conventional measures of intelligence” (Geake, 2008, p. 193)

DTI (diffusion tensor imaging) is a technique that allows the appraisal of white matter development, i.e. the long-range neural links between different functional parts of the brain (Kalbfleisch, 2008). Using the Wechsler intelligence test, Shaw et al. (2006) found that children's superior ability have brain development that is markedly different to those with high and average intelligence. Their brains were physically different to those of high or average ability at different age points.

Thus gifted individuals can be said to be biologically different to those of average and below-average ability.

## Identification of Giftedness

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With broadening conceptualisations, the identification of giftedness has extended beyond the once narrow confines of IQ. At one time quantitative measures were the singular approach, but with a greater understanding of intelligence, the identification of giftedness has broadened to include softer, flexible data (Feldhusen, 1998). Today, formal identification frequently incorporates alternative, qualitative approaches as policies seek to uphold more modern, multidimensional theories of giftedness. This acknowledgement can be seen, for example, in the Teacher Guidelines produced on high ability learners in Ireland (National Council for Curriculum and Assessment, 2007). Here the theory of giftedness encompasses a broad range of intelligences, and the advice to educators is to use a combination of IQ scores, checklists, referrals and school-wide identification processes. There is still however a heavy reliance on scientifically verifiable means and few decisions are made without them. Several studies have validated the use of a multiple methodology (one that includes both quantitative and qualitative approaches) in the identification of giftedness (e.g. Mandelman et al., 2010; Ryser, 2004).

### ***DUALLY EXCEPTIONAL AND NON-TRADITIONAL HIGH ABILITY***

This changing approach is particularly important for students who are gifted underachievers or are gifted with a learning difficulty, or *twice exceptional*. In addition to the criteria of "exceptional high achievement in at least one significant



area of learning” (p. 35), Cigman (2006) advises that a broader awareness is critical for the identification of students who do not tick the usual boxes.

“Exceptional or remarkable insight, shown in unsystematic ways ... a generally low-achiever betrays, though a remark here or there, an extraordinary capacity to grasp certain concepts or ideas. She has flashes of extraordinary insight, say, though her concentration and output are poor. ... occasional brilliance, unsteady concentration or performance...” (p. 36)

It is necessary to explain now that the holistic models of giftedness do not exclude, nor were talent development models specifically developed to include, students whose IQ is lowered by the presence of a learning difficulty. An individual with dyslexia may reveal a superior IQ, as it can be compromised by a specific learning difficulty.

The text will now move to describe the quantitative means used in the detection of gifted behaviours will be followed by a discussion of the qualitative approaches. The advantages and disadvantages of each will be explored, before a discussion on the issues that continue to challenge this area are exposed. The section will conclude with a presentation of the strategies utilised in Ireland for identifying high academic ability.

#### ***QUANTITATIVE APPROACHES TO IDENTIFICATION***

Quantitative measures employed in the identification of giftedness come in the form of achievement, aptitude and intelligence tests. Aptitude and intelligence tests differ from achievement tests in that they are designed to predict potential or likely future performance by “measuring a person’s ability to apply information in new and different ways” (Ryser, 2004, p. 34). Achievement tests measure the success of the instruction, like those devised by teachers to assess learning at the end of a segment of work. As they test only for what specific learning has taken place, they are poor discriminators of actual ability as it only tests recall ability and specific learning. Two students may accomplish scores of 99% in an achievement test. It says nothing definitive of the difference or indeed similarity between a high and above-average ability student, who have vastly different capabilities.

The problem with achievement tests and their use as indicators of gifted behaviours is that they suffer from what is commonly referred to in testing as *the ceiling effect*. In the above example, the two students would hit the ceiling, but one could knowingly have gone higher. Because there are insufficient discriminating (difficult) questions on the test, there is no way to distinguish between the two students. Achievement tests however are useful in detection of giftedness, when used *out-of-level* (or *off level*), thus becoming an aptitude test. Here the test is norm-referenced on an older group of students, which in effect raises the ceiling. The scoring cut-offs (for giftedness) are individually determined. It is worth noting that in-level achievement tests that are expressly designed for use in identifying giftedness also exist as predictors of high academic ability (Ryser, 2004).

Out-of-level achievement tests that examine verbal and mathematical ability are used by many enrichment programmes, e.g. the Centre for Talented Youth (Dublin City University, Ireland), Centre for Talented Youth (Johns Hopkins University), Centre for Talent Development (Northwestern University), Rocky Mountain Talent Search (Denver University), and the Talent Identification Programme (Duke University). Typically college-entry tests such as the SAT, ACT or PSAT are taken by 12-16 year olds. (The College Board's SAT and high-school achievement tests were described as "powerful identifiers of mathematically and scientifically brilliant youths" (Stanley & Benbow, 1983, p. 11).

A commonly known intelligence test, the Wechsler Intelligence Scale for Children® — Fourth Edition Integrated (WISC® — IV) derives a full-scale IQ, whilst dividing intelligence into four domains: verbal comprehension, working memory, perceptual reasoning, and processing speed (Psych Corp, 2005). The giftedness range exist two standard deviations above the mean.

Though testing is reliable because it is largely inflexible in form, it is subject to three sources of error: *content*, *time* and *interscorer* (Anastasi & Urbina, 1997). *Content* error looks at whether the test items are all evaluating the same construct. *Time* relates to the effect of changing the time of test administration while, and *interscorer* refers to the result differences that might arise when scored by different individuals.

It should be mentioned at this stage that in whatever test format, norm-referenced tests are preferred over criterion-referenced tests as they compare the child's scores against a normative sample of students, while the latter considers mastery at an average level (Ryser, 2004).

### **QUALITATIVE APPROACHES TO IDENTIFICATION**

The inflexibility of quantitative forms of assessment and the strict cut-offs that they often require, has led to a move toward the introduction of more sensitive, subjective approaches in identification. Research by Funke, Krauss, Schuler, & Stapf (1987), for example, examined the power of individual identification tools as predictors of giftedness, and found that biographical questionnaires surpassed achievement, aptitude and creativity assessments.

Qualitative methods that include portfolios, interviews and observations are now frequently used. *Portfolios* of work in specific domains help to illustrate particular abilities in a given area (Ryser, 2004), while *interviews* give students a chance to convey directly their ideas and opinions, (with the use of structured and unstructured questioning is the preferred approach). *Observations* are typically drawn from parents and teachers to shed light on characteristics that may not be immediately apparent in either environment or perceptible in a test (described by Mandelman, Tan, Aljughaiman, & Grigorenko, 2010). Rating scales too are frequently used, but these tend to be on the quantitative end of the qualitative spectrum (Ryser, 2004). E.g. Iowa Acceleration Scale (Assouline, Colangelo, Lupkowski-Shoplik, Lipscomb, & Forstadt, 2009), Gifted Rating Scales (Pfeiffer & Jarosewich, 2003).

### **ISSUES IN THE IDENTIFICATION PROCESS**

Difficulties still exist from both within the field and without with regard to the identification of giftedness, even though the move toward a broadened set of identification strategies has been significant (Friedman-Nimz, 2009). Leaving to one side the internal error that occurs in quantitative and qualitative measures, further challenges remain.

When the philosophy on the nature of giftedness is at variance with the selection criteria that underscores it, a major issue ensues (Callahan, 2009; Brown et al., 2005). Essentially, the identification strategy does not identify that which the theory purports to uphold. This inconsistency creates a serious disconnect between the model, the selected student and the consequent specialised educational programming.

One might have expected that the theory, identification procedure and subsequent education provision are harmoniously connected. Callahan (2009) however draws attention to the absurdity of carefully basing identification procedures upon a gifted theory, only to place the student into a gifted programme that is at variance with the fundamental philosophy.

Another problem stems when the theory of intelligence has no appropriate manner of identification. Gardner's Multiple Intelligence theory is problematic at the point of assessing what his theory upholds. By the author's own admission, there is "little evidence of success in creating valid assessments to measure the dimensions outlined" (Callahan, 2009, p. 240).

Probably the greatest issue exists out in the field too, when carefully devised identification strategies are disparaged by educators who assume "*they already know who the gifted children are*" (Friedman-Nimz, 2009, p. 249). The validity of the entire procedure may become undermined by subjectivity and bias (Friedman-Nimz, 2009). This situation is not helped by the fact that the traditional view that giftedness refers to students in the top 3% - 5% still prevails amongst many education practitioners (Borland, 2009). Though the past century has presented a wealth of findings, shifting mindsets from quantitative identification approaches appears to take time. Brown et al. reflect that "Even with the advent of new theories of intelligence ... and broadened conceptions of giftedness ..., actual practices specified in state and district guidelines continue to be dominated by cognitive ability test scores" (Brown, Renzulli, Gubbins, Siegle, Zhang, & Chen, 2005, p. 68).

Worse than the absence of appropriate identification materials is the misapplication of instruments. In recognising the field's bias toward quantitative methods,

Firedman-Nimz (2009) points out the (worryingly) erroneous employment of quantitative measures to identify other types of intelligence.

“(There is) an overreliance on general intellectual aptitude measures, confusion between tests designed to assess general intellectual or specific academic aptitude, and misapplication of tests such as using intelligence tests to assess creativity or artistic ability” (p. 249).

Such is the preponderance of quantitative approaches, that qualitative methods are frequently quantified, i.e. the awarding of points to qualitative data, much to the dissatisfaction of Ryser (2004). The adoption of solely objective, quantitative approaches may ease identification at a school management level, but makes for cognitive and education inequity.

“The quest for objectivity has undoubtedly perpetuated the comfort that “numbers” and the tidiness that cutoff (sic) scores have provided for those who design identification systems. However, people closest to direct services (classroom teachers and teachers of the gifted) often challenge the validity of purely objective approaches. Frequently commented upon are examples of high levels of performance and creativity among nonselected (sic) students and the lack of program-sponsored opportunities, resources, and encouragement for students who would clearly benefit from such services.” (Brown, Renzulli, Gubbins, Siegle, Zhang, & Chen, 2005, p. 68)

Considering the different theories of giftedness, policy-makers must decide which theory most aligns to the approach to gifted education they wish to take. Upon a broad examination, the incongruity that exists with regard to identification approaches is not surprising. If, for example, a policy is based upon **Renzulli’s** three-ringed theory (i.e. above-average ability, task commitment and creativity), the school would seek to identify a ‘talent pool’ (15-20% of students) using several identification techniques: IQ, achievement tests, observations, nominations, and a work portfolio. Taking **Stanley’s** view, identification would take place using out-of-level tests or traditional IQ measures. Borland (2008) observes the issue that numerous theories and corresponding identification procedures cause for practitioners.

“As even the most cursory glance at the literature of the field of gifted education reveals, there is, to understate the situation considerably, no consensus as to what this construct, giftedness, is, how it reveals itself, or what it is composed of. ...those conducting research into identification practices are faced with a conceptual and practical difficulty. Against what

(and whose) criterion do we judge the efficacy of identification instruments and procedures?” (p. 262)

### **VALIDITY**

Central to all identification processes is validity. Construct validity may be described as the accuracy of the identification instrument(s) to select the type of student profiled in the policy or theory (ibid). As has been discussed already, this presents a significant issue. Further concerns include *construct under-representation*, i.e., when an instrument is deficient in the task it is charged with, and *construct irrelevance*: when the instrument is affected by variables other than those being examined (Ryser, 2004).

In addition to the issues of instrumentation, identification procedures must not be biased. This is of particular concern when one considers the known diversity of ethnicities, educational needs, and socio-economic backgrounds that comprise schools in modern society. When the likelihood of being identified as gifted increases with socio-economic status (US Department of Education, 1988 in Borland, 2008), genuine questions are raised about how fit-for-purpose identification techniques are.

Singularly quantitative identification strategies are likely to be inadequate in the identification of atypical students, if the impact of environmental issues that mitigate against students performing well at school are considered.

“Traditional approaches to identification, not supplemented by more innovative, non-traditional approaches, will invariably produce a traditionally inequitable population of identified gifted students.” (Borland, 2008, p. 275)

Callahan (2009) suggests that the use of traditional aptitude and intelligence tests is permissible with a careful analysis of the high scoring students. Seeking out what made these students overcome the apparent obstacles, the “indicators of success” (or indicators of gifted behaviour) are evidenced (Callahan, 2009). Mandelman et al. (2010) suggest that while seeking to detect strengths, identification approaches should also seek to identify weaknesses “which might preclude an individual from entering or remaining within the “success cycle”, regardless of his or her exceptional IQ” (p. 291).

It is important to state that the supplementation of test scores with qualitative approaches is particularly important for gifted underachievers or students who are gifted with a learning difficulty (“twice exceptional”). In addition to the criteria of “exceptional high achievement in at least one significant area of learning”, Cigman (2006) advises that a broader awareness is critical for the identification of atypical students *who do not tick the usual boxes* (p. 35).

“Exceptional or remarkable insight, shown in unsystematic ways ... a generally low-achiever betrays, though a remark here or there, an extraordinary capacity to grasp certain concepts or ideas. She has flashes of extraordinary insight, say, though her concentration and output are poor. ... occasional brilliance, unsteady concentration or performance...” (p. 36)

## IDENTIFICATION IN IRELAND

The draft Teacher Guidelines on giftedness or the “exceptionally able” (preferred by the National Council for Curriculum and Assessment (NCCA)) suggest incorporating both quantitative and qualitative identification approaches because:

“A multi-focus definition recognises the central importance of atypical development in the lives of exceptionally able students and implies the need to go beyond traditional, psychometrically-based findings to explore their educational, emotional and psychological needs.” (National Council for Curriculum and Assessment, 2007, p. 12)

The holistic approach put forward suggests as key methods in identification: referral by a teacher, peer, self, parent/guardian or by another individual or organisation; observation; identification by a psychologist; and the school-wide identification process. Importantly, the Guidelines suggest regular (yearly) opportunities for identification for students who may not have been previously identified. The Guidelines leave interpretation of the data, and the ultimate decision as to who is functioning at or above the 90<sup>th</sup> percentile in one or more of the given areas to each individual school.

## *CENTRE FOR TALENTED YOUTH, IRELAND (CTY IRELAND)*

CTY Ireland utilises out-of-level testing to identify gifted students. In line with its definition of *talent* as performance in the 95<sup>th</sup> percentile, the Centre identifies high

functioning in one or more areas of verbal, numerical or abstract reasoning ability<sup>1</sup>. The Centre utilises verbal and numerical assessments that have been norm-referenced on groups of older students. It also uses a non-verbal measure of intelligence (Ravens Progressive Matrices) in its battery of instruments for assessing primary school children. For a full list of the assessments used with each age range of students, see Figure 2.1.

Though the Centre's strategy is purely quantitative, it has employed a number of strategies to address non-performance on these tests by under-represented groups. It allows a 10% margin of error on IQ scores for students who have high ability twinned with a learning difficulty. (Assessment by an educational psychologist is suggested for these students, as it is much more far-reaching than the out-of-level tests offered by the Centre, which dually exceptional students are likely to well under-perform on). To date no changes to identification procedures have been devised to address the potential for lowered scoring amongst students from low socio-economic backgrounds. It has however taken a front-end approach, developing a number of separate, similarly styled programmes to those offered to the traditionally identified gifted students. One programme is available to students functioning in the 85<sup>th</sup> to 95<sup>th</sup> percentiles, with another available to students scoring below the 84<sup>th</sup> percentile, while a fourth programme relies solely on teacher referrals.

<b>Primary</b> 6-7 year olds	<ul style="list-style-type: none"> <li>• Verbal Reasoning - <b>Drumcondra Verbal Reasoning Test</b></li> <li>• Abstract Reasoning - <b>Ravens Progressive Matrices</b></li> </ul>
<b>Primary</b> 8-13 year olds	<ul style="list-style-type: none"> <li>• Verbal Reasoning - <b>Drumcondra Verbal Reasoning Test</b></li> <li>• Numerical Reasoning - <b>Drumcondra Mathematical Reasoning Test</b></li> <li>• Abstract Reasoning - <b>Ravens Progressive Matrices</b></li> </ul>
<b>Secondary</b> 12-16 year olds	<ul style="list-style-type: none"> <li>• Verbal Reasoning - <b>College Board's PSSS Verbal section</b></li> <li>• Mathematical Reasoning - <b>College Board's PSSS Math section</b></li> <li>• Writing Skills - <b>College Board's PSSS Writing section</b></li> </ul>

Figure 2.4 – Identification Strategies Employed by the Centre for Talented Youth, Ireland

<sup>1</sup> Abstract reasoning tests are used with primary school students only. Second level students are instead assessed in writing skills, because it comprises part of the PSSS paper.



(The manner in which candidates are selected for concurrent enrolment programmes will be explored later).

## Acceleration

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Though 18, different types of acceleration have been described (see Southern and Jones, Table 2.2), the authors observe much overlap between the “conceptually different” forms (Southern & Jones, 2004, p. 7). Subject-matter instruction and grade skipping, for example, differ only in that one is a part-time arrangement while the other is a full-time change.

Gross (2004) notes that most *early college entry* programmes accelerate by just 1-2 years: only a small number radically accelerate (progress students by 3-4 years). These are the University of Washington, California State University, and Mary Baldwin College, Virginia.

Southern and Jones (1991; 2004) observe that accelerative approaches differ in five ways: *pace*, *salience*, *peers*, *access* and *timing*. The *pace* of delivery of course content in *Continuous Progress* is significantly different to that experienced on an *Early Entrance to College* programme where the level of material is higher, but the pace is typical. Southern and Jones (2004) believe that *pace* is never truly radically altered. Accelerative options that dramatically adjust pace have strict entry criterion, and so only the “very gifted” gain access, and to them it is still not that significant.

*Salience* refers to the extent to which the accelerative approach is perceptible to others, namely, class peers. Apprehensions, over the student’s adjustment and subsequent academic success, often stem from how obvious the student is in their new environment or indeed how noticeably absent from the usual one. Grade skipping was once described by De Hann & Havighurst (1957) as “gross acceleration” (cited in Southern & Jones, 2004).

“The salience of acceleration may also bring it into conflict with values issues such as elitism and egalitarianism...noticeable depending on how they are employed.” (Southern & Jones, 2004, p. 7)

The unease that accelerative approaches generates habitually relates to the separation of the accelerant from their age *peers*. Southern and Jones (2004) however repeat the literature's dispel of this argument, though accept that the root of the concern is a holistic one.

“(there is a) lack of empirical research to support the notion...but the concerns persist because the decision to accelerate individual children are made by parents and educators regarding a child they know. This is not an abstract exercise.” (p. 8)

Access to acceleration programming varies in the United States from state to state, and district to district. Options are curbed too by geographic location, finance (both familial and school) and the availability of suitably trained teachers.

Finally, *timing* is a factor that distinguishes acceleration approaches. The age at which the student undertakes accelerated programming has a bearing on its success. The impact on the child of entering school a year ahead of what might be considered normal and skipping a school year after four years may be notably different.

Acceleration Strategy		
1	Early Entrance to kindergarten	The child is permitted admission to school at an age younger than typical.
2	Early Entrance to first grade	The child is permitted admission to school at an age younger than typical.
3	Grade Skipping	The student moves ahead one or more academic years. This may take place at a time during the school year or at the end of the term.
4	Continuous Progress	Course material is made available to the student as they complete given tasks.
5	Self-Paced Instruction	Similar to continuous progress, except the speed of advancement through the material is established by the student.
6	Subject-matter Instruction	The student participates in selected classes of a higher grade-level.
7	Combined Classes	Grade levels are combined (e.g. 1 <sup>st</sup> and 2 <sup>nd</sup> classes) in split classrooms, allowing academic and social communication to take place between students of different chronological ages.
8	Curriculum Compacting	Summary and repetition aspects of lessons are removed, making way for the inclusion of more appropriate course material.
9	Telescoping Curriculum	A course is compressed into a shorter period, allowing the student to advance to the next stage at an earlier age.
10	Mentorship	This involves linking the student up with a mentor, who can help them develop in that particular area of specialisation.
11	Extracurricular Programs	Here, students participate in summer or weekend activities that enable them access more apposite coursework and with the possibility of earning additional credits.
12	Concurrent Enrolment	Also known as dual enrolment, students take part in a course at a higher level than their chronological peers, which enables them earn credit at both levels.
13	Advanced Placement	Students access college level, course material at school, which upon examination may award college credits.
14	Credit by Examination	The student receives credit (following successful assessment) for college or high school coursework.
15	Correspondence Courses	College or high school level courses conducted remotely.
16	Early Entrance into Junior High, High School, or College	Like grade skipping, the student advances (as a conventional student) into a more developed learning environment, at least one year earlier than is customary.
17	Acceleration in College	The student completes coursework at least one year ahead of what would be expected. It may take the form of concurrent enrolment, credit by examination or as agreed by university staff.
18	Early Graduation	Graduation from high school or university takes place in three and a half years or less; typically achieved through concurrent enrolment, extracurricular or correspondence course work.

Table 2.20 - Range of Acceleration Options adapted from Southern & Jones (1991, pp. 2-3) and Southern & Jones (2004, p. 6)

## ISSUES IN ACCELERATIVE PRACTICES

There would appear to be a general lack of enthusiasm amongst educators to employ acceleration options for fear of causing long term, psychological damage (Southern & Jones, 2004; Southern, Jones, & Fiscus, 1989; Robinson & Janos, 1986). Southern and

Jones (2004) recognise that when they are utilised they are improvised and rushed, and the consequences are not fully thought through. Acceleration however is a process, and a full understanding of not only the implementation, but of the possible outcomes is important so that greater learning, amongst educators, can take place.

It is also important to recognise that where the accelerative option involves a more rapid delivery of instruction, the educator is competent in carrying this out (Southern & Jones, 2004). It is suggested that a group of teachers assume collective responsibility, rather than it being the duty of one, perhaps unpractised teacher.

Southern and Jones (2004) concede that acceleration can “run afoul of the schooling bureaucracy” (p. 11), not only in the arrangement of the educational provision, but affecting the student.

“... the student who participates in a dual enrolment or early entrance to college will confront differences in academic expectation, bureaucratic organization and peer social behaviour.” (Southern & Jones, 2004, p. 11)

Contrary to the popular thinking, acceleration has been shown, in countless studies (Gross, 1992), not to cause harm to a student’s affective development.

### **RADICAL ACCELERATION**

Radical acceleration is expressed by Stanley (1978) as the combination of factors that causes a student to complete their high school education three or more years ahead of expected. Bailey et al. (2011) explain how it may allow students to “skip several grades, and/or experience several forms of acceleration, during their school years.”

Gross (2004) believes it radical acceleration is best suited to those whose IQ exceeds 160, i.e. the exceptionally and profoundly gifted, but it is not suitable for everyone (Charleton, Marolf, & Stanley, 1994; Janos & Robinson, 1985). The prevalence of exceptionally gifted children is 1 in 10,000 (Gross, 1992).

Failure to radically accelerate such students may in fact cause underachievement (Gross, 2004; Charleton, Marolf, & Stanley, 1994), with Gross (2004) going so far as to say that, “underachievement is imposed on them” (p. 87). She believes that

enrichment and moderate forms of acceleration are inadequate to turn around underachievement or improve the emotional welfare of exceptionally gifted students, and are in effect futile efforts for the exceptionally gifted (Gross, 1992; 2004).

Students who make suitable candidates for radical acceleration generally show greater maturity than their age peers.

“Many prefer the company of older children or adults, and their play interests, reading interests, and friendship choices tend to be more akin to those of older children.” (Gross, 2004, p. 87)

An IQ of 160 was considered by Hollingsworth, (in 1931), to be the *danger point*, where students above this range were at greater risk of social isolation from their age peers (see Gross, 2004).

The chapter will now focus in on dual or concurrent enrolment as it underpins the acceleration approach used in this thesis. It will examine a selected list of programmes, which highlight the similarities and differences that exist within this accelerative practice. It will then look at some of the research findings evidenced in the literature.

## Concurrent Enrolment

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“Taking courses in a nearby college on a part-time basis while still in high school is another option, often used by intellectually highly able students. For several years, one of SMPY's<sup>2</sup> protégés took about a two-third load in a first-class university. Then he entered Harvard College at age 17 with sophomore standing. His first mathematics course there was, however, at the graduate-student level.” (Charleton, Marolf, & Stanley, 1994)

Concurrent enrolment programmes are an acceleration option available to both high and average-ability school students in high schools, community colleges and universities across the United States. Concurrent enrolment or dual enrolment might be described as simultaneous participation in second level and post-second level educational programmes, during a given academic year. It typically involves dual

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<sup>2</sup> SMPY – Study of Mathematically Precocious Youth begun by Dr. Julian Stanley, Johns Hopkins University.

credit attainment. A succinct definition of dual enrolment, concurrent enrolment and dual credit is given by Barnett and Stamm (2010, p. 2).

“Dual enrollment refers to the opportunity for high school students to simultaneously enroll in both high school and college courses. Students who take college courses while in high school receive college credit but may or may not receive high school credit for college courses completed.

Dual credit is defined by a situation in which students receive both high school and college credit for college classes successfully completed.

Concurrent enrollment is an alternate term. It may refer to dual enrollment or dual credit options.”

For the purposes of this thesis, the term concurrent enrolment will be used as the broader term encompasses programmes that enable dual credit attainment and those that do not.

“Dual enrollment programs were originally developed to provide high-achieving students with academically rigorous courses beyond those offered at the secondary level. Sometimes, this was viewed as a way for them to make better use of the senior year of high school. This continues to be the central purpose of dual enrollment nationally.” (Barnett & Stamm, 2010, p. 2)

Concurrent enrolment programmes offer an academically demanding educational experience (Karp, Calcagno, Hughes, Jeong, & Bailey, 2007), and an opportunity to earn up to one semester, one year or two years of college work before finishing high school (Andrews, 2004). Brown Lerner and Brand (2006) questioned whether post secondary learning opportunities should only be available to gifted and talented students, but to all students. Traditionally, they were made available to students with above average academic ability, however as these students have a high likelihood of college progression, state policies have altered to encourage greater participation by non-traditional college-bound students. (And such states stipulate that tuition fees do not apply to high school students (Barnett & Hughes, 2010; Karp et al., 2007)). The focus of concurrent enrolment programmes has thus seen a shift to encompass a broader cross-section of students, as its benefits in addressing social inequalities are observed (Hughes et al., 2012; Barnett & Stamm, 2010; Brown Lerner & Brand, 2006; Hughes et al., 2005; Hughes et al., 2005). The move has seen the community colleges, and career and technical education programmes (CTEs) join in,

enabling students who face social, economic and educational disadvantages an opportunity to participate, and raise their goals and ambitions. Centres of learning such as the early and middle college high schools were specifically created to focus on “at risk” students.

Dual enrolment is different from other credit-based transition programmes as it is governed by state policy and legislation, thus differing from one state to the next (US Dept. of Education, 2003). They are believed to vary by tuition fees, eligibility, course lecturer, location, mixture of students and intensity (US Dept. of Education, 2003).

In 2002, nearly half of first year college students required remedial courses upon entry (National Center for Education Statistics, 2002) however, in 2007 this figure had dropped to just over one third (National Centre for Education Statistics, 2011). The more these students required assistance, the more likely they were to drop out before graduation (Deil-Amen & Rosenbaum, 2002). College preparation was identified as a significant factor affecting attrition rates. It is likely one of the reasons that concurrent enrolment programmes gained traction. Similarly, Andrews (2004, p. 421) comments that many students are “‘blowing off their senior year’ due to lack of challenge” but that concurrent enrolment tackles this.

Statistics from the U.S. Department of Education conducted in 2002-2003, (cited in Karp, Calcagno, Hughes, Jeong, & Bailey, 2007; Barnett & Hughes, 2012) state that 71% of high schools and 51% of post-secondary educational institutions provided points of entry to high school students who wished to participate in college curricula. In the same year, virtually all two-year colleges had enrolment options for high school students (Barnett & Hughes, 2010). Recent statistics show that of the 1,104,000 students who graduated from high school in 2009, 249,000 earned dual credits before graduation (Institute of Education Sciences, 2011).

Before attending to the different programmes, it is important to outline the variation that exists between credit-based transition programmes. According to Bailey and Merchur Karp (2003), three levels of concurrent enrolment programming exists: singleton programmes, comprehensive programmes and enhanced comprehensive programmes. *Singleton programmes* largely do not impinge on the high school

curriculum, but allow the student to gain a “head start” on their tertiary education (e.g. Advanced Placement). *Comprehensive programmes* are more intensive, and require students to take their courses during the final year or two of high school. (E.g. the International Baccalaureate programme, and some dual credit programmes). Comprehensive and Singleton programmes are aimed at students who are “academically advanced and ready for college-level work” (Bailey & Merchur Karp, 2003, p. ix). They see “academic rigor and enrichment, rather than social-psychological preparation for college, as the primary goal” (p. 10). Enhanced Comprehensive programmes are even more rigorous, with intensive teaching, but are different from singleton and comprehensive programmes in that they include an array of student supports. Some concurrent enrolment programmes are considered Enhanced Comprehensive, as later discussion will illustrate. The Middle College High School (a part of the High School Early College initiative) is an example.

Table 2.3, taken from The Abell Foundation (2007), provides a good synopsis of college transition programmes in terms of the singleton, comprehensive and enhanced comprehensive programmes model. (It should be noted however that some of the programme models in the table are considered elsewhere to be a form of concurrent enrolment).



Models by Intensity	Program models	Primary audience	Primary goals	Support services	College credit
<b>Singleton</b>	DE, AP, DC	High achievers	Expose students to college-level work; enrich high school experience; earn college credit	No	Likely
<b>Singleton/Basic Skills</b>	DE	Middle achievers	Strengthen basic reading, writing, and math skills before enrolling in college	No	No
<b>Comprehensive</b>	IB, ECHS	High achievers	Earn college credit, prepare for college	No	Yes
<b>Comprehensive/Tech Prep</b>	Tech Prep	Middle achievers	Earn college credit, guide transition to college	Limited: career counselling, academic advising	Yes
<b>Enhanced Comprehensive</b>	MCHS	Middle and low achievers	Prepare at-risk students socially, emotionally, and academically for college	Extensive: counselling, tutoring, mentoring	Maybe

Table 2.21 - Early College Access Program Categories by Intensity of Experience and Services (The Abell Foundation, 2007, p. 11)

DE – Dual Enrolment; AP – Advanced Placement; DC – Dual College; IB – International Baccalaureate; ECHS – Early College High School; MCHS – Middle College High School

## A Selected Cross-Section of Concurrent Enrolment Programmes

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There is much distinction in the programming arrangements within the field of concurrent enrolment. There is no single approach, but an array of structures developed according to state policies and the individual needs of a district. There is much variance, with programmes differing according to location, courses available, instructor, supports and credit-earning potential. Similarly, some programmes specifically target students with high academic achievement and those considered at-risk of underachievement or dropout.

From a global perspective, concurrent enrolment programmes are predominantly a feature of educational institutions across the United States. Given the vast array of programmes that are available, for the purposes of this thesis, a randomly generated list of concurrent enrolment programmes was created to highlight the similarities and differences that exist. Thus, variances in purpose, course availability, location, admission requirements, tuition fees, introductory courses and student support will be discussed.

This list of programmes to be discussed is given in Table 2.4, which also outlines the location as well as the associated third level institution.

*The list includes Early College High Schools (ECHS) (as well as Middle College High Schools), which are considered to offer dual enrolment. These are small scale, high schools developed through partnership between a school district and a third level institution (typically a community college). Their attention is strongly focused on students who would not typically go on to tertiary education (Barnett & Hughes, 2010). Close to 200 ECS were founded through seed funding from the Bill and Melinda Gates Foundation (Barnett & Hughes, 2010).*

Programme Name	Associated 3 <sup>rd</sup> Level Institute	Individual School / Collaboration
Boston University Academy	Boston University	Individual school located on a college campus
DeVry University Advantage Academy	DeVry University	Collaboration between institutions
Early College Alliance	Eastern Michigan University	Individual school located on a college campus
Early College Program at Robert E. Lee High School	Florida State College	Individual School
Florida Atlantic University High School	Florida Atlantic University	Individual school located on a college campus
Early College High School	Over 240 locations	Individual school
IUPUI SPAN Division – Early College Entrance Programs	Indiana University – Purdue University Indianapolis	Collaboration between institutions
Middle College National Consortium	35 locations	Individual school on or near college campus
Ohio State Academy	Ohio State University	Individual school located on a college campus
Project Advance	Syracuse University	Collaboration between institutions
Running Start	34 community and technical colleges in Washington state	Collaboration between institutions
Texas Academy of Mathematics and Science	University of North Texas	Individual school located on a college campus

Table 2.22 - Selected Concurrent Enrolment Programmes

## PURPOSE

The function or goal outlined by the individual concurrent enrolment programmes listed in the table varies. Predominantly the purpose is to offer students greater challenge, and the opportunity to attain college credits ahead of high school graduation, thereby affording the opportunity to progress into a higher-level educational programme ahead of *normal* time (e.g. Project Advance at Syracuse University, Florida Atlantic High School, IUPUI Span Division). The Middle College National Consortium is similar, but with less direct focus on participation in college level courses (Barnett & Hughes, 2010). In others, the students participate in an introductory programme before advancing into full-time university modules (e.g. Early College Alliance at Eastern Michigan University). Elsewhere, the purpose is to pursue an associate degree or credit toward a Bachelor's degree whilst simultaneously completing the high school diploma (e.g. Early College High School, Early College Program at Robert E. Lee High School, Ohio State Academy, Texas Academy of Mathematics and Science, Boston University Academy, DeVry University Advantage Academy). In these institutions, the associate degree is typically awarded by the School (except at DeVry University).

## COURSES

The institutions in general offer a broad range of subject areas that span the humanities and the hard sciences. Some programmes offer the full gamut of the university courses (Ohio State Academy, Boston University Academy, Early College Alliance at Eastern Michigan University), while others have selected courses (e.g. DeVry University Advantage Academy, Project Advance at Syracuse University). Students at the Robert E. Lee Early College Program study for an associate arts degree. The Texas Academy of Math and Science has a core programme of study, and only permits students to take on elective subjects if they have earned above a set GPA. Some institutions include extra-curricular activities in their programmes, e.g. yearbook, band practice, art, music and drama, so that students have a more balanced concurrent enrolment experience (e.g. Florida Atlantic High School, Middle College National Consortium Middle and Early Colleges).

## LOCATION OF PROGRAMMES

A report by Barnett and Stamm (2010) illustrated state policy around the setting for concurrent enrolment programmes. They found that just two states stipulated the programmes be located on college campuses, 30 said either the school or the college campus, while 10 suggested that separate locations could be used. (18 states did not specify).

Many of the institutions featured in this thesis take the participating students into separate classes taught by the school (e.g. Early College Alliance, Florida Atlantic High School) or university faculty members (e.g. Ohio State Academy, IUPUI Span Division, Running Start (Washington State)), or both (e.g. Early College High Schools). Others enlist the assistance of the high school teachers. Project Advance at Syracuse University, for example, offers its concurrent enrolment in the high school, where teachers are trained during the summer period to deliver the university modules. Their teachers become “adjunct instructors” (Project Advance Syracuse University, 2012). To date the programme has trained close to 300 high school teachers to deliver 10 different courses, reaching in the region of 4000 students in 100 high schools in five states (Encyclopaedia of American Education, 2011).

## ADMISSION

Concurrent enrolment programmes are available to students at different high school grades. Programmes at Ohio State Academy, Running Start in Washington State and DeVry University Advantage Academy are available to students in their junior (11<sup>th</sup>) or senior (12<sup>th</sup>) years. The programmes that exist as stand-alone high schools (i.e. Boston University Academy and Florida Atlantic High School and Early College High School) welcome students from freshman (9<sup>th</sup>) through to their senior year. Students from freshman (9<sup>th</sup>) and sophomore (10<sup>th</sup>) are accepted by the Early College High Schools and the Early College Program at Robert E. Lee High School. Early College Alliance at Michigan University accepts students from 10<sup>th</sup> and 11<sup>th</sup> grades. The Texas Academy of Mathematics and Science receive students from 10<sup>th</sup> grade only. IUPUI Span Division offers its *Running Start* programme to freshmen through to seniors, and its *UpperClass* programme to juniors and seniors. Project Advance at Syracuse

University accepts only 12<sup>th</sup> grade students. In general, however, most programmes will consider students who are younger than the stated age in exceptional circumstances.

## APPLICATION

Application to any of the listed concurrent enrolment programmes requires students to generate an extensive educational profile. They regularly require standardised test scores, high school transcripts or GPA, age or school year, or a school recommendation (Brown Lerner & Brand, 2006). With an application form, proof of high academic achievement, high academic potential, maturity and motivation, are a standard requirement. **Error! Reference source not found..5** illustrates the list of requirements. Several of the programmes use interviews to determine the suitability of candidates for concurrent enrolment. Details of the interview procedures (e.g. standard questions, length of interview, panel composition etc.) however are unavailable.

The general trend across all programmes examined is to offer the courses to students with a combination of high academic ability and maturity.

“The FAU High School admissions process supports success in students who have demonstrated high academic ability and social maturity. The Admissions Committee may respond favorably to evidence that an applicant has demonstrated excellence in a particular endeavor – academic, extracurricular or otherwise.” (Florida Atlantic University Schools, 2009)

The FAU High School describes itself as “highly selective.” The IUPUI Span Division has a Highly Accelerated Scholars Initiative for “academically gifted and high-ability primary and secondary students whose scholastic development and accomplishments are noticeably more rapid than that of their peers” (Indiana University - Purdue University Indianapolis, 2010). This means of entry to IUPUI is specifically targeted at students who are 15 years and under.

The mission of Boston University Academy is to “to educate talented students who are passionate about learning and who share the joy of inquiry” (Boston University Academy, 2012).

Programme Name	Programme Application	High School GPA	Standardised Test (SAT, ACT, PSAT etc.)	Achievement Test Scores	School Grade Transcript/Report	SSAT Score (or equivalent)	School Attendance Record	Complete prerequisite courses	Recommendations	Motivational Essay	Student Questionnaire	Family Questionnaire	Attend Information Session	Interview	Special Education Information
Boston University Academy	Yes				Yes	Yes			3	Yes	Yes	Yes		Yes	
DeVry University Advantage Academy	Yes	2.5+	Yes				90%	Yes	1				Yes		
Early College Alliance	Yes		Yes		Yes					Yes					Yes
Early College Program at Robert E. Lee High School	Yes	2.5+	Yes	C+		GLR									
Florida Atlantic University High School	Yes		Yes		Yes				3					Yes	
Early College High School *	Yes			Yes	Yes				1				Yes	Yes	Yes
IUPUI SPAN Division	Yes		Yes		Yes				1						
Middle College National Consortium *	None specified														
Ohio State Academy	Yes	3.7+	Yes	Yes	Yes				1	Yes					
Project Advance	None specified														
Running Start (Washington State)	Application requirements as set out by the receiving college														
Texas Academy of Mathematics and Science	Yes		Yes		Yes			Yes	4					Yes	

**Table 2.23 - Concurrent Enrolment Application Requirements**

GRL – Grade Level Reading

Opt – Optional

\*Different requirement for each school - sample school was reported

Early College Program at Robert E. Lee High School seeks “highly motivated students” (Magnet Programs, 2012), while Ohio State Academy recruits “outstanding high school students” (The Ohio State University Academy, 2012).

The Early College Alliance is different in that it is available to those who are academically advanced as well as to those who are struggling or at-risk of dropping out. “(It) offers strong, academically focused students a chance to enrol in advanced, college-level coursework. It also provides an option for students who are either struggling or don't feel connected to their school an alternative” (Eastern Michigan University Early College Alliance, 2012).

Of the seven institutions requiring standardised test scores, only three detail the exact scores required for entry (see Table 2.6). When these scores are ranked using the test developers national score tables, it gives a better indication of the academic ability requisite for by the concurrent enrolment institutions (The ACT, 2012; College Board, 2012; College Board, 2011; PLAN ACT, 2012).

	Min – Max Scores	De Vry University	IUPUI Running Start	IUPUI UpperClass	Ohio State Academy
<b>ACT Math</b>	0 – 36	<b>17</b> (33 <sup>rd</sup> )			
<b>ACT English</b>	0 – 36	<b>17</b> (34 <sup>th</sup> )			
<b>ACT Composite</b>			<b>21</b> (55 <sup>th</sup> )	<b>29</b> (93 <sup>rd</sup> )	<b>26+</b> (84 <sup>th</sup> )
<b>SAT Math</b>	200 – 800	<b>460</b> (32 <sup>nd</sup> )			
<b>SAT Critical Reading</b>	200 – 800	<b>460</b> (37 <sup>th</sup> )			
<b>SAT Writing</b>	200 – 800	<b>460</b> (40 <sup>th</sup> )			
<b>SAT Composite (CR &amp; M)</b>	400 – 1600		<b>1000</b> (55 <sup>th</sup> )	<b>1200</b> (84 <sup>th</sup> )	<b>1180+</b> (84 <sup>th</sup> )
<b>PSAT (CR &amp; M)</b>	40 – 160		<b>95</b> (<10 <sup>th</sup> )		<b>118+</b>
<b>PLAN</b>	1 – 32				<b>26+</b> (86 <sup>th</sup> )

Table 2.24 - Standardised Test Score Cut-offs for Entry

Raw scores are indicated in bold, and percentile ranks in brackets. The SAT Composite score ranks were calculated using ACT-SAT Concordance (The ACT, 2012).



Thus, only the Ohio State Academy and IUPUI UpperClass seek students from the higher percentiles. The remaining scores appear to be arbitrary, until examined in terms of *college readiness*, which is defined as:

“the acquisition of the knowledge and skills a student needs to enroll and succeed in credit-bearing, first-year courses at a postsecondary institution (such as a two- or four-year college, trade school, or technical school) without the need for remediation.” (ACT, 2011, p. 3)

In a summary of state policies, Barnett and Stamm (2010) found that 25 states required prospective concurrent enrolment students to meet at least the entry criteria set down by the host institution.

Benchmarks for college readiness using ACT test scores are based on the probability that a 1<sup>st</sup> year college student has a 75% chance of earning a C or more, and a 50% chance of earning a B or more in four common 1<sup>st</sup> year courses (ACT, 2011). The SAT benchmarks are “obtained through logistic regression to determine the SAT score associated with a 65 percent probability of obtaining an FYGPA (first year grade point average) of a B- or higher” (Wyatt, Kobrin, Wiley, Camara, & Proestler, 2011-5, p. 13).

The SAT benchmarks were calculated to be 1550 for composite score, 500 for Critical Reading, 500 for Mathematics, and 500 for Writing Skills. The ACT benchmarks can be found in Table 2.7. (Composite scores were calculated by the author as average scores, i.e. PLAN – 18; ACT – 21.25).

	PLAN	ACT
SUBJECT	Test Score	Test Score
English	15	18
Mathematics	19	22
Reading	17	21
Science	21	24

Table 2.25 - Benchmarks for College Readiness (ACT, 2011)

IUPUI Running Start, IUPUI UpperClass and Ohio State Academy require SAT, ACT or PLAN scores seek students who are at the very least considered *college ready*.

Character and academic evaluations, in the form of recommendations, are frequently a component of concurrent enrolment applications. These are commonly sought from the high

school principal, English and mathematics teachers and the school counsellor. Questions typically refer to personal motivation, maturity, academic standing relative to classmates, and skills and particular ability in a given subject area. Recommendation forms typically include rating scales, and require the referee to indicate the weight of their recommendation. Some institutions also request behaviour or discipline records (e.g. Early College Alliance, Florida Atlantic High School).

Institutions sometimes seek concurrent enrolment candidates to include an essay with their application. Boston University Academy and Ohio State University Academy require a general essay or graded school essay. The Early College Alliance requires applicants to outline their and motivations for applying and how they believe the programme will benefit them.

Brown Lerner and Brand (2006) observe the use of extensive application criteria by institutions to determine, which students will be successful. However, programmes targeting average or low ability students often overlook certain requirements, but put in place introductory modules to help remediate the academic disparity before allowing students to undertake credit-earning courses (and thus safeguarding the course integrity). The Early College High Schools, who focus their attention on students typically under-represented at third level, are a good example. Concern over whether these students can successfully attain college credits caused some schools to alter their admission criteria to include measures of prior behaviour and motivation, as well as improved academic grades at entry (American Institutes for Research & SRI International, 2008; Cavalluzzo, Jordan, & Corallo, 2002). These changes to admissions criteria at some institutions have received some criticism, as evidence of a deliberate and sometimes not deliberate shift toward the enrolment of more academically able students (Brown Lerner & Brand, 2006). Results driven programmes and the possibility that high ability students are crowding out lower ability students in a bid to offset the later cost of college tuition, are put forward as possible reasons for this.

“The goals were to improve high school outcomes, bring about smoother transitions to postsecondary education, and increase college-going and college persistence” (Hughes, Rodriguez, Edwards, & Belfield, 2012, p. 10).

## TRANSITION PROGRAMME

Of the institutions offering an introductory module into full-time university courses, there is often a period of transition before the students are permitted to pursue the actual university modules. At Boston University Academy, this takes place over the course of one week before the start of term. To gradually integrate students the first two years at BUA involves studying the Academy's curriculum, in preparation for eventual integration into the university modules. Then, while continuing with the Academy curriculum, junior students are permitted to take up to two university courses in one semester, progressing to four in their senior year.

Early College Alliance at Eastern Michigan University requires students to demonstrate "soft skill credentialing" after at least one, but no more than two semesters, before allowing them to progress full-time into the university courses. This involves self-regulation, ability to work by oneself, adherence to deadlines, etc. to prove that the student is mature enough to take charge of their own learning.

Early College High Schools incorporate an "Introduction to College" class to assist students in making the transition (Middle College National Consortium, 2012), and offer guidance in the early stages of their participation, to ensure future student success (Barnett & Hughes, 2010).

## TUITION FEES

A number of the programmes are fully-funded publically by their school district (Early College Alliance, Early College High School, Early College Program at Robert E. Lee High School), fully-funded to a point of participation (Running Start (Washington State)) or funded by other public means (Texas Academy of Mathematics and Science, Florida Atlantic High School). Thus, there is a determined attempt to find the candidates that are most likely to complete.

At the Ohio State Academy, students choose to pay tuition fees or opt to receive funding from their school district. However, if a publicly funded student fails or drops-out, the district must be reimbursed. A number of the programmes charge students tuition fees: IUPUI Span Division programmes, Project Advance and Boston University Academy. Others are privately funded (DeVry University Advantage Academy). It is unclear whether public or privately funded tuition fees apply in the remaining institutions.

Concurrent enrolment is considered to have financially beneficial effects to both the student and the national education budget (Reindl, 2006; Barnett & Stamm, 2010; Farrell & Seifert, 2007).

Research for the Early College High School Initiative indicates that college managements are disposed to waiving course fees, for a number of reasons (cited in Cassidy, Keating, & Young, 2010, p. 14).

“(To) create a pipeline of students who will likely choose to remain at the college after high school graduation to complete their degree;

(to) garner positive publicity about the college’s commitment to the community;

(to) fulfill many public colleges’ mission to enroll underrepresented students;

and (to) improve the preparation of high school students for the rigor of college, and thus reduce the need for remediation once they are at the college full time (American Institutes for Research & SRI International, 2009).”

## STUDENT SUPPORT

There is a strong emphasis on student support in some of the programmes listed, particularly those that are aimed at students from the average ability range and those designed to encourage participation by students from non-traditional, college-going backgrounds.

“These programs seek to prepare students for college, not only through rigorous academic instruction, but also offering a wide range of activities such as counselling, assistance with applications, mentoring, and general personal support. They aim to address all elements of the secondary-postsecondary transition, and encompass the majority of students’ high school experiences. ...intensity and reliance on close student-teacher relationships... they appear to be best suited to the needs of non-traditional college students and to have the most potential to move non-academically advanced students into postsecondary education” (Bailey & Merchur Karp, 2003, p. 12).

The Middle College National Consortium takes the pastoral and academic care of its students very seriously, because it serves so many students coming from backgrounds that have a history of non-participation at university. The support system is “embedded” in the school through a range of support activities. The MCNC specify that student support is the responsibility of all staff, not just those with a specific purpose. Their supports come in the form of:

“Academic support structures for students enrolled in both high school and college classes, which may include credit retrieval programs, mentoring and tutoring and

individualized 4- and 5-year learning plans are provided by the high school staff, college remediation centers and high school and college student and faculty tutors and mentors.

Structures that provide for the social-emotional support of students include teacher-led advisories, early college seminars, club periods and community service programs. A school counselor and other professionals provide emotional support, community outreach for additional services, the coordination of student support programs and, through professional development outreach, the nurturing of teachers as they expand their role as counselors or advisors.

An early college seminar or “Introduction to College” class to provide regular academic support for students in college classes, introduce them to the protocols of college life, monitor their progress and help them with college applications as they make the transition to full-time college students.” (Middle College National Consortium, 2012)

The Texas Academy of Math and Science provide academic, personal and career counselling services. The Academy has a team of psychologists available to its students to deal with social and emotional issues. Academic counselling assists students in developing good time management and study skills. Career counselling offers students advice and assistance in planning career objectives. Boston University Academy also has a team of staff charged with student pastoral and academic care. Individual student needs are identified by Early College High Schools so that measures can be put in place to overcome academic and social difficulties. Florida Atlantic High School also has a team of counsellors available to “to meet individual needs, offer encouragement to set high but realistic goals, aid in adjusting to the school/college environment, assist in resolving school and personal problems, and assist with college and scholarship applications” (Florida Atlantic High School, 2009). Programmes that specify academic supports only include the Robert E. Lee High School Early College Program and DeVry University Advantage Academy. At Project Advance, support is channelled toward the adjunct instructors or teachers, as they are at the point of course delivery.

The programmes targeting students who have a low likelihood of college enrolment carefully formulate support networks to ensure successful integration into the concurrent enrolment programme and ultimately to an undergraduate place. The introduction of considerate advisory staff, academic support, integration classes and a secure surroundings, and supportive peers are believed to be cornerstones of successful programmes (Brown Lerner & Brand, 2006).

The next section illustrates the diversity of programming arrangements within the field of concurrent enrolment. Varying according to location, courses available, instructor, supports and credit-earning potential, there is much distinction. Similarly, there are those that target students demonstrating academic achievement and those deemed to be at-risk of underachievement or dropout. There is no one-size-fits-all approach to concurrent enrolment, but an assortment of structures developed through individual district needs and state policies.

The next segment will examine the literature on the benefits, the impact and the issues with concurrent enrolment.

## Research on Concurrent Enrolment

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In general, concurrent enrolment causes positive academic and social outcomes for participating students. Amongst the benefits outlined in the literature are improvements in college readiness, college completion rates, greater academic challenge and stimulation, reduced tuition fees through early credit attainment, greater student confidence and higher aspirations, as well as redressing the inequality between the social classes in terms of participation rates at third level.

However, several authors have highlighted issues with the literature on the impact of dual enrolment programmes. Some argue that little exists in the way of tangible research on the actual impact of dual enrolment (Speroni, 2012; Connecticut Board of Governors for Higher Education, 2006; Burns & Lewis, 2000; Cassidy, Keating, & Young, 2010), while others acknowledge that not all claims can be backed up by solid research findings (Barnett & Stamm, 2010). Others argue that few institutions evaluate the impact of concurrent enrolment beyond grade achievement (Rhodes, 2007; Brown Lerner & Brand, 2006). Speroni (2012) also believes that selection bias complicates evaluating the effect. On one hand, students who undertake concurrent enrolment are generally academically able, academically inclined and goal oriented, while on the other, the institutions put entry criteria in place. Thus, she cautions the interpretation of outcomes as subtle, unapparent differences between participants and non-participants are likely. Dougherty and Reid Kerrigan (2007) also echo this caution. Thus, interpretation of the research findings on concurrent enrolment cannot be read comparatively.

It should also be noted that much of the research on concurrent enrolment pertains to programmes that fit into the Enhanced Comprehensive model described by Bailey and Merchur Karp (2003), where their primary purpose is to encourage participation at third level by traditionally underrepresented students. While these programmes are of interest in the area of concurrent enrolment, they do not provide insight into the outcomes for the gifted population as a discrete group. (While it is acknowledged that identified and non-identified gifted students will present in the enhanced comprehensive programmes, findings that relate solely to students fitting gifted entry criteria are of greatest interest as these students made up the programme at the heart of this thesis). There is a dearth of research papers and reports of outcomes of programmes (typically the singleton and comprehensive programmes) that have specific academic prerequisites and relate more to the gifted population. Thus, for the purposes of presenting a comprehensive review of the literature, studies that relate to concurrent enrolment, according to whatever model, will be discussed first, and research relating to a related form of acceleration, early university entrance, will be addressed. Though different, it may be considered similar in nature to the enhanced comprehensive model but specifically designed for high ability or gifted students.

#### THE IMPACT OF CONCURRENT ENROLMENT

Much of the research on concurrent enrolment comes in the form of reports, written for the state education department or supporting foundation. From these, its impact is far-reaching. Students who undertake concurrent enrolment are more likely to graduate from high school than those who do not (Hughes, Rodriguez, Edwards, & Belfield, 2012; Karp, Calcagno, Hughes, Jeong, & Bailey, 2007; Speroni, 2012; Barnett & Stamm, 2010). It raises educational aspirations, resulting in students who are more likely to continue to third level education or training (American Institutes for Research & SRI International, 2009; Swanson, 2008; Karp, Calcagno, Hughes, Jeong, & Bailey, 2007; Speroni, 2012; Barnett & Stamm, 2010; Connecticut Board of Governors for Higher Education, 2006). In some cases, students are more likely to move to a four-year institution than a two-year one (Hughes, Rodriguez, Edwards, & Belfield, 2012). They are better prepared for college upon entry (Bailey & Merchur Karp, 2003) and less likely to require remedial courses upon college entry (Hughes, Rodriguez, Edwards, & Belfield, 2012; Michalowski, 2007; Barnett & Stamm, 2010). They are more likely to persist once they get to college (Hughes, Rodriguez, Edwards, & Belfield, 2012; Karp, Calcagno, Hughes, Jeong, & Bailey,

2007; Barnett & Hughes, 2010). They accrue more college credits than comparison students (Hughes, Rodriguez, Edwards, & Belfield, 2012; Karp, Calcagno, Hughes, Jeong, & Bailey, 2007; Michalowski, 2007). They experience a smoother transition from high school to college (Farrell & Seifert, 2007). Concurrent enrolment also improves college readiness (Project Advance, Syracuse University, 2011; Barnett & Hughes, 2010; Bailey & Merchur Karp, 2003; Barnett & Stamm, 2010; Farrell & Seifert, 2007), and improves GPA scores at college (Karp, Calcagno, Hughes, Jeong, & Bailey, 2007). They are more likely to graduate from college (Barnett & Hughes, 2010; McCauley, 2007). According to Barnett and Stamm (2010), concurrent enrolment provides innovative academic opportunity to students with high academic potential, assists in creating a labour force suited to the needs of the modern era, and opens up college access to a wider range of students.

Additionally, Bailey and Merchur Karp (2003, pp. 3-4) indicate further ways in which concurrent enrolment benefits all participating students.

“Prepare students for the academic rigors of college.

Provide more realistic information to students about the skills that they will need to succeed in college.

Help high school faculty prepare their students for the college experience.

Expose traditionally non-college-bound students to college.

Provide curricular options for students.

Improve motivation through high expectations.

Lower the cost of postsecondary education for students.

Promote institutional relationships between colleges and high schools.”

## **HIGHER ASPIRATIONS**

Strong educational ambition is critical not only to encouraging a student to go to third level, but to remain there to graduation.

Swanson (2008) found that dually enrolled students were more likely to take up a college place upon high school graduation, and remain there into the second year. The students who quickly achieved dual enrolment credits and subsequently began post-secondary education (after graduation) were more likely to attain a bachelors or advanced degree. She also believes that



dual enrolment participation may have altered their educational outlook in terms of bachelor's degree attainment.

## COLLEGE READINESS

Many reports on dual enrolment assert that it improves college readiness (Project Advance, Syracuse University, 2011; Barnett & Hughes, 2010; Bailey & Merchur Karp, 2003; Barnett & Stamm, 2010; Farrell & Seifert, 2007) and allows a more seamless transition from high school to third level (Bailey, Hughes, & Merchur Karp, 2002; Boswell, 2001). Early exposure to the challenging college level work is believed to lead to college success (Bailey, Hughes, & Merchur Karp, 2003).

Rhodes (2007) however challenges the notion of college readiness, questioning whether one single definition can apply to the 4200 third level institutes in the US. He wonders how state and national policy can be developed when such a variety of interpretation exists.

Michalowski (2007) concluded that former *College Now* students are simply more prepared (requiring fewer remedial courses or taking less time to complete them) and thus less likely to fail credit offering courses, or perhaps more likely to take on more credit offering courses. First year GPA was slightly higher amongst former *College Now* students than it was for non-participants (0.06). *College Now* students were also more likely to persist into the third semester.

Speroni (2012) examined the causal effects of dual enrolment amongst participants across the full range of courses, and more specifically participants in an algebra course. Of the general group, she reported no tangible effect on high school graduation rates or college enrolment, except a slight indication that it dissuaded students from 4-year to 2-year institutions. Positive results however were reported amongst those taking algebra. Though small, it increased the likelihood for some students of graduating from high school, and had a statistically significant positive impact on post-secondary college enrolment. Though these students were likely to undertake third level learning, those undertaking algebra were more likely to enrol at a 4-year institution, and earn a degree (both associate and bachelors). Speroni (2012) suggests that the more demanding DE-curriculum may result in better prepared, persevering students; that the students had a more favourable experience; that they arrived to college with improved

confidence in their academic ability; or that improved attendance was partly responsible for the outcome.

### PERSEVERANCE AND COMPLETION

Concurrent enrolment programmes have the important purpose of increasing third level, education completion rates (Barnett & Hughes, 2010). According to Barnett and Hughes (2010), college completion rates are affected by three significant factors: ensuring enrolment in the first place, attending to college readiness upon entry and perseverance. They also believe that it creates improved linkages between second and third level instructors that “may lead to better alignment of curricula, which should result in better-prepared students”, as well as the social and academic benefits of early adjustment.

Karp, Calcagno, Hughes, Jeong and Bailey (2007) analysed concurrent enrolment data from two programmes (that fit into the enhanced comprehensive model): *College Now* at CUNY in New York City and a CTE (career and technical education) programme in Florida. Students at College Now who took more than two dual enrolment courses were 3.5% more likely to undertake full-time third level study than non-participants or those who took only one course. This strength of this difference was also evidenced in the findings on progress toward degree completion and achieving a higher GPA after two years.

### IMPACT ON LOW-INCOME STUDENTS

Based on the Florida sample, Karp et al. (2007) found that dual enrolment has a greater impact on low-income students than high-income students, at least in terms of GPA, three years post high school graduation. It also has some positive effects on raising grades of lower-performing students.

### PROGRAMME LOCATION

Programme location has an impact on the effectiveness of dual enrolment (Brown Lerner & Brand, 2006; Hughes, Rodriguez, Edwards, & Belfield, 2012). For programme success, Hughes et al. (2012) suggest a strong linkage between the school and third level institution. They stress its setting in a cohesive, focused learning environment to ensure a genuine, third level experience.

“The college environment seems to foster a sense of responsibility with student participants....(as) students start to see themselves as college material. This theory holds true particularly for students who previously had not perceived themselves as college material. ... Students also cite fringe benefits such as access to the postsecondary institution’s students services such as libraries, technology, and academic/career counseling. ... Attending a course on a college campus provides an experience for students that mirrors the experience they will receive once they enter college” (Brown Lerner & Brand, 2006, p. 118).

Barnett and Stamm (2010) also found that concurrent enrolment helps non-traditional college bound students to see themselves as college material.

The 2003-2007 Early College High School Initiative Evaluation highlights some interesting outcomes. The report found that Early College High Schools (ECS) located on college campuses have better student attendance and assessment results. Students from these campus-based schools report “more academic engagement and self-confidence, less disruptive behaviours among their peers, and higher post-ECS educational aspirations than students at ECSs not located on a college campus” (American Institutes for Research & SRI International, 2008, p. vix).

The course duration (two-year or four-year) of the associated institution was also found to have an impact on students. Better attendance rates and assessment results were more likely at the schools partnered with 4-year institutions than those associated with 2-year institutions. Their students were also more academically engaged and had higher third level aspirations. Students at the 2-year institutions however reported less disruptive peer behaviour.

ECS initiatives offer college course (taught by lecturers in classrooms with other third level students) and college-like courses (taught by teachers and alongside other ECS students). Observations of several high school and college classes were made. Based on these, it was found that one-third of classes “offered students opportunities to engage in rigorous activities and provided scaffolding from the instructor to help students understand the material, and about one-third offered neither rigorous activities nor sufficient instructor support to ensure understanding” (American Institutes for Research & SRI International, 2008, p. xvi). The high school courses were more akin to the former than the latter.

Hughes et al. (2012) advise additional support for post-secondary lecturers teaching younger students. They also suggest that where teachers are the instructors, assistance is provided in adapting their teaching methodologies to better reflect that of the college.

It is also suggested that, where possible, students should be placed in real college classes (Hughes, Rodriguez, Edwards, & Belfield, 2012). Here they will experience a more realistic impression of college, and are more likely to mature.

Interestingly, Herbert (2001) found that grades achieved in mathematics by students attending college-campus based dual-credit courses were lower than those attained by students taking high school based courses. She concluded that the latter students were better prepared for ensuing college work than those who had been taught by university faculty.

### TRANSFER OF CREDITS

One might expect student to have automatic ownership of course credit once they fulfil the requirements of the course however, the awarding of credits does not always occur upon programme completion (Brown Lerner & Brand, 2006). They may be passed onto students in two ways: at the end of the college year, or held in escrow by the awarding institution until the student returns post high school graduation. According to the state policies, only 15 states require post-secondary institutions to recognise credits earned through concurrent enrolment (Barnett & Stamm, 2010).

### QUALITATIVE STUDIES

Few studies on concurrent enrolment contain qualitative findings. The results of two, small studies are included here.

Burns and Lewis (2000) compared the experiences of two groups of dually enrolled students: one group took their college courses at their high school, while the other attended the local community college. Though all were satisfied with their experience, those attending college-campus based courses reported greater fulfilment. These students felt greater independence, greater self-responsibility (in terms of their learning) and more mature. Though intimidated at first, they quickly adapted to their new surroundings. Academically, the courses were perceived

as having greater worth, and this was reflected in the students' concentration and attention to detail. Several other benefits are highlighted:

"Colin liked going to the college campus because it was "exciting and new, and everybody's older." Instead of being intimidated by the age gap, he felt that it was "...a lot looser...more comfortable. People talk more freely." While he did admit he felt more comfortable in the high school because it was what he was used to, he also admitted that he felt he would have an advantage over his classmates when going off to college after graduation. Because he had been exposed to the college environment, he said he "won't be scared to take classes"" (Burns & Lewis, 2000).

An qualitative evaluation of participants at High School Early College evidenced some interesting insights (American Institutes for Research & SRI International, 2009, p. 51). These were found through follow-up telephone interviews with 16 alumnis. Of the total group, only two students remained at the same institute of higher education. (Several reasons for switching institution were given: course availability, wishing to go to a 4-year institute and seeking a new experience). One student who remained found the absence of the ECS support system and friends; "It was just very different being in the same place but not with the same people and not the same environment anymore" (American Institutes for Research & SRI International, 2009, p. 54). Those who moved on also met difficulties. One student found that his course credits were not accepted by the new institution. Interestingly, others wished to withhold their credits so that they could begin as freshmen. Though dual enrolment had given them a head start on several levels, they wished to begin their actual third level education as normal. Overall, the graduates felt that their ECS experience had better prepared them for the college experience, and allowed them fully immerse themselves from the outset. Academically, the experience had readied them for the greater demands of third level learning; they adapted with ease to the reading, writing and time-management.

In another qualitative study, Lewis (2009) asked 21 first year college students to reflect on the impact of dual enrolment on their experiences in third level education. Overall, it was felt to be a positive learning environment. She found that the college-based courses gave a truer reflection of post-secondary education, particularly in terms of course expectations. Here the lecturers had a more flexible teaching style and were more available to students outside class time.

In terms of the regular college students, the age gap meant the dual enrollees were more reticent. Some students took this opportunity put themselves out there, and adapt and mature, while others did not.

Participation did not affect their decision to go on to post-secondary education as they had intended to anyway, but it did affect their self-confidence about adapting to the new social and academic environment.

With regard to the characteristics of successful dual enrolment students, it was felt that

“...potential students should possess a number of intrinsic characteristics such as dedication, organization, self-discipline, motivation, diligence, maturity, and confidence. They also needed to be able to manage time well, take the experience seriously, do the work, use good study habits, and be open to meeting new people and adapting to new environments” (Lewis, 2009, p. 103).

There is little doubt that concurrent enrolment is an attractive option to second level students, with its academic, personal, social and financial benefits. Nevertheless, while the benefits of concurrent enrolment are considered far-reaching, it is clear that there is some disquiet in the literature with their broad interpretation. It is difficult too to draw conclusions when the programme purposes and models are quite different. Though the outcomes of a concurrent enrolment programme that targets at-risk students may parallel those of a programme targeting high ability students, one does not always follow the other. Indeed, owing to the broadened entry criteria of the programmes discussed, there are few, if any, findings mentioned in this text that deal specifically with concurrent enrolment programmes for gifted or high ability students.

There are some issues too with the research literature on concurrent enrolment. Some of the methods used to obtain findings are not immediately clear, as much of the literature is in the form of reports (written for state authorities or funding foundations), which draw on findings from a variety of sources. Hence, the methodologies employed by the original authors are not always evident in the secondary document. Similarly, there is a broad interpretation of the meaning of the word “impact”. There are some gaps too in the research literature on concurrent enrolment. There is little of the impact of taking college classes alongside regular college students. There is limited evidence of the differences as experienced by students

between high school and concurrent enrolment classes. Much of what is presented appears to be conjecture.

## Early Entrance to College

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Research on Early Entrance to College is included at this point in the thesis as it pertains to the progress of gifted students entering university level education at a point earlier than the norm. While the research on dual enrolment provides some insight, little or no research relates specifically to the social, emotional and academic integration of high ability students. It is also important to include, as the Irish education system seems to rarely utilise acceleration approaches, for fear of causing social and emotional distress. Thus, it was felt important that the research findings on this rather extreme form of acceleration (radical acceleration), which closely approximates to concurrent enrolment, be included.

The launch of Sputnik by the USSR spurred not only new investment in maths, science, and languages in the US through the National Defence Education Act in 1958, but also a renewed focus on gifted education (Starko, 1990). The most notable feature of this decade is the formal beginning of early entrance to college for “students of high academic promise” (The Ford Foundation, 1957, p. 1). The Ford Foundation, with the assistance of twelve universities, funded an investigation into “the broader idea of accelerating the education of young people who, although they had not yet completed high school, seemed ready, both academically and in terms of personal maturity, to enter college” (1957, p. 6). A narrow notion of high academic ability appears to underscore their conception of giftedness, though the Foundation acknowledged the significance of non-cognitive and environmental factors in translating potential into achievement. In general, the selection procedures used by the institutions required a demonstration of high ability on aptitude and achievement tests, though one institution, Shimer College, took a more broader approach, selecting students with “a wide range of aptitudes” (p. 12). All institutions assessed social and emotional development, including interviews, recommendations by school principals, and student letters in their selection procedures (p. 12).

## STUDY OF MATHEMATICALLY PRECOCIOUS YOUTH (SMPY)

The students who participated in SMPY found that radical acceleration improved their appetite for learning, and saw them enjoy positive social relationships with their elder classmates (Charleton, Marolf, & Stanley, 1994).

In a follow-up enquiry of early entrants to university, Stanley (1985) found they outperformed the university students and attained a higher number of honours at university and in school. As well as completing their university studies earlier, they were also more likely to be accepted into prominent graduate programmes.

When radically accelerated 13-year olds were compared with a matched group, Pollins (1983) found they held greater ambitions and were more sanguine about their educational pursuits. The control group had undertaken more moderate acceleration options. Both groups felt that acceleration (in whatever degree) had some positive impact on their social and emotional development.

Lubinski, Webb, Morelock and Benbow (2001) studied the progress of 320 SMPY students. These students had exceptionally high math and/or verbal SAT scores: the top 3% of their age group, or a prevalence of 1 in 10,000. 95% of the sample undertook accelerative options. The students were strongly inclined toward a curriculum that progressed at a rate that matched their ability. Though accelerating to different degrees, the students rated it positively in both academic and affective terms, though more so the latter. They felt it did not affect their social interactions, including their relationships with age peers. Now as adults, the participants “expressed many positive sentiments and few regrets about having had such experiences (i.e. acceleration), even though many have pursued relatively narrow paths” (Lubinski, Webb, Morelock, & Persson Benbow, 2001, p. 727). Amongst this group, 56% were undertaking doctoral study; 50 times the expected rate amongst the general population

“...only identifying adolescents with exceptional general cognitive ability is insufficient for predicting the specific nature of their future accomplishments” (Lubinski, Webb, Morelock, & Persson Benbow, 2001, p. 726).



## GROSS'S 20-YEAR LONGITUDINAL STUDY

Miraca Gross conducted a 20-year study of 60 Australian students with IQs in excess of 160 (Gross, 2006; 2003; 2004). Over half of the group were retained with their age peers, while 17 were radically accelerated. She followed their progress over this extended time, and her findings are of interest to this thesis.

The pursuance of Masters Degrees and doctorates was more common amongst radical accelerants than those who were more moderately accelerated or not accelerated at all (Gross, 2004). The more moderately accelerated would have preferred greater acceleration interventions (Gross, 2003).

Accelerated students enjoyed a stronger affective well-being compared to the non-accelerants, "many of whom experience depressed or seriously depressed self-esteem" (Gross, 2004, p. 88).

The academic self-esteem of the radically accelerated students in this study was not as high as other forms of self-esteem. It is believed that this comes about because a broader perspective on their ability and potential was achieved in this new, accelerated learning environment (Gross, 2003; 2004).

Regarding social relationships, all radical accelerants noticed their social and emotional welfare improve significantly, as relationships with their new classmates began. Conversely, the non-accelerants found friendships a constant struggle throughout their schooling, and for many, long into adulthood (Gross, 2003).

"Children form friendships on the basis of similarities rather than differences. The skills of friendship building are learned in children, and if the child is placed with age-peers with whom she has many more differences than similarities, and who reject her because of her differences, she may have little opportunity to develop these skills" (Gross, 2004, p. 88).

In her review of the schooling of five exceptionally gifted children, Gross (1992) described how prior to radical acceleration, the students endured boredom, low motivation levels, difficulties making friends, and intellectual discontent. In this study, Gross (1992) agrees with earlier authors on the subject (Pollins, 1983; Stanley & Benbow, 1983; Janos, et al., 1988) that radical acceleration presents a pragmatic and effectual solution to the education of exceptionally gifted

students. Parents, teachers and students agree that radical acceleration better matches them personally and intellectually.

“These students display higher levels of motivation, they report that **pressure to underachieve for peer acceptance has significantly diminished** or disappeared completely, and, although the curriculum which they are offered does not completely address their academic needs, it **provides a challenging and stimulating intellectual environment when enhanced with ability grouping, enrichment, or mentoring**. The radical accelerands have **positive attitudes toward school** and believe that they are warmly regarded by their teachers. They have **a greater number of friends and enjoy closer and more productive social relationships** than they did prior to their acceleration. They have **significantly high levels of social and general self-esteem** than do children of equal intellectual ability who have been retained with age-peers or grade-skipped by a single year.” (Gross, 1992, p. 98) (emphasis added)

### EARLY COLLEGE ENTRANCE PROGRAMMES

Acceleration programmes, particularly radical acceleration programmes, that are carefully organised, with selective criteria and support systems in place ensure that there is little change of negatively affecting students (Gross, 1992; Janos & Robinson, 1985; Robinson & Janos, 1986). The argument however should be reversed to examine the effects of *not accelerating* exceptionally gifted students (Gross, 1992; Robinson H. B., 1983; Janos, Robinson, & Lunneborg, 1989).

“For appropriate candidates provided with skilled support, this study finds high scholastic achievement, positive attitudes toward education, and subsequent entre (sic) to first-rank graduate programs” (Janos & Robinson, 1985, p. 178).

Students who accessed pre-programme counselling arrived with a clearer idea of what university would be like, and learned an enhanced set of study skills to help bridge the void between school and college (Stanley, 1985).

Monitoring is a critical function of any radical acceleration programme (Stanley, 1985).

Gross (2004) observes the growing number of universities offering acceleration programmes to *cohorts* of gifted students, and believes this is linked directly to the wariness of teachers toward radical acceleration of young students.

“These programs enrol groups of gifted students, who have, in general, not completed high school, and structure their initial college years as a community of early entrants,

often with special residential accommodation and with enhanced access to career and personal counselling” (p. 90).

It is preferable to take a group of students into this type of learning environment to negate any of the social, emotional and academic difficulties these younger undergraduate students are likely to encounter.

“... for a constituency of exceptionally talented but quite young students, college enrollment, particularly when undertaken in concert with other able and motivated peers, can be both academically enhancing and facilitative of personal and social growth” (Janos, Robinson, & Lunneborg, 1989, p. 495).

#### UNIVERSITY OF WASHINGTON’S EE PROGRAM

The early college entry of gifted students to the University of Washington began in 1977. Several studies have been conducted with the cohorts of students who participated in the programme, providing a rich source of information on the effectiveness of this radical acceleration approach.

Comparing the academic performance of early college entry students at UW to equivalent first year university students, and National Merit Scholars, Janos and Robinson (1985) found that the accelerated students outperformed the regular university cohort (in their GPA scores) and rated comparably with the NMS group on cumulative GPA and on the number of credits earned. The authors note that university learning is intellectually and academically appropriate for certain students who are below the standard age of entry.

“Accelerated students assigned higher ratings to the importance of academic characteristics of the university than did traditional age students, and they reported greater satisfaction with their academic environment than did either comparison group” (p. 178).

A parallel study by Robinson and Janos (1986) looked at the psychological adjustment of early college entrants, again, compared to the regular university students and to National Merit Scholars. The gifted students were no less well adjusted and given the extensive psychological instruments used, the authors express confidence that any issue would have been detected. The students seemed less isolated from their peers than the regular college students, and more like the typical gifted student, whose personal and social maturity are years ahead of their age.

The early entrance students in the research by Janos, Robinson & Lunneborg (Janos, Robinson, & Lunneborg, 1989) performed better academically than the regular university students, though not as well as the National Merit Scholars. No aspect of their development was impeded by participation; the students were no different socially or emotionally to similarly aged, gifted students, who were not accelerated. Though some early entrants experienced integration issues, it was no more than was evidenced in the other university groups, and it was thought to have been “a constructively integrating experience” by both the programme organisers and the clinical therapists working with these particular students.

By assembling equally motivated and intelligent, Early Entrance causes immense social benefits to the gifted students who participate. Having them work and socialise together, cultivates an environment where genuine relationships may develop: the setting that, for these students, is more often than not absent in ordinary school settings. Adaptation to this rich, social landscape however can be intoxicating, as the study shows. Grades, while very good, were lower than might have been expected. The authors believe that this is natural and not a sufficient reason to preclude them from participation.

“Of course, the same phenomenon is observed among typical college students. Is this “immaturity” or a “normal” process? The answer, of course, is that it is probably both. But we do not view it as the kind of immaturity that should preclude a college experience for very young people; like everyone else, they have to make important decisions and live with the consequences” (Janos, Robinson, & Lunneborg, 1989, p. 515).

It is necessary however to preface these findings by noting that the students in this programme were purposefully selected and had access to a support system, both formal (career and psychological counselling) and informal (age-peers) throughout.

“... students evidenced academic readiness, defined by objective measures such as college aptitude tests; intense personal commitment, often signaled by overcoming major obstacles to college admission; and the signs of maturity that led us to believe they might keep themselves effective, on-task, and socially at ease while in college” (Janos, Robinson, & Lunneborg, 1989, p. 516).

“Any worthwhile evaluation of markedly early college entrance must acknowledge the unique needs of the individuals who seek to exercise the option. Their quality of life during adolescence, as well as their productivity and satisfaction as adults, is at stake.” (Janos, Robinson, & Lunneborg, 1989, p. 516)

Many of the findings outlined relate to the social and emotional wellbeing of students participating in Early Entrance to College. As briefly mentioned already, the predominant

nervousness experienced by educators with regard to acceleration centres on these social and emotional issues. It thus seems appropriate at this point for the thesis to take an in-depth look at the psychological underpinnings of these matters of potential concern.

## Self-Concept

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Central to the interpretation of the personal impact of acceleration is the psychological conception of self-concept. In simple terms, it may be defined as the perception we have of ourselves. Self-concept is a personal discernment, which appraises our capabilities, skills, physical presentation and social abilities. It is a complex insight into ourselves that includes “cognitive, perceptual, affective and evaluative facets” (Hoge & Renzulli, 1993, p. 449). Marsh and O’Mara (2008) define it as “a person’s self-perceptions formed through experience with and interpretations of one’s environment ... (and) are influenced especially by evaluations by significant others, reinforcements, and attributions for one’s own behaviour” (p. 543).

Each individual acts as their own yardstick, in that how we perceive ourselves is based on their own interpretations. Whether or not that perception is a realistic one is not important, so long as the opinion is an honest reading of one’s self-concept (Marsh, 1992). A disingenuous construal would somehow defeat the purpose of interpreting self-concept.

The literature on self-concept is clouded by terms that are often used interchangeably; self-esteem, self-worth, self-perception, self-efficacy, and while there is overlap with some (Bong & Clark, 1999), it is important to begin with a concise definition.

The next issue in relation to self-concept is the conceptual framework that underlies it. Several theoretical perspectives have emerged in the literature, which have added another dimension to understanding the body of research and opinion on it. Neglecting to define the construct accurately at the beginning creates conceptual problems leading to methodological issues: replication, instrument selection and linking the findings to the appropriate theoretical model (Byrne, 1996). It is therefore necessary to give a brief overview of the existing perspectives so that the findings that later follow can be understood in a better light.

The theoretical frameworks may be divided into two dimensions: *unidimensional* and *multidimensional*, and Byrne (1996) provides a useful overview. Within the unidimensional

field, she points to two models: *the nomothetic model* and *the true unidimensional model*. The nomothetic model regards self-concept as a singular, global perspective, which is made up of several sub-units. The secondary scores are summed, contributing with equal weighting, to produce a global self-concept. (The Piers-Harris Self-Concept scale (Piers & Herzberg, 2002) is based on this model). The *true unidimensional model* is somewhat different, in that it simply calculates one global score (overall self-concept) and does not contain subscales. The items on these instruments tap into one's global self-concept. (Rosenberg's Self-Esteem scale (1965) is based on this particular conceptual framework). From a multidimensional perspective, self-concept is understood to have several aspects that correlate, but themselves are individually valid (Byrne, 1996). She identified six separate models; *independent factor model*, *correlated-factor model*, *taxonomic model*, *compensatory model* and *the hierarchical model*. The latter two models are of greatest interest here. In essence, the *hierarchical model* holds that self-concept has an overarching global index, with branches of correlating sub-domains that can themselves exist as standalone constructs. The hierarchical model was experimentally developed by Shavelson et al. (1976), who concluded that global self-concept had one academic and three non-academic components (social, physical and emotional), which each had further sub-domains. The model was refined in the years that followed by several authors.

Strein (1995) notes that it may be defined in global terms or in specific areas of behaviour, e.g. academic self-concept, physical self-concept etc., with the comprehensive notion being more widely accepted in recent times.

Byrne and Shavelson (1996) suggest that *social self-concept* is composed of *school* and *family* indexes, which divide into *classmates* and *teachers*, and *siblings* and *parents*. *Academic self-concept* is believed to consist of *verbal/academic* and *maths/academic* components, below which the corresponding subjects are to be found (Marsh & Shavelson, 1985; Marsh, Shavelson, & Byrne, 1988). *Physical self-concept* is found to consist of *balance*, *flexibility*, *strength* and *appearance* (Marsh & Redmayne, 1994; Fox & Corbin, 1989).

Song and Hattie's model put forward a slightly reordered composition of self-concept, which is based on the original Shavelson et al. (1976) model, but with some exceptions (Hattie, 1992; Song & Hattie, 1984). The model divided global self-concept into *academic self-concept*, and *non-academic self-concept*. The academic segment divides into achievement, ability and classroom self-concepts (the latter being later found to be more associated with social self-

concept). The ability and achievement self-concepts could divide into subject areas. Non-academic self-concept was found to partition into social and Self-Presentation self-concepts, which split into family and Peer, and Confidence in Self and Physical (which is made up of Physical Appearance and Physical Skills) (Marsh & Hattie, 1996). The model is illustrated in Figure 2.2.

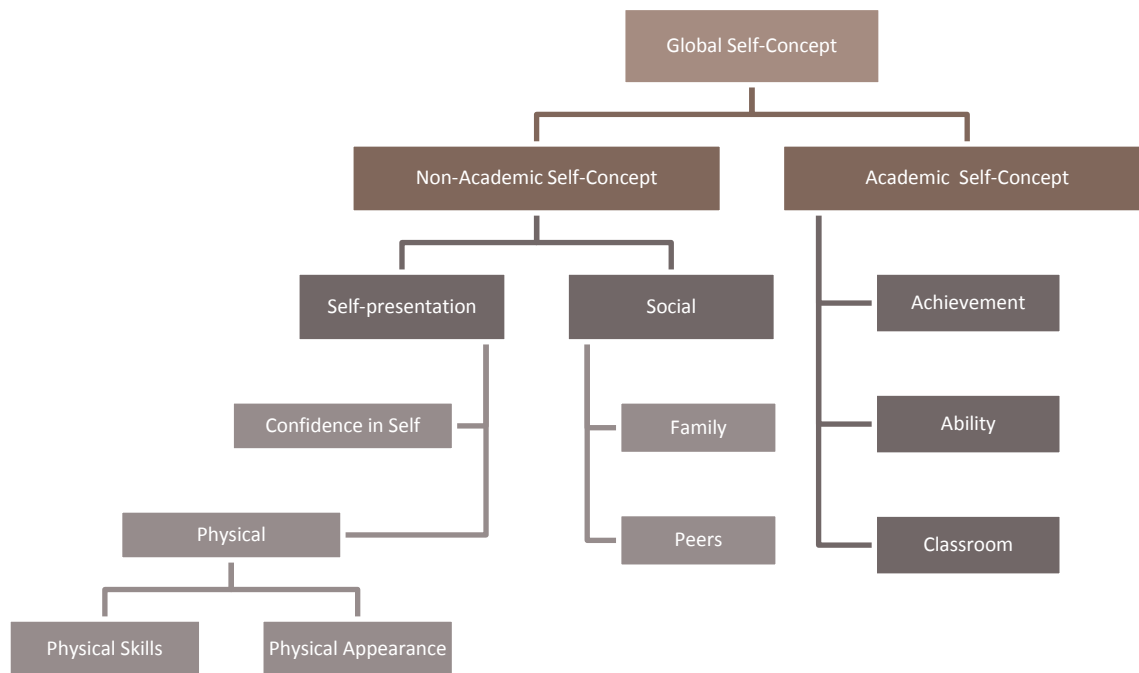


Figure 2.5 - Song & Hattie Hierarchical Model (1984)

Through his refinement of the hierarchical model, Marsh (1986) developed the *Internal/External model*, which is a *compensatory model* from the multidimensional perspective (Byrne, *Measuring Self-Concept across the life span - Issues and instrumentation*, 1996). Self-concept is thus understood to have an inner (which is based on previous experience, self-judgements etc.) and an outer aspect (that comes from our comparisons with significant others etc.). Plucker and Stocking (2001) found the *Internal/External Model* developed by Marsh (1986) was appropriate to explain the self-concepts of gifted students.

## GLOBAL SELF-CONCEPT

In more recent literature, several authors advise the need for greater attention on the specific components of self-concept when they are of interest, in addition to the global score, which alone can be of little use (Marsh & O'Mara, 2008; Marsh & Craven, 2006; Marsh, Shavelson, & Byrne, 1988). Indeed, the usefulness of a global self-concept index has been questioned (Hoge

& Renzulli, 1993), and even whether academic self-concept itself is a useful measure is questioned, because of the myriad of features it incorporates (Marsh, Shavelson, & Byrne, 1988). They argue that if one is examining specific components of academic self-concept, the global (academic self-concept) value is of little importance.

Gifted students have been shown to have higher global self-concepts (Sayler & Brookshire, 1993; Hoge & Renzulli, 1993) and academic self-concept scores than non-gifted students (McCoach & Siegle, 2002; Wilson H. , 2009; Hoge & Renzulli, 1993; Colangelo, Kelly, & Schrepfer, 1987). Hoge & Renzulli (1993) found a small effect size on the global score, and no differences on the social and physical indexes, which indicate that gifted students are the same as non-gifted students in these areas.

Overall self-concept has been previously shown to be predictive of adaptation to university (Caplan, Henderson, Henderson, & Fleming, 2002; Cornell, Callahan, & Loyd, 1991). Initial social adjustment to university is strongly correlated to higher probabilities of degree completion (Woosley, 2003).

### **ACADEMIC SELF-CONCEPT**

Marsh (1984) developed a conceptual framework around the instinctive social comparison that is used in arriving at one's academic self-concept. His conjecture is that students contrast their academic performance against that of their peers, before shaping their own academic self-concept. The framework latterly developed into the Internal/External frame of reference model, which contends that academic self-concept is composed of *internal* (e.g. comparisons of performance in one subject compared to another) and *external* factors (e.g. how well they match up to the achievement of their peers). "Thus, academic self-concepts depend not only on one's academic accomplishments but also on the accomplishments of those in the school that a student attends" (Marsh & Hau, 2003, p. 367).

High academic self-concept is linked to behavioural implications, including undertaking higher-level coursework ((Marsh, 1993), (Marsh & Yeung, 1998)) and higher levels of long-term educational achievement (Marsh & O'Mara, 2008).



Marsh and O'Mara (2008) found that academic self-concept and performance are "reciprocally correlated and mutually reinforcing" (p. 549). They stress that unless both are enhanced simultaneously, the positive outcome for academic self-concept will only be short-term.

Marsh and his colleagues conducted studies on gifted students in homogeneous and heterogeneous schools, and assigned the term *big-fish-little-pond-effect* (BFLPE) to the phenomenon where equally able students have higher academic self-concepts in low-ability schools than in high-ability schools (Olszewski, Kulieke, & Willis, 1987; Marsh & Hau, 2003; Marsh & Parker, 1984). The BFLPE was shown to have no effect on global self-concept (Marsh H. W., 2009; Marsh & Parker, 1984).

Considering previous research in this field, Marsh concluded that the size of the BFLPE on academic self-concept varied according the polarity (of abilities) of the samples, and considered age as a likely variable also. (He notes that as students get older, their perceived academic ability is based not just on grades, but on a plethora of external benchmarks, that become more precise as they advance toward the end of high school). BFLPE has been shown to account for 25% of the causal influence of academic self-concept on academic accomplishment (Marsh, 2009).

Coleman and Fults (1985) concluded that the effect of lowered self-concept in homogeneous classrooms settings affected students in the bottom half of the group only. Other authors disagree, believing the effect to impact on all students upon entering high ability schools (Marsh & Rowe, 1996), while others found that the effect to be short-lived (Marsh, Chessor, Craven, & Roche, 1995). Pyryt and Mendaglio (1994) found that gifted students in homogeneous classes have a significantly higher self-concept than non-gifted students, (using the Pyryt-Mendaglio Self-Perception Survey). The academic portion of self-concept accounts mainly for this difference, as well as the social and evaluative components, but to a lesser extent. Similar results were also reported by Wilson (2009), using the Perceived Challenge and Academic Self-Concept Scale (Wilson H. , 2007).

More recent research by Rinn et al. (2009) calls into question the BFLPE. Their study, on second level students attending a 3-week gifted summer programme, found that verbal and math self-concepts (the two main components of academic self-concept) were not influenced by social comparisons, and they advise that future research evaluate it empirically to gauge its actual

contribution. Wilson (2009) found that curriculum rigor contributes significantly to academic self-concept, with the “perceived difficulty of coursework” being more of an influence than social comparisons.

McCoach and Siegle (2003) found that while gifted underachievers were more likely to have low self-perceptions (subscale on the SAAS), they represented just a small proportion of all gifted underachievers, i.e. the majority, like gifted achievers, reported high self-perceptions. They believe that this is because both groups *know* they have the skills and abilities to achieve, and that in social comparisons with their classmates, this knowledge allows them to maintain a higher sense of self-worth. Wilson (2009) also found that ability and academic self-concept were mediated by performance and beliefs about the level of difficulty.

### **ACADEMIC SELF-CONCEPT AND ACHIEVEMENT**

Previous academic self-concept has been found to be a greater predictor of performance, above interest, past school grades and standardised test grades (Marsh et al., 2005).

Academic self-concept and achievement have been shown to be mutually affecting and supporting (Marsh & O'Mara, 2008; Marsh et al., 2005). They stress that unless both are enhanced simultaneously, the positive outcome for academic self-concept will only be short-term. High academic self-concept has behavioural implications, including undertaking higher level coursework (Marsh & Yeung, 1998; Marsh, 1993) and higher levels of long-term educational success (Marsh & O'Mara, 2008).

Marsh (2009) found that academic self-concept is affected greatly by academic ability and grades, but that these have a much lesser affect on global self-concept. He also found that academic self-concept only moderately affected academic accomplishment.

Plucker and Stocking (2001) studied the impact of specific programmes on the self-concept of gifted students. Accomplishment causes self-concept in that particular field to increase, but it will likely affect negatively self-concept in other areas. They found that the self-perceptions of gifted students are not universally high as often perceived, but rather affected by the same internal and external evaluations.

Dai (2001) studied a group of gifted and average ability Chinese adolescents, and reported the female students having a higher verbal self-concept, compared to the males students who had higher math self-concept (using the SDQ II). His study drew on data from two schools; one a regular secondary school and the other a selective ('key') school (students in the top 10-15<sup>th</sup> percentile). When he considered the 'key' school data, he found that they had equivalent verbal and math abilities, but that the female students had higher academic self-concepts (though they are over-represented in the key school). Rinn et al. (2009) also found gifted females had higher verbal self-concepts than gifted males.

### **SOCIAL SELF-CONCEPT**

Byrne and Shavelson (1996) believe that social self-concept changes with age, and so care is needed when comparing studies that relate to primary, second and tertiary level students.

Kelly and Colangelo (1984) found that gifted students had higher social self-concepts when compared to non-gifted students, while in their meta-analysis, Hoge and Renzulli (1993) found it to be the same.

In a study of gifted students attending a residential summer programme, Rinn (2006) reported an increase in both same-sex and opposite-sex relations for both male and female students.

Students coming from families experiencing tension are less likely to succeed socially, emotionally or academically at university, and though interventions were found to have some positive affects, familial discord remains a significant determinant of successful integration (Feenstra, Banyard, Rines, & Hopkins, 2001).

### **Findings of Psychological Measures of Self-Concept**

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The psychological measures employed in this study to assess personal, social and emotional changes caused by programme participation include Marsh's Self-Description Questionnaire-II, the Piers-Harris Self-Perception Profile, Swiatek's Social Coping Questionnaire, McCoach and Siegle's School Attitude Assessment Survey, and Baker and Siryk's Student Adaptation to College Questionnaire. The research around the use of these measures with gifted and university students, is the subject of this next section of text.

## MARSH'S SELF DESCRIPTION QUESTIONNAIRE II

Marsh, Plucker and Stocking (2001) recommend the use of the SDQ II with gifted populations, after their analysis of data from two gifted populations produced reliable and valid results. Their results had less error than reported in the normal sample. They found that gifted students had significantly higher self-concepts in a range of areas, but most particularly in the academic domains (*Math, Verbal and School*) compared to the normal sample. The paper was based on an earlier paper by Plucker et al. (1997), who also recommended the use of the SDQ II with gifted students. They found that the *academic* and *general self-concept* scales had large mean scores and were negatively skewed, and thus suggested the possible existence of a ceiling effect. The paper by Marsh, Plucker and Stocking (2001) follows up on Plucker et al. (1997). They rationalise the conflicting results, pointing out that their methods of analysis were more precise and that additional data was combined with the original data set used by Plucker et al. (1997), and thus provided improved results.

Hoogeveen et al. (2009) used the SDQ II to examine the self-concept of accelerated students in their first two years of secondary school. They found that accelerants have a more positive self-concept when compared to their non-accelerated classmates. Their self-concept relating to *school in general* and *mathematics* is also more positive, but they have a less positive social self-concept (*same-sex relations*). They found that female students only maintained this perception until the end of the first year only, whereas the negative self-perception continued until the end of second year (the study didn't go beyond second year), with their self-concept regarding *opposite-sex relations* being more negative than for female accelerants. They suspect that the difference is due to puberty beginning later for male students, which when they compare themselves to non-accelerants at this stage, is more obvious in boys than it is in girls. Hoogeveen et al. (2009) considered their findings in light of the BFLPE, concluding that accelerants will evaluate their social behaviour with their older classmates, resulting in a lowered social self-concept. Their findings also showed a lower physical self-concept, similar to Hoge and Renzulli (1993). However, like Swiatek & Benbow (1991), they found no differences in total self-concept and general self-concept.

## PIERS-HARRIS SELF PERCEPTION PROFILE

In their study of gifted students aged between 8 and 16 years, Colangelo and Assouline (1995) reported high self-concepts, but that this changed between elementary, middle and high school. The lowest scores were reported in high school, and most particularly for gifted girls. They found that as students progress through school, they suffer from anxiety and feelings of loneliness. Using the Piers-Harris Self-Concept scale, they reported the lowest scores in *interpersonal skills* and *self-satisfaction*, but high scores in *intellectual* and *school status*.

## SCHOOL ATTITUDE ASSESSMENT SURVEY- REVISED

Developed by McCoach and Siegle (2003) to measure the attitudes of second level school students to a variety of inward and outward school factors, the SAAS has been found to identify a number of critical issues in gifted underachievement.

In a comparative study of 178 gifted achievers and gifted underachievers, the measure was found to correctly categorise 81% of the group (McCoach & Siegle, 2003). It showed differences in opinions on the *attitude toward school*, *attitude toward teachers*, *motivation/self-regulation* and *goal valuation* subscales. The authors suggest that future research should investigate the impact of interventions to improve scores on the *motivation/self-regulation* subscale; and further whether these increases transform into improved academic achievement.

The instrument was successfully used with university students in Turkey by Baslanti and McCoach (2006). They compared two groups of students; a group identified as underachievers and a comparative sample. The instrument correctly identified and categorised 80% of the students. They found that the *Motivation/Self-Regulation* subscale best identified the students.

Matthews and McBee (2007) utilised the survey to assess whether the attitude toward school of 13-15 year old participants in a three-week summer programme would affect their performance in a different academic environment. They found that neither attitude toward school nor grades achieved in the previous academic year were predictors of underachievement. The authors believe that environment is an important factor for cultivating or not cultivating underachievement, concluding that purposeful academic programmes can successfully reverse it.

## STUDENT ADAPTATION TO COLLEGE QUESTIONNAIRE

The Student Adaptation to College Questionnaire was shown to be a useful scale for researching European students' adjustment to university however problems were reported with the *Academic Adjustment* subscale, which yielded non-significant correlations with GPA (Beyers & Goossens, 2002). The authors commented that the subscale is a subjective measure; the student's own perception of their academic adjustment, compared to GPA, which is objective (Wintre & Yaffe, 2000). Given that students in the Belgian university where the questionnaire was used did not take interim tests, the students had no conception of their academic adjustment until they took end of semester exams.

Baker, McNeill, & Siryk (1985) discussed "the freshman myth", which is the discrepancy between the expectations students have about university and their actual experiences there (expectations tend to be more positively coloured than the subsequent reality). They found that the *Personal-Emotional Adjustment* subscale shows no instance of the "freshman myth", whereas it is evident on each of the other three. They suppose that students are more likely to have prior experience of physical and psychological adjustment (its subscale clusters) from previous personal experience, and thus have developed more realistic perceptions, compared to the *attachment*, *social* and *academic adjustment* subscales, which are based on their impressions in their new educational situation. "To the extent to that these expectations are borne out, it would seem worthwhile to consider interventions aimed at improving such awareness and understanding, again even prior to matriculation" (Baker, McNeill, & Siryk, 1985, p. 101). Pancer et al. (2000) found that students who reported lower levels of stress prior to beginning university were more likely to better adjust to university. Adjustment, they found, is related to the integrative complexity of expectations of university. Students who had more complex expectations of university (had more information, for example, with which to develop more informed expectations) demonstrated higher levels of adjustment, than students' whose expectations were basic and naive. They suggest that programmes, which allow students to attain greater knowledge about university and university life may be more effective in "promoting more complex expectations and increased cognitive readiness for university" (Pancer, Hunsberger, Pratt, & Alisat, 2000, p. 54).

## SOCIAL COPING QUESTIONNAIRE

As gifted individuals often feel different and consequently socially stigmatised, the Social Coping Questionnaire by Swiatek (1995) was developed to measure the strategies employed by gifted individuals to cope in social settings. The scale investigates five areas or subscales: *Helping Others*, *Denial of Giftedness*, *Minimizing One's Focus on Popularity*, *Denying Negative Impact of Giftedness on Peer Acceptance*, *Conformity to Mask Giftedness*, and *Hiding Giftedness* (Swiatek & Dorr, 1998; Swiatek, 1995).

In a study of 229 summer programme participants, with an average age of 14 years, Swiatek and Dorr found girls more likely than boys to have high levels of social interaction and were more likely to cover up their abilities. Swiatek (2001) also reported this finding.

In this later study, it was found that male students use humour more than their female counterparts Swiatek (2001). She found no differences in the results when she compared school grades and gender by grade. This study reveals the relationship between social coping strategies and self-concept.

The pattern of these relationships suggests that emotion-focused strategies, particularly those that are based on denial, are negatively associated with self-concept scores. The most positive social coping strategies appear to be those that are problem-focused, including helping others and maintaining a high activity level (pp. 37-38).

In a study of 600 students in grades 5-7 and grades 8-11, Rudasill, Faust and Callahan (2007) found that factor structures vary when the measure is used with different groups. They used age and gender comparisons.

Cross and Swiatek (2009) used the SCQ with 300 students at a residential high school, during their penultimate and final years. They found that while their self-perception did not alter significantly, alongside highly able students, their opinions about their academic ability became more modest. Their perception of *peer acceptance* improved after one year, particularly in relation to the acceptance of giftedness. The authors note however that due to issues with internal consistency, these findings should be regarded as speculative. Significantly, the study revealed that extracurricular activities were less important than in previous schools in helping students to define themselves and form friendships.

With a group of school students nominated by their schools to participate in a university, gifted programme, Chan (2004) found that valuing peer acceptance and attempting avoidance were the most important coping strategies employed. His findings also showed that factors such as gender, age and nonverbal IQ influenced the social coping strategies use.

## Conclusion of the Literature Review

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The intention of this literature review was to develop, in the reader, an understanding of what it means to be considered gifted and how specialised education provisions have emerged. It compared and contrasted some of the most established theories of giftedness. In charting its roots in intelligence theory, the review presented how it is understood in terms of IQ and other forms of testing, along with modern understandings of its biological underpinning.

With the landscape sketched out, the field of acceleration as a form of gifted education provision was explored. Two forms in particular, concurrent enrolment and early entrance to college were examined as their theories and practices contribute significantly to this study. Similarly, theories of self-concept were illustrated as they form an important part of the programme evaluation.

The following chapter will outline how the literature shapes the development and evaluation of the Early University Entrance at Dublin City University programme.



# Chapter 3

## Methodology & Research Design

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“It is common sense to take a method and try it. If it fails, admit it frankly and try another. But above all, try something.”

Franklin D. Roosevelt

In research, no methodology can honestly *fail*, but it can be ill fitting, where another might have produced superior quality data and findings. What can only *fail*, as FDR puts it, is the inability of the researcher to identify and address the shortcomings of a method. This chapter sets out to discuss the structure of this research and explain its methodology and research design.

Research questions require answers, and thus orient many of the methodological decisions. This chapter begins by setting out the research questions upon which this evaluation study is founded. The chapter is then divided into three segments to address the foremost features of research design. First, the investigator, central to the whole process, is the subject of focus. Next, the methodology and research design employed is outlined and finally, the methodological issues affecting the research, including those of validity and reliability, are brought to the fore.

The first section opens with a piece on the nature of knowledge creation. It provides a challenging discussion of the ontological and epistemological assumptions upon which each of the paradigms are founded, and where the author’s inclinations fit within that spectrum. The chapter continues with an admission of the biases and methodological predilections possessed by the researcher.

The case study methodology was selected as the theoretical framework upon which to conduct this research, and so a comprehensive discussion on this particular approach follows. A presentation of the research design follows and includes a discussion of sampling, ethics and the research schedule. This is followed by a comprehensive review of the data collection methods, and the reasoning behind their selection. A summary of the data analysis follows. The chapter continues with an outline of the schedule of the research process. The final section addresses the issues of validity and reliability, and highlights the tactics used to check credibility and

trustworthiness. The chapter concludes with a summary of the research design and examines its strengths and weaknesses.

## The Study

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This thesis examines the impact of the concurrent enrolment programme, Early University Entrance. It broadly sets out to investigate a number of aspects: its affect on its participants; how it was assimilated into the university structure; and how well it integrated into the school system through the Transition Year programme. An evaluation would seem to be an appropriate research route to undertake. Callahan supports this view:

“A comprehensive evaluation should broaden the scope of issues raised and seek to answer questions which relate to the overall functioning of the program. In fact, it should be so broadened as to include not only assessments of the impact of the program on its clientele, i.e., gifted students, but also attempt a thorough description of the program’s actual components...(failure) to describe programs completely also cause problems when questions of generalization or potential adoption by others arise.”  
(Callahan, 1983, p. 3)

Traditionally evaluation was used as a means to gather information to determine value but evaluation data can be divided into four types depending on the purpose (Callahan & Hunsaker, 1991). *Descriptive evaluation* provides detailed information about a programme and its functioning, so that more specific questions can be formulated and addressed. Descriptive evaluations contain information such as:

“program definition, philosophy, procedures and criteria, program goals and objectives for identification, student goals and objectives, curriculum, personnel, budget, program evaluation, management, instructional strategies, programming options, description of relationships and interdependence of program components, resources which support each program component” (Callahan & Hunsaker, 1991, p. 183).

*Prescriptive evaluation* considers the need for a programme, and if so, how best it might be delivered. *Formative evaluation* appraises a programme in terms of its desired outcomes and operations. It should be conducted simultaneously as the programme progresses. *Summative evaluation* considers whether the desired outcomes have been achieved.

“It is generally neither necessary nor possible to attempt assessing entire programs in a single evaluation. Rather, it is preferable to craft questions which bring focus to one or

to a few program elements in ways which provide blueprints for growth” (Tomlinson & Callahan, 1994, p. 48).

Callahan (1986) describes the movement that began in the late 1960s away from strictly scientific approaches, to evaluation for “the purpose of decision-making”. Programme evaluation widened its remit, and the result was a deviation from investigations about whether specific results were found to more descriptive, explanatory approaches that focused was on information provision and were sufficiently open to enable later evaluation with the advent of new information.

This latter method appears to suit the purpose of this research as a new direction in gifted education in Ireland.

### **GIFTED PROGRAMME EVALUATION**

The first stage of programme evaluation is to decide on its purpose, and Callahan and Hunsaker (1991) challenge us to begin by taking a step backwards. Are the central, evaluation questions intent on discovering new avenues for programme improvement (i.e. “focus on progress”) or are they about critically reviewing whether or not the programme has achieved success? (i.e. “focus on outcomes”) (Tomlinson & Callahan, 1994, p. 48; Callahan, 1986). If determining success is the focus of the evaluation, then the research will orient toward investigating whether or not the programme achieved its stated outcomes. The goals and objectives of the programme will provide a useful guideline here, as long as they are clearly outlined, and are not so vague as to be achievable so that suitable measures (or methodologies) can be applied (Callahan, 1983; Callahan & Hunsaker, 1991). Attention however, must be given to the fundamental nature of the programme goals, as frequently those stated for gifted programmes are composite and intangible. Their evaluation requires a careful selection of data collection methods, employed in a longitudinal study (Tomlinson & Callahan, 1994). On the other hand, evaluation questions can be too crude and unsophisticated.

Callahan’s (1986) paper considered the nature of questions in evaluation purpose and design. She commented on the tendency toward simplistic phrasing so that a response can be conveniently elicited. In many cases evaluation is based on information at hand, which typically pertains to academic performance; exam scores, standardised test results, and sometimes includes interview data, questionnaires etc. (Callahan & Hunsaker, 1991). Swanson’s (2008)

review of dual enrolment programmes found that the evaluation data was dominated by statistical data on grade point averages, degree attainment, tracking etc., but failed to examine its impact in more affective areas. Such a narrow approach is futile, because it utilises surface information and overlooks any 'halo effect' (Callahan, 1986). Evaluation questions need to be sufficiently focused as to be achievable within a set period, but adequately complex as to be insightful.

Sometimes however, evaluation questions are not immediately obvious. If the nature of the evaluation is descriptive, then more qualitative approaches may be used in the early stages ahead of evaluation to assist in identifying particular issues, and form the topic of later investigation. Noble and Drummond (1992) approached affective topics using open-ended questions; student perceptions about why they chose acceleration, their university and peer relationships, and the impact of acceleration from the perspective of socio-emotional and academic adjustment. This served as a preliminary investigation that was later followed by a fuller evaluation (Noble, Robinson, & Gunderson, 1993). The limits of such preliminary evidence must be observed; setting, origin and type of data and whether it has been systematically proven (Callahan & Moon, 2007). They warn that such "speculative or anecdotal evidence" has its merits but it is not scientific evidence and should not be treated so.

## Research Questions

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Research is defined by hypotheses and questions. Before outlining the factors that are guiding this investigation, it is important to explain briefly the nature of both hypotheses and questions in research. "...research questions guide investigations and are concerned with unknown aspects of a phenomenon of interest" (Teddle & Tashakkori, 2009, p. 5). Punch defines a research hypothesis as "the predicted answer to a research question" (cited in Robson, 2002, p. 65). By their very nature therefore, research questions compel the adoption of a more flexible research approach, while hypothesis testing commands a fixed research approach (Robson, 2002). Both hypotheses and questions have their place in the field. Whichever approach is taken depends upon the demands of the investigation.

Because much about this phenomenon is unknown, the research veers toward the phrasing of research questions. Questions, such as these, provide the major signposts orienting the research. A number of overarching questions are set out below, along with some discussion and

a number of “researchable” questions generated to provide some focus and serve as a starting point in the programme’s investigation.

#### HOW IS EARLY UNIVERSITY ENTRANCE FITTED INTO AN IRISH UNIVERSITY?

- *What barriers needed to be overcome to set up the programme?*
- *What eased the integration of the programme into the university system?*
- *What benefits does the university community see in Early University Entrance?*
- *What format did the programme take?*

#### HOW DO EARLY ENTRANTS FIT INTO THE UNIVERSITY ENVIRONMENT, INCLUDING WITH THE REGULAR FIRST YEAR STUDENTS?

Much of the resistance to acceleration is founded upon a lack of knowledge of the research findings, and false impressions of the social and emotional affect (Colangelo, Assouline, & Gross, 2004), and was mirrored in research on university decision makers (Young, Ayres, & Rogers, 2009). Thus, the foremost question should rest on establishing how well the participants integrated into their new learning environment in academic and affective domains. Given Maslow’s *hierarchy of needs*, self-actualisation in the form of full academic integration can only begin to be achieved when preceded by the accelerants feeling appropriately safe and secure in the new environment (Maslow, 1943). Thus, from these two standpoints, several in-depth questions arise and are now examined in turn.

#### SOCIAL, EMOTIONAL AND PERSONAL INTEGRATION

- *Did the early entrants feel well received by the first year students?*
- *How well did they feel received by their lecturers?*
- *How do they feel about DCU as an institution?*

#### ACADEMIC INTEGRATION

- *How did the students cope with the academic workload at university, i.e. ability to keep up with the pace and demands of university study?*
- *Did they feel an imbalance between college level work and school level work, and did that create any issues for them?*

- *How seriously do they take their studies?*
- *What result are they striving for?*
- *What positively and negatively affects their motivation levels?*
- *How do they follow their interest in this subject outside of college work?*

#### **WHAT IS THE IMPACT OF EARLY UNIVERSITY ENTRANCE ON THE STUDENTS, PERSONALLY?**

Like much of the literature on radical acceleration programmes, it is important to understand the impact of Early University Entrance on the students personally and in terms of their relationships with significant others. Gross (2004) noted the importance of strong peer relationships in acceleration programmes.

- *How does it affect participants emotionally? (aspects of self-concept and self-perception)*
- *How does it affect them academically? (including their academic self-concept)*
- *What is its impact on their relationships? (with family, school friends, teachers, university staff etc.)*
- *What are the opinions of parents and teachers of the impact of EUE on its participants?*

#### **WHAT IS THE IMPACT OF EARLY UNIVERSITY ENTRANCE ON SCHOOL-LIFE, WHILST THE STUDENTS ARE PARTICIPATING IN THE PROGRAMME?**

As the students are dually enrolled at the university and at their school, an important aspect of Early University Entrance is to understand how it affects their school life.

- *How do the students compare before, during and afterwards on social, emotional and academic domains?*
- *What reaction have the accelerants received from their teachers, school friends and acquaintances about EUE?*
- *Does their experience of school change in any way as a result of EUE?*

#### **HOW DID THE EARLY ENTRANTS FIND RE-INTEGRATING INTO SCHOOL AFTER THE PROGRAMME CONCLUDED?**

- *How well did they reintegrate into school afterwards?*
- *What aspects of school life did they find the most difficult to re-accustom to?*

## HOW HAS THEIR UNIVERSITY EXPERIENCE AFFECTED THEM?

- *What do they think they will miss from their period of university level learning?*
- *Has their attitude toward school and university changed as a result?*

## DOES EARLY UNIVERSITY ENTRANCE FIT INTO THE TRANSITION YEAR PROGRAMME IN SCHOOLS?

How well this radical acceleration initiative can integrate itself into the Transition Year programme will provide essential information for the programme's transformation from a pilot programme into something more established.

- *What are the attitudes of transition year coordinators toward EUE?*
- *How do the goals and aims of Early University Entrance compare with those of TY?*
- *How well does EUE fit within the school timetable?*

These questions cast a very wide net intended to capture the full extent of the programme's remit, as much remains unknown of the affect of Early University Entrance. It will drive the research forward in a number of different directions, in terms of design, stakeholders, and data collection and analysis.

At this point, it is appropriate to discuss the author's understanding of the nature of social reality and knowledge.

## The Creation of Knowledge

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This section focuses on the fundamental nature of the social phenomenon (ontology) and, central to any piece of research, what the author considers believes is the nature of the knowledge (epistemology). These philosophical viewpoints will orient the research approach, the means of data collection and the methods of analysis. These critically important platforms need to be identified so that the findings may be placed appropriately within the existing literature in the field.

### THE ONTOLOGICAL ASSUMPTIONS

Ontological questions centre on the nature of social reality; e.g. is the social world something that is external to those individuals within it, or is it a creation that they are involved in forming

(Bryman, Social Research Methods, 2004). Thus, two polar positions or paradigms exist: *positivistic* (sometimes called scientific or normative) and *naturalistic* (frequently referred to as constructivist or interpretive). If the world is considered to have just one *truth*, then a positivistic approach is taken. If *truth* is constructed from the perceptions of each individual in that social context, and that the *truth* may change with different individuals, then the approach is naturalistic. Thus reality is built upon the notion of multiple, internal constructions of reality, or the view of just one singular, external reality. The belief that reality can only be truly understood from the position of those who are part of the ongoing experience is the naturalistic understanding. Critically, it recognises that the reality is created internally in the minds of its stakeholders. “(Interpretive) social scientists understand, explain and demystify social reality through the eyes of different participants; the participants themselves define the social reality” (Cohen, Manion, & Morrison, 2007, p. 19). Reality is therefore subjective, and individual versions are the core of the actuality. Further, this ontology assumes that stakeholders are conscious of their actions, and exercise preference and purpose in their choices; what Layder (1994) calls “agency.” Positivism would believe that individual interpretations hamper the search.

How each paradigm regards the environment or context, indicates another major difference between the two. Positivists believe that the environment is constant and unchanging, while naturalists regard it as constantly adapting, changing and being shaped by its context (“situated activities”) (Cohen, Manion, & Morrison, 2007). Positivism seeks to condense or take a one-dimensional view of the fixed setting, while naturalism strives to observe the environment three-dimensionally, observing the multiple layers and perspectives that give greater depth.

## EPISTEMOLOGICAL ASSUMPTIONS

Epistemology refers to the nature of knowledge. Coleman et al. (2007) in their study of how qualitative research is used in gifted education articles, feels that the French language provides a more apt definition of what it is “to know” in naturalistic and positivistic terms. The verb translates to two words; *savoir* and *connaître*, and the subtlety of difference between them emphasises the distinction between the paradigms. *Savoir* means to know in the sense of formal knowing (e.g. directions, lyrics of a song, someone’s name, etc.), and is therefore distinctly quantitative. *Connaître* means to know in a personal way, and is thus akin to what is



endeavoured in naturalistic or interpretive research. Positivists work under the assumption that the *knower* and what is *known* can be separated, i.e. that knowledge constructed by a person can be detached from knowledge that was there all along (natural laws), but just needed to be uncovered. Naturalists believe that individuals construct the knowledge in the world, that there are no *natural laws*, and so no need for them to be, nor indeed can they be, unravelled.

The two conflicting paradigms may also be referred to as *normative* and *interpretive*; the *normative paradigm* views human activity as rule-dominated, and should only be studied using scientific methods; subjectivity is the sole focus of the interpretative paradigm (Cohen, Manion, & Morrison, 2007). The attack on positivism by naturalistic researchers is focused centrally on these attempts to reduce human behaviour into something mechanistic, with direct cause-effect relationships (determinism) (ibid), which naturalists argue is impossible because it ignores the complex system of preference, independence, values, principles, morality, and notions that we approach social situations with (Holbrook, 1977; Horkheimer, 1982; Habermas, 1978). Where positivism would immediately identify validity and reliability issues with the use of such accounts, naturalistic approaches take a contrasting viewpoint, and embrace what might be considered *uncertainty* as the only way to gain true understanding. (Naturalistic approaches seek credibility in place of these checks).

The attack on positivism becomes particularly strong, when epistemological issues are drawn into the picture. The scientific approach usually begins with a hypothesis or theory to be proved or disproved. Naturalistic approaches differ at the outset because they typically start with an immersion in a situation, allowing the themes to later, become apparent. Positivists ultimately aim for generalisability in their pursuit of knowledge, and much of the criticism squared at naturalistic research has been on this very point. There is a definite divergence here because the latter believes in transferability (through rich description) over generalisability, which, though it may be a possible outcome, is not the sole purpose of the inquiry. Coleman et al. (2007) argue that “it is the local, not the universal, phenomenon that is the focus of qualitative inquiry...It is the reader who decides whether the results fit his or her situation because contextual factors are essential to meaning” (p. 52). Positivism takes the view that cause and effect can be separated, while naturalism understands them as complex interactions that cannot be disentangled.

Positivism interprets the relationship between the researcher and the situation as “subject-object”, whereas naturalism sees it as “subject-subject” (Giddens, 1976).

## PRAGMATISM

Teddlie and Tashakkori’s (2009) created a continuum of paradigms, because social science has suffered such a state of unrest around the ontological and epistemological questions considered above, such unrest did not beseech the scientific research community. Social science has struggled to justify to the scientific community the ways in which it carries out research. So far, the discussion has centred on the polar opposites of this range: positivism and anti-positivism or naturalism. In recent years however, three other paradigms have been suggested, and represent varying degrees of these notions of reality. They are *transformative*, *pragmatic* and *post-positivism*. Planted firmly in the centre is the pragmatic paradigm, inhabiting a “dialectical position,” using “multiple paradigms to address research problems” (Creswell & Plano Clark, 2007, p. 15). This notion of using several paradigms might appear ludicrous in light of the preceding discussion, but it makes sense when considered in the present state of research and the paradigms debate. With a mountainous body of literature rooted in conflicting ontologies and epistemologies, multiple paradigms allows research to enjoy the best of both worlds, so long as it is correctly undertaken. Coleman et al. (2007) voice a general sense of disquiet in relation to this arguing that sometimes mixed methodologies actually only employ singular paradigms, e.g. research that employs quantitative and qualitative methodologies, but whose aim is for theory generation (positivistic). Thus, when utilising mixed-methodologies the research trajectory must be paradigmatically sound. The authors’ further note that evaluation research tends to be more true to its mixed methodological heritage because the stakeholders steer the research and how the different types of data are ranked.

Ontologically, pragmatism agrees in part with the two conflicting paradigms. In fact, the paradigm actually “debunks” notions such as *reality* and *truth*, in favour of a “what works” approach to answering the research questions (Teddlie & Tashakkori, 2009). Burke-Johnson and Onweugbuzie (2004) explain:

“We suspect that some philosophical differences may lead to important practical consequences while many others may not. The full sets of beliefs characterizing the qualitative and quantitative approaches or paradigms have resulted in different practices...In some situations the qualitative approach will be more appropriate; in other

situations the quantitative approach will be more appropriate. In many situations, researchers can put together insights and procedures from both approaches to produce a superior product (i.e. often mixed methods research provides a more workable solution and produces a superior product). We are advocating a needs-based or contingency approach to research method and concept selection.”

Pragmatism believes in “an external reality independent of our minds” (Cherryholmes, 1992, p. 14) but also concedes that there is no *one truth*; that one version of reality is not necessarily *more true* than another. Generally, pragmatists are doubtful of the possibility of one true account of social reality (Cherryholmes, 1992) but that we should regard it as “provisional truth” (Burke-Johnson & Onwuegbzie, 2004). Rossman and Wilson (1985) argue that the pragmatic paradigm methodologies should aim for *corroboration*, the quantitative and qualitative methods employed should come together; *elaboration*, the data should be richly descriptive, and; *initiation*, the findings should induce new insights, open up directions for future research and possibly reorient the original research questions.

A central principle of pragmatism is its recognition that the researcher’s values play a significant role in the process, in the choice of subject matter, how it is explored and the findings are interpreted (Teddle & Tashakkori, 2009). It considers that the search for causal relationships is worthy but acknowledges that they can be fleeting and difficult to recognise. Instead, attention should be paid to clarifying, in terms of our own values, the relationships unearthed (Teddle & Tashakkori, 2009).

The discussion on mixed methodologies demonstrates that while we would expect in the search for answers to research questions the paradigm to be the starting point, it can also be preceded by choice of methodologies. Creswell and Plano Clark (2007) advise, “...it is important for researchers to fit the paradigm to the design or the design to the paradigm, and both should be matched to the study’s purpose” (p. 174).

Inquiry is founded upon its research questions, and singular paradigms might be considered too restricting in resolving these questions. Multiple paradigms allow the researcher a more “eclectic approach” when adopting methods, thereby enhancing the quality and depth of the answers (Burke-Johnson & Onwuegbzie, 2004).

Whether there is a predominance of one paradigm or a balance is struck between the two, must be decided upon early in the design process (Burke-Johnson & Onwuegbzie, 2004). Similarly,

researchers are advised to consider the weightings apportioned to quantitative and qualitative methods, and if they are to be employed successively or simultaneously. Greene, Caracelli and Graham (1989) identified five grounds upon which mixed-methodological inquiry design is intended: *triangulation, complementarity, development, initiation and expansion*.

Mixed methods research therefore changes the manner in which we regard the investigation. If the primary aim is to address the research questions in the best possible way, with a lesser need to align with a particular biased paradigm, mixed methodologies is the most suitable approach. Indeed some authors consider pragmatism (the umbrella term given to mixed methodologies), the third paradigm in educational research (Burke-Johnson & Onwuegbuzie, 2004; Creswell & Tashakkori, 2007). Onwuegbuzie and Leech (2005) caution that “mono-method research is the biggest threat to the advancement of the social sciences. Indeed, as long as we stay polarized in research, how can we expect stakeholders who rely on our research findings to take our work seriously” (p. 384).

#### GIFTEDNESS IN THE PARADIGM DEBATE

This research arrives to a literature on gifted education that is as polarised as the wider social science literature itself. It is dominated by positivistic, post-positivistic or empirical-analysis (Cross T. , 1994; Rogers, 1989; Coleman, Sanders, & Cross, 1997) as it understands human interaction with the world as “quantifiable psychosocial phenomena” (Coleman, Sanders, & Cross, 1997, p. 106). Research based on interpretist paradigms certainly exists, but to a lesser extent. What’s more, qualitative research in gifted education has only emerged in the relatively recent past; only two qualitative studies were published before 1990 (Coleman, Guo, & Simms Dabbs, 2007).

What further muddies the water is the fact that the paradigms are often not clearly defined at the outset, which allow flawed linkages be made between findings that stem from competing paradigms (Coleman, Sanders, & Cross, 1997; Coleman, Guo, & Simms Dabbs, 2007). “On the surface we seem to be talking the same language, but at a deeper level there is not a match in ideas” (Coleman, Sanders, & Cross, 1997, p. 109).

In their review of gifted studies, Coleman et al. (2007) found studies that mixed methodologies were very often imbalanced, with one methodology generally steering the analysis and

overshadowing the results. In the first instance, research must detail its purpose (hypothesis testing, greater understanding, generalisation, and description). This will direct the nature of the inquiry and, in mixed methodological studies, ensure that the contribution of each paradigm is appropriately apportioned. Coleman et al. (2007) however note that “evaluation research appears to be the exception...mixed methods seem to work in that instance because stakeholders drive the process and they place value on one kind of evidence over another” (p. 54).

This section sought to set out the ontological and epistemological assumptions that steer the research process. It considered the positivist and naturalistic paradigms, and how they divide the research process in fundamental ways. These polar opposite paradigms were placed on a continuum, where the pragmatic paradigm was shown to occupy the central position. A comprehensive presentation of pragmatism followed, concluding with a short review of gifted education research in terms of the ontological and epistemological assumptions.

Having developed a comprehensive set of research questions and elucidated what is understood as the nature of social reality and knowledge, the chapter will now turn to the methodological. It begins with the selection of a research framework, which best attends to the demands of this evaluation. Ahead of this however, one final matter of consequence in relation to the researcher, i.e. their preconceptions and biases, must be articulated.

## THE RESEARCHER

As a central figure or instrument of data collection and analysis, any preconceptions or biases on the part of the researcher will have consequences for how the case is reported. Thus, it is important that they admit their position at the outset. In this case, I, as researcher, must state that I have a stake in the Early University Entrance programme having conceived the notion, and been principally involved in its setup. Thus, I arrive to the case study with a mindset that another, less involved researcher, might not have. Though many of my innate biases may not even be perceptible to me, they will probably become apparent to the reader subtly through the interpretations and the conclusions drawn. There are a number however that I can identify.

First, I believe in the importance of specialised, pullout programmes for gifted children who require it. I do not believe that every gifted child needs individualised attention, but that the vast majority do. I think that school experiences vary considerably, but that in the main gifted children experience difficulties that can only be appropriately addressed on pullout programmes. I consider that enrichment programmes have particularly positive benefits in terms of academic stimulation and socialisation, and I believe, based on the literature that well-run acceleration programmes have similar benefits. I believe that acceleration is a viable option for some gifted students, but critically that it is not suitable for everyone. There is no one-size-fits-all solution when it comes to gifted education, but rather a variety of options, reviewed on an as-needed basis, is the best way to serve their educational needs of gifted children. Given their advanced verbal and cognitive abilities, I strongly believe that gifted children should be centrally involved in any decisions about their educational future, and in reviewing their own progress.

## Theoretical Framework: Case Study

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As explained previously in the chapter, naturalistic researchers believe that social phenomena cannot be cleanly extracted from context, thus creating complexities for investigations in the social sciences. The Early University Entrance programme is one such phenomenon that is bound up in social context, and thus presents a challenge in terms of naturalistic inquiry. Yin (2003) contends that the case study approach is essential when elaborate social situations are under scrutiny, because as a research methodology it affords a strategy for examining composite, real-life situations. The approach successfully manages the countless inter-related elements embedded in real-life situations, which combine to create the phenomenon.

*Idiographic* is how Bryman (2004) expressed the nature of case study research, as its aim is to expound the distinctive elements of the event under investigation, while still attending to contextual features.

The phenomenon under scrutiny can be thought of as *a case*, and in this investigation, the Early University Entrance programme is the case, existing within a social environment. Stake (2005) believes that cases “have working parts and purposes – many have a self. Functional or dysfunctional, rational or irrational, the case is a system” (p. 444). As with any research, to study of the case begins with a set of research questions, what are termed *units of analysis*. (Yin (2003) believes that case studies come about from *how* or *why* research questions, where the answers tend to be explanatory, requiring the case to be tracked over a period. *What-type* research questions, on the other hand, are more inclined toward examinations of frequency). The research questions in this study were already been set out earlier in the chapter, thus the next step is to define type of case study undertaken. This presents two questions therefore: the type of case study and whether it takes on a single or multiple design.

### TYPES OF CASE STUDY

Cases can be approached in different ways and so, depending on the author, several types of case study exist. Yin (1984) specifies three types: *exploratory*, *descriptive* and *explanatory*. Merriam (1998) also identifies three; *descriptive*, *interpretative* and *evaluative*, while Stake (1994) names two; *intrinsic* and *instrumental*.

Beginning with Yin, he describes how in general *exploratory case studies* tend to precede further research, and are used to help identify what is worthy of further study. *Descriptive case studies* simply outline a sequence of events, while *explanatory case studies* are used when seeking out causal relationships (Tellis, 1997).

Merriam's definition of *descriptive case studies* differs somewhat. She points out that they are frequently used in educational research on pioneering programmes or practices. Her *interpretative case study* is one which is richly descriptive, in fact so much so that it can suggest connections, defend or refute established theories or even develop new ones (Merriam, 1998). Interpretative case studies are often called analytical case studies, because of the level of analysis undertaken. They differ greatly from descriptive case studies, which are simpler and by comparison, more one-dimensional. *Evaluative case studies* on the other hand are both descriptive and interpretative, and additionally make judgements based on the richly informative data gathered.

A case study is *intrinsic* when it is undertaken to learn purely about the case itself, and not because it is representative or illustrative of a situation (Stake, 1994). Stake (2005) argues that intrinsic case study, as a methodology, is often derided because it does not bend towards the conventional motivations for research, i.e. to generalise or exemplify. He comments that "case study method has been too little honoured as the intrinsic study of a valued particular, as it is in biography, institutional self-study, programme evaluation, therapeutic practice and many lines of work" (Stake, 2005, p. 448). An *instrumental case study* is carried out when greater understanding of an issue or theory is required, or when the researcher wishes to redefine a generalisation (Stake, 2005). He explains that instrumental case studies are generally used to back up or bear out something else. Intrinsic and instrumental case studies differ in that the former seeks to uncover the issues relating to a study, while the latter exemplifies perceived or known issues in a case.

The Early University Entrance programme is assumed to present a unique case, as no other such exists (though elements of it do at other institutions). As a pioneering educational programme, it might take the form of a descriptive or intrinsic case study: of interest because of its uniqueness. Moreover, while a purely descriptive case study would contain much by way of detail, it would lack the necessary analysis required to fully dissect and reassemble all of the elements and issues present in this educational programme. A level of analysis and



interpretation is therefore called for so that the case can be fully understood. Thus an *evaluative case study* (Merriam, 1998), which combines both interpretation and description, is believed to best serve what is required.

Guba and Lincoln (1981) believe that the case study approach is the most appropriate for evaluation studies, remarking that “judging is the final act of evaluation” (cited in Merriam, 1998, p. 3). Yin (2003) outlines five different ways in which the case study methodology can be used in evaluation research. He believes that case study is better able to rationalise the causal relationships in real-life events than empirical strategies. Case study also has the capacity to describe vividly the situation under investigation, providing important contextual detail. It allows issues to be exemplified, and in situations where the results or effects are indistinct, the case study methodology provides space to explore.

#### **SINGLE OR MULTIPLE CASE STUDY**

The next important question is whether the investigation should proceed as a multiple or single case study. The decision is significantly influenced by the nature of the case (or cases) and the desired outcomes. By examining the different single and multiple study designs available, the decision about which approach to engage is facilitated. Single case studies can be thought of as single experiments or inquiries. Yin (2003) identifies five designs: *critical*, *unique*, *typical*, *revelatory* and *longitudinal*. The *critical case* tests out a predefined theory. The extreme or *unique case study* examines a rare occurrence. It is most often used in clinical psychology and medicine. The *typical* or representative case study investigates a conventional activity to give insight into a common experience. The *revelatory case study* is one where the researcher has a unique opportunity to study something that is not readily accessible. Finally, the *longitudinal case study* looks at the same case at two or more different points in time.

Multiple case studies, as the name suggests, implies a comparative design involving a number of individual cases. The comparative approach thus allows for theory derivation from similar and dissimilar data. It is an expansion of the cross-sectional research design in quantitative research (Bryman, 2004).

The decision on which case study approach to undertake is facilitated by some further commentary. Yin (2003) believes that with a single case study approach risks 'putting all of your eggs in one basket,' while a multiple methodology would have the advantage of permitting analytic generalisation. He warns that researchers opting for a single case study approach must stoutly rationalise their preference. He warns researchers to exercise care when selecting the single case for investigation, so that it is in fact characteristic, and that the opportunities for data retrieval are wide enough. Merriam (1998) shows a preference for single case studies, commenting, "...the interest is in the process rather than the outcomes, in context rather than a specific variable, in discovery rather than confirmation" (p. 11). Given the tendency toward positivistic research in general, multiple case studies are often more widely accepted because they are understood to align more closely to the notion of generalisation, though this understanding is somewhat flawed. Supporters of the comparative approach believe that because single case studies cannot be generalised, they contribute little to the research community.

Proponents of single case study research argue to the contrary, stating that they provide a much greater depth of understanding, which can be better compared to existing theory; known as analytic generalisation (Yin, 2003). This is not to say that multiple case studies appropriately produce statistical generalisations – both are only generalisable to established theory (Yin, 2003). Bryman (2004) insists that multiple case studies are flawed because they only scratch the surface of the cases to illustrate what is similar and dissimilar between them. Stake (2005, p. 457) echoes this:

"I see formally designed comparison as actually competing with learning about and from the particular case. Comparison is a grand epistemological strategy, a powerful conceptual mechanism fixing attention upon one or a few attributes. Thus, it obscures any case knowledge that fails to facilitate comparison. Comparative description is the opposite of what Geertz (1973) called 'thick description'."

Abandoning the rich contextual information, multiple designs fail to get the same depth of understanding that allows single case studies be better compared with previous theory. Dyer and Wilkins (1991) favour single case studies, whose style is akin to storytelling, to create a lasting impression on their readers, over the more superficial approach taken in multiple case studies.

Multiple case studies are used to highlight certain elements that are similar or contrasting across a number of cases, and are used when some level of hypothesis or theory testing is required. They emphasise the similarities and differences, more than on a complete narrative of the individual cases, complete with idiosyncrasies. Multiple case studies were considered initially in several different formats. Taking a number of early entrants as individual case studies, was considered but abandoned because alone, they would unlikely explain the programme itself. Other multiple case studies were also conceived, e.g. first year at university; or pullout programmes in transition year, but it was felt the emphasis would shift too far away from the programme, which was of greatest interest. Several factors mitigated against these possibilities. The scale of the investigations, the issue of negotiating access to any of these groups, and given the level of purposeful sampling required, would most likely extend beyond the realm of this study. Ultimately, the interest, at least of the researcher, lies in the case of the Early University Entrance programme. This does not however ignore that certain comparison groups exist and would prove to be interesting comparisons, but their data will be utilised merely to provide short asides to the case.

A further aside to single case studies is whether the case takes on a holistic or embedded design. With a holistic design, the whole (e.g. organisation) is the focus of study (i.e. unit of analysis). An embedded design is one that has several units of analysis, which are separated and examined individually within the case. Yin (2003) believes that holistic designs are more susceptible to error, because “the entire nature of the case study may shift, unbeknownst to the researcher” (p. 45). When undertaking an embedded design, the researcher must remember to *zoom out* to the original case and not allow the unit to become the phenomenon of interest and consequently, the case to become the context (Yin, 2003). A holistic, single case study is considered the most appropriate for undertaking research on the Early University Entrance programme. It forms an elaborate social situation, which is complex and whose causal relationships are indistinct.

## UNIQUE FEATURES OF CASE STUDIES

Now that the case has been established (the Early University Entrance Programme), along with its basic format (single, evaluative case study), and the approach it will take (holistic), the study must be clarified in light of some of the unique features of case studies.

What makes case studies discernible from other research methodologies is that they analyse human systems in their entirety, rather than as separable attributes (Sturman, 1999, cited in Cohen et al., 2000). Single case study research takes particular account of this and the set of strategies used in data collection is driven by the need to encompass completely the context in which the case is set. By including a vivid description of circumstance, case studies acknowledge that human situations are more than the sum of their parts (Nisbet and Watts, 1984, cited in Cohen et al., 2000). Within each case, there are distinct parts, each with their own different contexts and all of which shape the phenomenon under investigation (Stake, 2005). Context of course can range from historical, to cultural, to social, to economic, to physical, to ethical. Context is a key means of understanding the causal relationships that exist (Cohen, Manion, & Morrison, 2007).

Context plays a significant role in shaping the overall phenomenon of the Early University Entrance programme. A number are identifiable at this point, and how they exist in terms of Early University Entrance, are indicated.

- The Gifted Education community
- Schools – provision, identification of high ability, recognition and support (through teachers, school friends and acquaintances, administrators)
- Home – support and encouragement (by parents, siblings, other family members)
- University – regard for gifted education in general, what the institution regards as its duty/role in supporting gifted education programmes
- CTY Ireland – the move toward radical acceleration

An understanding of the phenomenon and its context can only come about through the stakeholder perspectives. The acknowledgement of the differing perceptions of the one case or multiple realities is thus another important feature of the case study methodology. Within these perceptions, there will be situational, social, cultural, as well as contextual factors at play (Stake, 2005). Hitchcock and Hughes (1995) remind researchers to treat participant accounts equally. The researcher is thus challenged to cope with a reality, which exists only through multiple interpretations (Merriam, 1998). There is no single truth therefore, but what can only be regarded as a “slippery truth” (Stake, 2010), and the case itself will be yet another interpretation; the researcher’s version of the stakeholders’ accounts (Merriam, 1998).

Case study presents one of its greatest challenges in dealing with multiple realities. In this study, there is a wide network of stakeholders; early entrants, parents, university lecturers, schoolteachers, (university) heads of school, CTY Ireland, and the researcher. Combining the individual impressions and opinions of each will help to create, but will also complicate the sense of reality drawn. There is also a strong possibility of bias. The concept of specialised, gifted education, for example, frequently exposes strong opinions, which regardless of the EUE programme, may further obscure the already unsteady search for truth.

Stakeholder accounts bring to the surface issues and often the case may only be truly understood by studying these issues, which provide “good windows for examining the conditions, the complexity and the coping behaviour of the case” (Stake, 1995, p. 127). Case studies have *etic* and *emic* issues (Stake, 1995). *Etic issues* are the predefined issues that the researcher expects to encounter, while *emic issues* are unexpected and only emerge in the course of the study. Some of the etic issues were drawn from the literature on early entrance to college and dual enrolment and were discussed in chapter 2.

## Paving the way for data collection

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To gain a real insight into the case, some parameters must be installed so that the case can be studied. As such, case studies are considered to exist within a bounded system (Smith, 1978). Miles and Huberman (1994) represent this boundary by depicting a heart contained within a circle; what is contained within the circle is studied, and what is outside is not. Merriam (1998) suggests that the boundary the case study can be determined by examining the range of collectable data. To do this the researcher must ask a number of questions. Does the number of participants reach an upper limit? Is there a finite period of observation? She describes it as *fencing in* that which is studied. The case under investigation is bounded by a limited number of participants, and a set period within which the data collection can take place.

Fundamentally, quantitative and qualitative methodologies differ, and the distinction is no more appreciable than in the relationship between theory and research. When quantitative methods are principally used, the relationship tends to be a deductive one, whereas when the predominance is toward qualitative methods, the relationship is inclined to be inductive (Bryman, 2004). Case studies generally employ qualitative data collection methods, and tend to rely less on quantitative data, though not always. Stake (1995) believes however that the

difference between predominantly quantitative and qualitative case studies does not lie in data collection methods, but in the nature of the two modes of enquiry. It is the difference between the search for the cause and the search for happenings. The former seeks to clarify and control, while the latter looks to understand the complex array of relationships. He contends that understanding requires a level of empathy and intentionality, and while to explain something we must understand it, there is an epistemological distinction. The research paradigm therefore defines the data collection methods undertaken.

Case studies, by nature, are more likely to have a qualitative tradition however, where the tradition of the discipline shows a strong preference for quantifiable results (Labaree, 2009) a mixed methods approach may be called for. Mixed methodologies are applied to this research because of their pragmatic philosophy, which offers the best of both varieties of data (Teddle & Tashakkori, 2009). In case study research, the use of both is widely accepted. (A further consequence in this choice, are the contextual features of the phenomenon (Yin, 2003)).

Yin (2003) asserts that quantitative data may exist in single case studies in two ways. The first is numeric data (e.g. analysis of exam scores, surveys) existing as “embedded units of analysis” (Yin, 2003, p. 150). The second is where quantitative methods were deliberately undertaken as part of a wider study, and so the case study exists *within* that broader study. The use of mixed methods may also be employed to triangulate or complement quantitative data (Yin, 2003).

The purpose of using both quantitative and qualitative data is to seek *complementarity* (Greene, Caracelli, & Graham, 1989). This means that the methods selected are the most appropriate for addressing the research questions, but some overlap exists, enabling a level of triangulation. The purpose is thought to suit case study research so that as much information as possible can be drawn upon to produce a richer, more profound portrayal of the phenomenon.

The actual methods employed, and the reasons why they were suitable in addressing the research questions will be discussed in the research design section. For now, another important feature in the data collection process, the researcher, will be explored.

## ***PARTICIPANT OBSERVATION & EXPERIENTIAL KNOWING***

Qualitative researchers are interested in unearthing the essence of a lived experience. They look to obtain a true picture of the experience, as told, both verbally and non-verbally by those who have lived it (Merriam, 1998). The researcher is the principal instrument of data collection, as the nature of case study research requires them to spend extended periods in the case environment. This situation affords the advantage of being more responsive to context and to the unanticipated circumstances that arise, to dealing instantly with data as it is collected, being able to sense non-verbal cues, and coping with inconsistencies (Guba & Lincoln, 1981). This very effective approach assumes two things. First, that the researcher is able to *embrace* the case, that is, appreciate it as “personal experience” (Stake, 2005). However, this is a complex task and experiential knowing must be preceded by data validation techniques and properly conducted analysis to separate out predilection and opinion (Stake, 2005; Stake, 2004). Second, it assumes that the researcher is capable of effectively undertaking all of these tasks at the same time. Merriam (1998) suggests that qualitative researchers themselves should be subject to the same appraisal as other research instruments.

Merriam (1998) believes that qualitative researchers must have four traits. Firstly, they should be able to *tolerate ambiguity* because with no prescribed formula, the researcher must be able to manage vast amounts of information and opinion, before filtering out the quintessence of the case. Second, the researcher should have *sensitivity*, keenly aware of their own opinions and biases, of where the data is derived from, and how their attitudes affect it. Researchers must not be confined by their philosophies or beliefs, even when grounded in theory (Yin, 2003). They should *be adaptive* and see irregularities as potential openings. The researcher too should be aware of their own actions when collecting data, and ideally have an innate sense of when to speak and when to listen, when to seek greater depth and when to change the course of the conversation. Merriam (1998) too notes the importance of good communication skills. Rich data will derive from interviews where the researcher identifies with the respondent, asks considered questions, listens attentively and demonstrates genuine compassion. She notes the importance of being able to read non-verbal signals, which often contain much more than is articulated. Researchers should note the precise words used by a respondent and portray the fundamental elements of the situation so that they understand their perception of it (Yin, 2003).

Being so intimately involved it is important that the reader is knowledgeable of any preconceptions that the researcher may have, and so this should be stated at the beginning of the case report. (See The Researcher)

## Case Study Report

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Case reporting affects how the whole document is structured, from introduction through to the appendices. Case study reports have a number of important components to be considered early in the design process. The overall structure of the report, how the descriptive and interpretive components fit into that structure, and the affect of the reader are of primary concern. Aspects, such as writing style and visual displays, while worthy of mention here too, are of secondary importance. This section begins with report design, and continues to examine the secondary issues noted above.

A thesis's layout generally follows the prescribed formula of introduction, literature review, research design, findings, discussion of findings and conclusion. Different research approaches will have slightly different variations, but in the main, the format is as described. For case study research (and indeed, ethnography) the format shifts considerably, and depending on the author, a number of different designs are proposed. Stake (1995) believes that case reports cannot adhere to a conventional thesis style and instead suggests his own framework for structuring case studies (Table 3.8).

<b>Entry Vignette</b>
<b>Issue Identification, purpose and method of study</b>
<b>Extensive narrative description to further define case and contexts</b>
<b>Development of issues</b>
<b>Descriptive detail, documents, quotations, triangulating data</b>
<b>Assertions</b>
<b>Closing Vignette</b>

Table 3.26 – Case Study Report Format (Stake, *The Art of Case Research*, 1995, p. 123)

Vignettes are stories that depict a significant feature (unusual or symbolic) in the case, and help to draw the reader in (Bassey, 1999).



Bassey's (1999) *structured* format and Yin's (2003) *linear-analytic structure* both suggest that the traditional thesis layout can be used for case studies. Both authors also suggest a number of additional formats: *narrative, descriptive* and *fictional* styles (Bassey, 1999) and *comparative, chronological, theory-building, suspense and unsequenced structures* (Yin, 2003). There is much overlap in the types (and indeed the titles) of the alternative approaches to case reporting. Robson (2002) adds further to the literature offering, the *suspense*, the *narrative*, the *chronological*, and the *unsequenced* formats. He also reviews "the 'scientific journal' case study format" by Lincoln and Guba (1985). Though there is little between it and the *linear-analytic* and *structured* formats, it presents a cleaner outline of how the thesis should be arranged. This approach divides the case report into two parts, addressing the "substantive considerations" and the "methodological considerations" (Lincoln & Guba, 1985, p. 361). Robson (2002) explains that the substantive portion is concerned with "issues/methods/findings/conclusions" (p. 511), while the methodological portion includes much of the research design. The main elements of both the substantive and methodological sections are illustrated in Table 3.9.

Methodological Considerations	Substantive Considerations
<b>Testimony of the researcher:</b> their qualifications, experience, methodological inclinations, bias toward the issue or environment	<b>An outline of the case study focus</b>
	<b>Details of the context of the case</b>
	<b>Data description and analysis</b>
<b>Research design and methods employed</b>	<b>Discussion of the results and assertions</b>
<b>Approaches undertaken to improve and test validity and reliability/credibility and trustworthiness</b>	

Table 3.27 – The 'Scientific Journal' Case Study Format (Lincoln & Guba, 1985) (adapted)

The structure requires that each of the guidelines listed are considered throughout the process so that the report remains true to what it originally proposed to do, and is candid about where adjustments were made (Lincoln & Guba, 1985, cited in Robson, 2002).

Yin suggests that the linear-analytic structure is most appropriate for dissertations that adopt a case study approach.

As case studies are typically qualitative in nature, the case report is typically characterised by terms such as ‘thick description’. In reporting qualitative research, the task is to:

“...do what anthropologists, social scientists, connoisseurs, critics, oral historians, novelists, essayists and poets have done throughout the years have done. They emphasize, describe, judge, compare, portray, evoke images, and create for the reader or listener, the sense of having been there.” (Guba & Lincoln, 1981, p. 149)

As this report is composed of quantitative as well as qualitative data, it will continue the qualitative approach synonymous with case reports. Stake argues however, that case reporting is not simply an activity in “storytelling” (Stake, 1995, p. 127). Merriam (1998) believes that qualitative case studies should be *particularistic*, *descriptive* and *heuristic*. *Particularistic* means that the case refers to a particular incident, occurrence or programme, e.g. examining the way a specific group of people responds to an issue. The *descriptive* nature refers to the case study report, which is a vivid illustration of the phenomenon under investigation. *Heuristic* means that the case study should progress the reader’s knowledge of the event under investigation. One can expect new connections and new ways of thinking about the event to come about. Case study reports however are challenging to compose and the prerequisite of rich, vivid, thick descriptions as well as the need to convey appropriately both the ordinary and the distinctive (Stake, 2005), presents an onerous writing task.

One major challenge is deciding upon the amount of description and interpretation to include. Though possibly muddying the waters to an extent, Merriam (1998) proposes Erickson’s elaboration of the terms into *particular description*, *general description* and *interpretive commentary*. *Particular description* simply details raw data, and might include quotations and narrative vignettes. *General description* offers some discussion on the trends that are emerging, while *interpretive commentary* reaches toward a superior plane of conceptualisation. With a more enlightened understanding of what is meant by ‘description’ and ‘interpretation,’ the waters slightly clear. As there is no prescribed weighting (Merriam, 1998), though the degree to which each is incorporated into the report and the manner in which they are arranged still requires assiduous contemplation. What is clear is that the decision cannot be made prior to undertaking a full data analysis, as the extent to which each is required (to portray the case) is uncertain. It is thus an individual choice, with careful consideration of its audience. As Lincoln and Guba (1985, p. 361) note; “Case will, depending on purpose and level, result in different

*products*, from a simple register for a factual chronicle to elaborated judgements for the evaluative test” (emphasis in original).

The analysis and interpretation may be organised according to *people* (either as groups or individuals), *issues* (etic or emic issue or by research question) or *instruments* (Cohen, Manion, & Morrison, 2007), or research question (Yin, 2003). Arrangement by issues would seem to be most appropriate in this study as they provide insights into the complexities of the case (Stake, 1995) and should augment the reader’s experience.

The style of writing is critical to the reader’s experience, and can mean the difference between an exciting, gripping read and a heavy, turgid tome. Qualitative case studies are characterised by richly descriptive language or ‘thick description,’ which allow the reader an empathetic understanding of the case. In the writing, Stake (2005) reminds the researcher to pay close attention to how the case will be compared. Naturalistic generalisations occur when the reader’s understanding of the case is made so true to life that they feel like they have experienced it themselves. Readers who have genuine familiarity with the case (e.g. participants) will use the researcher’s descriptions to develop a more vivid understanding before making naturalistic generalisations. Case reports may also include reference cases or statistical norms so that the reader can make these comparisons (Stake, 2005). They may also use the researcher’s contentions with reference to theories to change existing generalisations. Stake (2005) comments that “it is intuition that persuades both researcher and reader that what is known about one case may very well be true about a similar case” (p. 454). Cohen et al. (2000) warn that experiences must not be over-analysed so that the reader can fully understand the complexities of the situation. The report should aim to parallel that of a television documentary.

The report thus aims to ease the reader’s progression through the text. Merriam (1998) supports the use of visual displays in the form of tables, figures and diagrams to assist the reader visualise intricate features of the case. With an uncomplicated appearance, visual displays can help to pin down a concept that might otherwise take a significant amount of explanation. Though the report may not present the details in chronological order, the reader should have a sense of chronology. The reader will unlikely see clear cause-and-effect relationships, but rather experience the many interacting features of the case.

There is no prescribed manner or style of reporting a case study. It may take one of a variety of formats; realistic, impressionistic, confessional, critical, formal, literary, and jointly told (Van Maanen, 1988). Nisbet and Watt (1984) advise against employing journalistic and anecdotal writing styles, selective reporting, arrogance or weakness. The style is very much dictated by the audience, but also by the purpose of the report.

Case report composition imparts a much different write-up format, technique and style than most other research approaches. For all of its technical uniqueness, and noble intentions to deeply understand the case and present it as such, case studies have also been criticised for lacking in rigour, not helped by researchers who carelessly implemented structural strategies or did not properly address bias (Yin, 2003). Guba and Lincoln (1981) warn that case studies often “masquerade as a whole” (story), when, they believe, they are but just a portion. While this may be the case for multiple case studies, single case studies, if structured correctly, should produce a vivid and full depiction of case, with all of its particularities. Yin (2003) believes that the publication of lengthy, ill-conceived and generally turgid case studies has not stemmed the unfair criticism. Merriam (1998) concedes that case study research is largely dependent upon the researcher’s veracity and attention to detail. This in itself means that the criticism is long set to continue.

In summary, the case study methodology provides an all-inclusive research strategy that covers design, data collection techniques and analysis (Yin, 2003). The theoretical framework has been established, indicating the intricate features of the approach. The appropriateness of the methodology in this investigation has been outlined throughout this discussion. The discussion will now continue with a summary of the research design, to include details of sampling, the data collection effort and the timetable of the research process.

## Research design

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This study takes a pragmatic, mixed methodological research design to evaluate the Early University Entrance programme. The evaluation is based around research questions, which focus of the impact on the programme on its participants and how it integrated into the university system and schools through the Transition Year programme. In light of these

questions, qualitative and quantitative data collection methods were employed. Qualitative approaches were predominantly used and comprised of interviews, diaries, written accounts, focus groups, while a lesser number of quantitative methods (psychological scales and questionnaires) were applied. The research is based on the *QUAL + quan* design in Morse's (2003) notation, indicating the application of both methodologies, but with a qualitative focus ("parallel mixed design") (Teddlie & Tashakkori, 2009, p. 144). The reflexive approach to data collection and analysis bends to the intricacies and issues in the case, so that a more wholesome understanding is obtained. The predominantly qualitative investigation is geared toward the production of a richly descriptive case study, with the quantitative means used merely as a yardstick to measure certain dimensions of the human personality. This "eclectic approach" is thought to address most suitably the research questions (Burke-Johnson & Onwuegbzie, 2004).

Moving away slightly from the theoretical framework, some fundamental design issues, such as sampling, data collection effort and the research schedule will now be examined. So too, the ethical factors that steer the process. This coming sections will examine these issues of research design, before leading into a description and justification for the data collections methods and the manner of their analysis.

## ETHICAL FACTORS

Ethics plays a significant role throughout the course of this case study, as the creation of the Early University Entrance programme brought with it a number of ethical issues and dilemmas, apart altogether from the ethical considerations around conducting research. Ethical issues thus exist in two domains: in the programme's establishment (access and acceptance), and in the issues relating to the study of the programme, e.g. informed consent, privacy, anonymity and confidentiality.

*Access and acceptance* relates to "access to the institution or organization where the research is to be conducted and acceptance by those whose permission one needs before embarking on the task" (Cohen, Manion, & Morrison, 2007, p. 55). Though *task* generally refers to carrying out of an investigation, in this research it denotes the actual institution of the Early University Entrance programme as a pilot programme. Thus, it formed a substantial part in the pursuit of ethical approval. Official sanctioning is the first stage in the process of *access and acceptance* of the programme.

As a staff member at the Centre for Talented Youth, Ireland, the notion of creating such a programme had been discussed at length over a considerable period with the Centre's director, and so authorisation had been approved at an early stage. However, given the programme's nature, it would necessitate significant input by the home university.

Cohen, Manion and Morrison (2007) advise the nature and extent of the study (or in this case, the programme) must be clarified before making contact and proceeding to the *negotiation process*. Hitchcock and Hughes (1995) comment on the best course of action for research that is likely to be problematical:

“If it appears that the research is going to come into conflict with aspects of school policy, management styles, or individual personalities, it is better to confront the issues head on, consult relevant parties, and make rearrangements in the research design where possible or necessary” (p. 41).

Festinger and Katz (1966) believe that going to the most senior people in an organisation is the most efficient strategy for gaining approval, because the matter will ultimately wind up there, and making contacting at the beginning is more likely to lead to a positive outcome (cited in Cohen, Manion, & Morrison, 2007). As outlined in Chapter 1 (*Context*), at the point where the programme was seeking permission, contact was made with both the senior university figures (the President and Secretary), and the Heads of Schools and course directors. The issue of access and approval thus continued along two separate trajectories for a period as the university as an institution, and the individual Schools judged the implications, ethical and otherwise, of introducing a dual enrolment programme for high ability students. Institutional approval was sanctioned partly by the Research Ethics Committee, and partly by the Academic Strategy Committee.

With university and School consent, the next phase of the research related to the programme's evaluation. Thus a new set of ethical issues were now apparent, beginning with that of the students and *informed consent*. Advising of the possible risks and benefits to applicants before their assent to involvement underlies the principle of informed consent. Cohen, Manion and Morrison (2007) list some important constituents of informed consent as: providing an account of the rationale and course of action of the research; outlining the hazards of involvement (as much as possible) and indicating how any arising difficulties are likely to be handled; listing the advantages of participation; explicating the students' right to extricate themselves from the research at any time; clarifying their entitlement to privacy and anonymity, and the non-

disclosure of findings; offering a chance to enquire further into the research aims and procedures; and detailing the consent forms for involvement. Many of these matters were explained in the programme brochure (Appendix A), where necessary, drawing on the outcomes and experiences cited in published literature in relation to early entrance to college and dual enrolment. The circumstances relating to anonymity and confidentiality were dealt on the consent form (Appendix E). Contact details were included in the programme brochure for candidates with further queries.

An additional matter of ethical consequence relates to the use of minors as research participants. Permission in such situations is required of the child and their parents or guardians (Cohen, Manion, & Morrison, 2007), and thus two separate consent forms were published. This however reveals a further ethical matter in relation to research with adolescents.

“... much educational research involves children who cannot be regarded as being on equal terms with the researcher and it is important to keep this in mind at all stages in the research process, including the point where informed consent is sought” (Cohen, Manion, & Morrison, 2007, p. 53).

In reality, little can be done to rectify this imbalance. Nonetheless, it was considered a significant ethical factor, and in an effort to address it, the students were frequently reminded that their wellbeing was primacy at all times, and their rights as research subjects were reiterated whenever appropriate.

Social science research brings with it potential issues around the invasion of privacy, which relate to concerns of confidentiality and anonymity (Bryman, 2004). Diener and Crandall (1978, cited in Cohen, Manion, & Morrison, 2007) perceive privacy from three different viewpoints. First, in relation to the sensitivity of the data collected, and how private or privileged that information is. The more confidential the data, the more protections must be put in place, to preserve anonymity (Cohen, Manion, & Morrison, 2007). The second point relates to the situation or environment where the data is collected, and whether that location is publically or privately accessible. Finally, the issue of privacy in relation to the publication of data obtained, and whether that information makes the participant identifiable, (thus, confidentiality).

Bryman (2004) clarifies the issue of privacy, and its relationship to informed consent.

“to the degree that informed consent is given on the basis of a detailed understanding of what the research participant’s involvement is likely to entail, he or she in a sense acknowledges that the right to privacy has been surrendered for that limited domain” (p. 513).

As case studies engender something of a ‘story-telling’ approach, the inclusion of personal information is essential to conveying an honest account however issues of privacy are likely to be affected by this practice. Thus, pseudonyms will be used, along with the altering of personal information so that the ‘story’ remains true, but without affecting the discretion of the participants.

It is appropriate to mention now that the programme itself attracted interest from media outlets in the early stages, featuring in television, radio and newspaper reports. The students contributed to these pieces but only after obtaining consent from them and their parents, in line with ethical guidelines.

Teddlie and Tashakkori (2009) warn against imparting too much information to participants about why a study is being conducted. Thus, there is a fine line between providing enough and too much information, which might alter the participants’ perception of the researcher, and thus affect the data. This was a very real issue in this particular study, because the stakeholders knew that the programme setup and evaluation comprised the researcher’s PhD study. For the university community, this was not an issue, but it increasingly became so for the early entrants. They became progressively more invested in the programme’s evaluation, as the semester wore on and their relationship with the researcher developed. Though every effort was made to minimise this affect, a sentiment of *“we don’t want to let you down”* loomed large, and it is likely that exam performance was partly driven by this externally motivating factor.

Stake (2000) makes a point that appropriately concludes this discussion on research ethics:

“The value of the best research is not likely to outweigh injury to a person exposed. Qualitative researchers are guests in the private spaces of the world. Their manners should be good and their code of ethics strict” (p. 447)

## SAMPLING

Data sources give rise to issues of sampling. The purpose of sampling is to select a group of individuals who are characteristic of the overall population, so that the results can be generalised (Kenton, 2010). In case study research however, generalisation is of lesser concern,



and thus the focus turns from sampling in a scientific sense to the selection of “informants through whom the case can be known” (Stake, 2000, p. 439). He insists that in sampling, the “opportunity to learn is of primary importance” (p. 447).

As this is a case study, whose purpose is to acquire a deep understanding of the Early University Entrance programme, the *informants* are the total population of students participating in the programme, their parents, and their teachers. In sampling terms, these might be considered a *purposeful sample*: one containing individuals wittingly selected because they have experience of a particular phenomenon or the study’s object of interest (Creswell & Plano Clark, 2007). It is important to point out that compliance with the research was a condition of the students’ participation in the programme.

The evaluation data must be thorough and should include all stakeholders in the process, including teachers, parents, and other affected or affecting audiences (Callahan & Hunsaker, 1991; Tomlinson & Callahan, 1994; Cornell, Callahan, Bassin, & Ramsey, 1991). Research on early college entrance included the opinions of parents (Wright, 2001; Muratori, Colangelo, & Assouline, 2003), comments from the university faculty and staff (Muratori, Colangelo, & Assouline, 2003). Several other groups and individuals, namely, lecturers, Heads of Schools, university administrative staff and committees were also considered as informants, and they too were included in the sample. Data obtained from significant others can provide useful insights where response bias is thought to be a possibility however, whether such sources are credible as sources to impart such internal information is questioned (Byrne, 1996). It should be noted however, that their data has the potential to be biased by previously held doubts about acceleration programming (e.g. parents and teachers (Amidon, Rakow, Boyle, Komar, McDonald, & Sheldon, 2009), special education teachers were found to have more negative views about acceleration than classroom teachers did (McCoach & Siegle, 2007)).

One repeated cause for discussion in the evaluation literature on acceleration programmes is the question of comparison groups. Onweugbuzie et al. (2010) suggest using interviews as a means of identifying prospective candidates. Researchers however must first decide whether a contrasting group is necessitated. The choice of comparison group may make the accelerants seem “more or less successful” (Cornell et al., 1991, p. 94). Callahan and Hunsaker (1991) comment that the use of older students as a comparison may be appropriate when examining grade performance but perhaps not in other domains. Older students may not provide an

appropriate comparative when studying more affective areas. Gifted students are often considered to advance at different rates compared their age peers in psychological domains (e.g. global self-concept (Hoge & Renzulli, 1993)). If gifted students are considered more psychologically mature, then how can it be established if college-age students make for a suitable comparison? Selection of a matched sample of non-accelerates was not possible, because of low application numbers. From the literature, it would seem that questions of suitability should not precede the investigation as they can only be answered after the comparison has been made.

The cohort of first year students with whom the students shared lectures also comprised a purposeful sample. They were selected in this way to form a comparison group, in the evaluation of the end-of-semester exam grades. Though not ideal when measuring social and emotional development, the university group are thought to compose an informative comparison when empirically measuring student adjustment to university.

Callahan (1983) described how the students themselves may be compared to themselves, with the use of the Revolving Door Model developed by Renzulli et al. (1981). When the students are revolved in (are part of the programme) they form part of the experimental group, and when they are revolved out they are part of the comparison group. Cornell et al. (1991) recommend the pre and post testing of accelerants as a useful method of assessing the impact of the programme (e.g. (Cross et al., 2004)). Care however must be given to ensuring that the data collected can clearly establish whether changes can be put down to the programme or to student development (Callahan, 2006). Noble and Smyth (1995) reported this as being an issue in their study. Thus the accelerants themselves provided a comparative sample, if the instruments were used in pre, mid and post programme.

Studies into the performance of students at the University of Washington's Early Entrance Programme (EEP) used three comparison groups; same-age, successful non-participants, a group of academically-matched older students, and academically-matched, college-age students (Robinson & Janos, 1985; Janos, Robinson, & Lunneborg, 1989) (also; (Noble, Robinson, & Gunderson, 1993)). Later research on the programme could not identify a suitable comparison group (Noble, et al., 2007). Senta et al. (2001) conducted a longitudinal programme evaluation of the Advanced Academy of Georgia, investigating student adjustment to university and academic performance. The accelerants' grades were compared with their college peers, and

their self-concepts (as measured on a standardised test) compared with samples of college-age students who were used in the development of the test. Muratori, Colangelo and Assouline (2003), in their study of early entrants' adjustment in the first semester, concluded that the inclusion of first year college students during the first semester would have been useful.

With the ethical implications and the sample identified, the next step in research design is the manner in which the data is collected and the schedule with which it proceeds. These two design features are now discussed, ahead of a comprehensive explanation of the data collection techniques, and modes of data analysis.

### DATA COLLECTION EFFORT

The data was collected from the 20 participating students using a combination of diaries, focus group interviews, standardised psychological tests, written correspondence (application details) and conversation notes. Though this comprised the bulk of the data collected, it was also sourced from a number of other channels. 107 regular first year students (35 from the Economics, Politics and Law, 48 from Engineering and 24 from Applied Physics degree programmes) participated in the *Student Adaptation to College Questionnaire*. 40 parents and 38 Transition Year coordinators/teachers completed a post-programme questionnaire.

Over the course of the two years from the programme's conception, through the two cycles and finally completion, email correspondence and minutes from meetings with university personnel were kept in documentary form. Notes from telephone and face-to-face conversations with parents, teachers, and university personnel were recorded in the researcher's aide memoire.

### TIMETABLE OF THE RESEARCH PROCESS

The data collection process proceeded in a systematic manner over the course of the programme and immediately after its conclusion. As illustrated in Table 3.3, the data collected from the students, parents and teachers was planned and organised carefully. Such a systematic approach was impossible for the information and data collected during the programme development, as there was no predetermined structure for the setting up of a new university programme to follow.

Week #	Researcher	Focus Group	Students	Psychological Tests	Students
<b>EUE Orientation</b>	Researcher Diary			Battery of Psych. Tests	My Expectations of EUE
<b>Week I</b>	Researcher Diary	Focus Group	Diary Entry		
<b>Week II</b>	Researcher Diary	Focus Group	Diary Entry		
<b>Week III</b>	Researcher Diary	Focus Group	Diary Entry		
<b>Week IV</b>	Researcher Diary	Focus Group	Diary Entry		
<b>Week V</b>	Researcher Diary	Focus Group	Diary Entry		
<b>Week VI</b>	Researcher Diary	Focus Group	Diary Entry	Battery of Psych. Tests	
<b>Week VII</b>	Researcher Diary	Focus Group	Diary Entry		
<b>Week VIII</b>	Researcher Diary	Focus Group	Diary Entry	SACQ – EEs & 1 <sup>st</sup> Years	
<b>Week IX</b>	Researcher Diary	Focus Group	Diary Entry		
<b>Week X</b>	Researcher Diary	Focus Group	Diary Entry		
<b>Week XI</b>	Researcher Diary	Focus Group	Diary Entry		
<b>Week XII</b>	Researcher Diary	Focus Group	Diary Entry		
<b>Week XVII</b>			Semester Exams		
<b>Week XVIII</b>			Semester Exams		
<b>Week XIX</b>			Semester Exams		
<b>Week XX</b>			Parent Questionnaire	Battery of Psych. Tests	My Experience of EUE

Table 3.3–Data Collection Organisation during the Programme

## DATA COLLECTION INSTRUMENTS

With a better sense of the research design, the forthcoming section will describe and justify each of the data collection strategies undertaken, followed by a discussion of the data analysis procedures used. A mixed-methodological approach will start out with a research question that firmly defends its use of quantitative and qualitative means (Teddlie & Tashakkori, 2009). In each of the methods reviewed below, the reasons for its choice are provided. Psychological measures have been criticised for attempting to calculate empirically complex, intrinsic, perceptions and motivations, and missing uncharacteristic but critically important contextual information (Coleman, 1995). Social context contains important information about the social and emotional impact of acceleration programmes. For this reason qualitative data in the form of focus group interviews, personal accounts and stakeholder communications were also utilised to capture these important contextual features. Unique questionnaires were also developed where necessary to collect qualitative data to expound the setting further.

### *FOCUS GROUP INTERVIEWS*

Focus groups are essentially group interviews, but are subtly different. Firstly, they have a narrow focus, unlike group interviews, which have a broader remit (Bryman, 2004). They are also different in that there is less of a formal back-and-forth between researcher and respondents (Cohen, Manion, & Morrison, 2007). Focus group interviews engender the focused interview, where interviewees were selected based on their association with a particular setting, and their experience is enquired (Merton, Fiske, & Kendall, 1956). The format tends to utilise a limited number of open questions to serve as starting points (Bryman, 2004), and thus have a semi-structured arrangement (Teddlie & Tashakkori, 2009). This more open method of data collection encourages participant opinions and ideas to come to the fore and be discussed (Cohen, Manion, & Morrison, 2007). The approach allows for the free inclusion of comments and issues and encourages debate around them, which can be helpful when a point had not previously been considered, been fully thought through or the participant wishes to alter their opinion in light of a new perspective (Bryman, 2004).

“In the context of a focus group, individuals will often argue with each other and challenge each other’s views. This process of arguing means that the researcher may stand a chance of ending up with more realistic accounts of what people think, because they are forced to think about and possibly revise their views” (Bryman, 2004, p. 348).

The purpose of focus groups is to capture the interaction and reaction between participants. In truth, it enables *groupthink*, in preference to a collection of individual responses (Bryman, 2004). Individual points of view are important, but only en route to understanding social phenomenon, which require collective interpretation (Bryman, 2004). In essence, this is what the focus group approach sets out to do.

Focus group interviews were deemed a suitable mode of data collection in preference to group interviews, for successfully conceptualising the complex phenomenon compelled by case study research. Group interviews were believed to be too restrictive in nature to obtain a sense of the shared experience of the programme and in revealing *emic* issues. Onwuegbuzie, Collins, Leech and Jiao (2010) believe that because gifted students have high verbal ability “researchers should engage them in in-depth semi-structured interviews” (p. 126). Interviews were not selected because the data collection was felt would proceed best by weekly meetings, and because of time factors, individually interviewing all participants was not feasible. The focus group approach would however make use of the high verbal abilities of participants in obtaining rich information.

Significantly, focus groups not only concentrate on spoken words, but also incorporate behavioural observations of the participants, which the researcher can use to gain a better sense of why people feel the way they do (Teddle & Tashakkori, 2009). Frequently however, focus group research fails to report this very useful information (Kitzinger, 1994).

Different authors suggest different optimal numbers of focus group participants; Krueger and Casey (2000) suggest between five and ten participants and Morgan (1998), between six and ten. The number of participants in each group (8 and 12) however approaches the upper limit of what is generally considered optimal. The groups were purposely left quite large because they comprised the programme population, and it was believed would assist the students to settle in and engender a group spirit. (It was the only time each week where their timetables coincided, so that they could spend time together as a group). Though the two focus groups may have been preferred, it would have meant pairing two of the degree groups and leaving one separate. This composition was felt undesirable. Better discussion and debate was thought better served by meeting as a full group.

Several factors impede the use of focus group interviews, and warrant consideration. Firstly, they can be difficult to manage, and rely on the researcher's perceptiveness and acuity as a facilitator, i.e. knowing when to pull the conversation back on track, and when to allow it to deviate in the hope of leading to new insights (Cohen, Manion, & Morrison, 2007). Focus groups are only successful when participants have viewpoints to share, and when the environment is suitably secure for them to volunteer their opinions. Conflict therefore must be dealt with deftly and sensitively (Cohen, Manion, & Morrison, 2007). There can be issues with group dynamics, which cause some participants to have minimal interaction while others dominate. More importantly however, is the risk that contributors will simply articulate socially acceptable views (Bryman, 2004). Focus group data can also be more difficult to transcribe and present difficulties in terms of analysis (Bryman, 2004). Noble et al. (1999) used focus group discussions, while Muratori, Colangelo and Assouline (2003) used in-depth interviews when evaluating the impact of early college entrance on social and emotional development.

### **QUESTIONNAIRES**

Self-completion or self-administered questionnaires are a widely used data collection method. They are useful in that they can draw out data in a structured way (Cohen, Manion, & Morrison, 2007), are convenient, fast and inexpensive to administer (Bryman, 2004). Questionnaires are closely related to structured interviews, with the obvious difference being the absence of the interviewer (Bryman, 2004). Frequently administered as postal questionnaires, web-based questionnaire software has become available in recent years with apparent advantages.

Questionnaires utilise a number of question formats that can be broken down into two categories: open and closed. Open questions are qualitative in nature, inviting individual answers and are useful in small scale and case study research (Cohen, Manion, & Morrison, 2007). In contrast, closed questions are quantitative, and provide respondents with a set-list of responses (Cohen, Manion, & Morrison, 2007). Closed questions include rating scales, and dichotomous, matrix and multiple-choice questions. Depending on the use of open and closed questions, questionnaires are termed structured or unstructured, though there is always a degree of structure in that there is no variability in the questions asked of each respondent, i.e. there is no facility for probing of answers (Bryman, 2004). The use of semi-structured questionnaires is advocated:

“...between a completely open questionnaire that is akin to an open invitation to ‘write what one wants’ and a completely closed, completely structured questionnaire, there is a powerful tool of the semi-structured questionnaire ...There is a clear structure, sequence and focus, but the format is open-ended, enabling respondents to reply in their own terms ... (It) sets the agenda but does not presuppose the response” (Cohen, Manion, & Morrison, 2007, p. 321).

The authors advise that closed, numerical, structured questionnaires are more efficient for use with larger samples, while more open, wordy, semi- and unstructured questionnaires are appropriate with smaller samples.

Questionnaires however have a number of drawbacks (Bryman, 2004). Remote administration means that opportunities for gathering additional, useful information and stimulating further dialogue are sacrificed. Because of the risk of *respondent fatigue*, the number of questions included should be limited, and open questions should be used judiciously. *Respondent fatigue* can also occur when respondents feel that questions do not apply to them.

Question structure and phrasing should be approached with the advice of Cohen, Manion and Morrison (2007) in mind. Leading questions point toward one *right* answer and therefore should be avoided. Open questions should be limited in number, because they require effort, which respondents may not wish to expend. Plain language and clear, positive question phrasing is suggested. Questionnaires should be designed from the point of view of the respondents (Cohen, Manion, & Morrison, 2007).

Whatever the structure used, or question-types employed, design considerations are an important feature in questionnaire development. A smart, uncluttered layout, which presents the information openly and is easy to read, is likely to stand a better chance of obtaining a high response rate (Bryman, 2004).

Four unique questionnaires were developed for use, as nothing similar existed. Two were used to collect data from the accelerants at different stages, one for use with parents and two for use with teachers. Each shall be discussed briefly.

The Letter of Recommendation (Appendix D), included in the application form, was developed for teachers. It contained six open and four closed questions. The format utilised closed



questions were possible to ensure the questionnaire was short and straightforward, but open questions were necessary for probing perceptions of student performance/personality.

A pre-programme questionnaire, Expectations (Appendix G) was created for use with students on their first day on the programme (one week before lectures began). The questionnaire listed nine open questions, which were developed based on similar questions (Jackson et al., 2000; Pancer et al., 2000). Though the literature would advise against this format, it was used here for a number of reasons. The questionnaire was administered on the first day of the programme, and so was the first time the students came together as a group. It was thought that the group might not function efficiently in a focus group, particularly when they were discussing personal educational issues. Ideally, the questionnaire would have been conducted as a semi-structured interview, but time constrained this.

A post-programme questionnaire, My Experience of Early University Entrance (Appendix H), was developed for use with the accelerants. The measure contained 18 questions, 16 of which were open questions based on those included in the “Expectations” questionnaire. The questionnaire was structured in this manner to serve as an individual reflection to be carried out away from the campus and the other programme participants. The questionnaire may have been better served if delivered in the form of a semi-structured interview, but again, time limitations prevailed.

Two, analogous questionnaires were designed to obtain parent and teacher perspectives post-programme (Appendix I & J). Each questionnaire contained 17 questions, with eight open and nine closed questions. In the first phase of Early University Entrance, the questionnaire was sent by post, but changed to web-based in the second phase. The questions served as important insights into the programme from different perspectives. Preferably, it would have been conducted in the form of an interview, but the respondents were located at various locations around the country, and thus distance and time made this problematical.

Burns (1979) suggests that care be taken with the use of self-report scales. Test takers should have adequate self-awareness, as well as verbally proficiency. Most importantly, scorers should be mindful that accuracy could be compromised by bias. While multiple-choice tests are useful, they have the potential for a number of sources of bias. Byrne (1996) outlined a number of possible origins. *Response set bias* occurs when an item is answered in a manner disparate to

the actual question, often caused by the direction led by the previous item or the structure of the instrument. *Acquiescence* is simply where all items are assigned favourable responses. Generally, instruments have negative-phrased questions to offset this tendency. *Extremity bias* occurs when the answers occur unusually at the extremes of the Likert scale. Response bias can also present as respondents answering in *socially desirable ways*, despite what might actually be the truth. *Response style* occurs where the same response set bias is continuously demonstrated in different settings.

## **DIARIES**

Participant diary keeping is a very fruitful mode of data collection, but is a relatively under-used approach in qualitative social research (Jacelon & Imperio, 2005). Diaries may contain quantitative information (Bryman, 2004), but the qualitative data obtainable has the potential to be richly descriptive and informative. When the manner in which participants interpret and comprehend experiences are of interest, diaries provide a valuable means of insight for researchers (Kenten, 2010). Sensitive data can also be captured more easily using diaries (Kenten, 2010; Corti, 1993), as participants are often more likely to write than speak their innermost thoughts.

In social science research, two types of diaries exist: *solicited* or *researcher-driven diaries* (Elliott, 1997), which are requested by the researcher, and; *unsolicited* diaries, which are those written of the diarist's own accord (Bryman, 2004; Jones, 2000). Solicited diaries can have a highly structured format or be more open-ended (Corti, 1993), but both are "tailored to elicit specific information" (Kenten, 2010, para.3). Often a list of guiding questions or triggers are detailed by the researcher (Kenten, 2010) so that "the writer completes the diary reflecting on issues that are of interest to the researcher and with the knowledge that the diary will be read and interpreted by another person" (Jacelon & Imperio, 2005, p. 992). Solicited diaries therefore encourage reflection on events and experiences, affording the researcher an insider's perspective (Zimmerman & Wieder, 1977). *Free-text diaries* are less defined allowing participants to write with greater liberty, and enable information important to emerge that might have remained suppressed using other data collection strategies (Bryman, 2004). Diaries are a discreet method of data collection (Kenten, 2010) that offers an expedient means over a long period, when observation would have been preferable but unfeasible (Jacelon & Imperio, 2005; Elliott, 1997).

The use of solicited diaries was considered an effective form of data collection in this study. Firstly, as the programme proceeded over a 12-week period, it was assumed to offer an efficient strategy, when observation would have proved difficult to execute. As the students were somewhat unfamiliar with each other in the early, formative stages of the programme, diaries were believed to provide an effective way of harnessing personal thoughts and feelings that might have remained concealed during group discussions. Diaries could also exploit the high verbal abilities of the accelerants. The students were permitted to complete their diaries on paper or as email messages. Each was supplied with a diagram outlining the areas of interest, with evocative questions ascribed to each to aid their writing.

The literature widely regards the use of interviews in conjunction with diary-keeping (Corti, 1993; Elliott, 1997; Jones, 2000; Jacelon & Imperio, 2005; Bryman, 2004; Kenton, 2010); the “diary-interview method” developed by Zimmerman and Wieder (1977). It suggests using focused interviews following the diary entry (or entries) so that questions can be posed to probe into points of particular interest. The method helps to confirm the context, and is useful when there are difficulties expressing views on paper (Kenton, 2010). It also affords a further period of reflection (Elliott, 1997). The strategy is particularly useful for retrieving information not open to observation, i.e. data that would otherwise be unseen or be affected by the researcher being there (Zimmerman & Wieder, 1977 cited in Elliott, 1997). They also note that the approach is an effective way of confirming information, of filling in missing data, and ensuring a correct interpretation by the researcher. In this way, it functions to validate the data (Kenton, 2010). Corti (1993) notes that “asking detailed questions about the diary entries is considered to be one of the most reliable methods of obtaining information” (p. 1).

The diary-interview method (Zimmerman & Wieder, 1977) was adapted for use in the focus group discussions. Though one-to-one interviews might have provided more in-depth understandings of individual experiences, the emerging data were carefully put forward for discussion and clarification in the focus groups, even if a particular point was made by just one person. This meant that issues that may have been forgotten at the time of writing or not contemplated for one reason or another, but were important, were brought to the fore. Though diaries are understood to contain information that is most relevant to the writer, there was a time delay of one week between writing and the content being discussed at the focus

group interview. This allowed for greater reflection, and the emergence of a noteworthy instance that perhaps was regarded as insignificant at an earlier time. It also served to validate the arising data.

Diaries suffer from a number of limitations, as highlighted by Kenten (2010), including dedication to making frequent entries, adhering to instructions and recording issues and instances as they occur so that a richer description is provided, while permitting sufficient time for reflection.

It is worth noting that the researcher also completed a reflective diary/*aide memoire* over the course of the research study, which was used as a data source. The diary also included notes from meetings, interviews, face-to-face and telephone conversations, as well as student observations.

As a result, the data is a chronology of systematically recorded notes from meetings and telephone conversations, emails and written correspondence. The researcher's diary (*aide memoire*) provides a narrative to accompany these data, explaining how different situations arose and how issues were dealt with.

In the first phase of EUE, students were asked to write a diary entry each day that they attended university lectures. This request proved to be too much, with only a small number of students consistently handing in entries. In response to this low response rate, the method was changed to the submission of just one entry per week. For some, this still proved difficult to execute, as their schedules were usually too demanding to find time. In the second phase, the participants were requested to complete their diaries during the first 20 minutes of the hour allocated to the focus group meeting. This strategy proved much more successful however the participants did not always arrive on time, and the submission of late entries was often somewhat haphazard.

### ***PSYCHOLOGICAL TESTS***

Psychological measures were employed in the study as a quantitative means of examining different aspects of psychological and cognitive performance. The employment of such quantitative approaches is used widely in the evaluation of acceleration programmes, e.g. Janos, Robinson & Lunneborg (1989), Robinson & Janos (1985) and Marsh (1987). Tests can be divided into two types: *parametric* and *non-parametric* (Cohen, Manion, & Morrison, 2007). Parametric

tests are standardised, meaning a normal distribution curve has been generated based on a large population. They contain reliability and validity information, and are widely available for purchase. Non-parametric tests are designed simply to serve a specific group, unconcerned about wider applicability. They do not have a normal curve. When appropriate to use, parametric tests are more informative than non-parametric tests “because they not only derive from standardized scores but also enable the researcher to compare sub-populations with a whole population” (Cohen, Manion, & Morrison, 2007, p. 415). Published tests are valuable for several reasons: “they are objective; ...they have been piloted and refined; ...they are often straightforward and quick to administer and to mark” (Cohen, Manion, & Morrison, 2007, p. 416). In the use of published, standardised tests however, researchers must ensure that the goals and objectives of the test match with the purpose of their investigation (i.e. “fitness for purpose” (Cohen, Manion, & Morrison, 2007, p. 417)).

### **ABILITY TESTING**

Academic ability is of obviously significant in a gifted education programme, both in determining suitability, and in performance during the programme. For such purposes, ability is *measured* (and thus the approach stems from the positivistic paradigm). There are however different categories of tests available to determine academic ability, and so a brief explanation of aptitude and achievement tests is necessitated.

Aptitude tests determine “innate abilities to acquire knowledge or develop skills” (Teddle & Tashakkori, 2009), but their fundamental purpose is to predict academic learning potential (Cohen, Manion, & Morrison, 2007; Teddle & Tashakkori, 2009). They are used to test for intelligence and interdisciplinary competencies (Cohen, Manion, & Morrison, 2007).

Achievement tests are curriculum-linked, and thus appraise *acquired* knowledge (Cohen, Manion, & Morrison, 2007). There are two types of achievement tests; norm-referenced and criterion-referenced (Teddle & Tashakkori, 2009). Norm-referenced tests compare student performance on the achievement test with the normal group, while criterion-referenced tests are based solely on mastery. Also called *summative tests*, achievement tests are tests follow a period of instruction (Cohen, Manion, & Morrison, 2007). *Placement* testing refers to the use of pre-tests to determine a candidate’s suitability (Gronlund & Linn, 1990).

When the academic outcomes of a programme are being evaluated, grade level tests are often inadequate for assessing gains made by gifted students because of ceiling effects (Tomlinson & Callahan, 1994; Onwuegbuzie, Collins, Leech, & Jiao, 2010). Acceleration programmes enable students to participate in examinations that extend the ceiling upwards and dispense with any associated issues. Strictly speaking, they might not be considered out-of-level tests, because the students participated in the lectures etc. in readiness. Some studies however utilised aptitude tests (Janos, Robinson, & Lunneborg, 1989). To evaluate crudely the cognitive gains, students were encouraged to participate in the achievement tests at the end of semester. Their grades would then be directly comparable with those of the first year cohort. The use of aptitude tests would be no more useful than achievement tests in this instance, and less convenient.

This of course assumes that participants actually voluntarily participated in the examinations. Callahan and Hunsaker (1991) discussed the issue of an incomplete data set in Stanley and Stanley (1986), where a proportion of Advanced Placement students opted not to take an exam. This creates an unsatisfactory situation for evaluation. Having students opt out of the exam could indicate low confidence or interest in the subject matter, but had the exam been obligatory and had some participants' experienced low motivation levels, extremely low grades could have resulted. To consider a student who has opted out as having failed is incorrect however. The use of enticements is therefore advised to encourage participation, and in cases where students simply opt out, follow up investigations should be conducted (Callahan & Hunsaker, 1991). The possibility of earning future module exemptions was given.

The issue of exam non-participation has the potential to cause significant difficulties, given the small group of early entrants, and even smaller numbers of accelerants participating in each degree programme. Thus while the exams should not be made obligatory, the programme should endeavour to maximise participation, and where students opt out, follow up enquiries should be carried out (Callahan & Hunsaker, 1991).

Similarly, accelerants who were unsuccessful, had predominantly negative experiences, or candidates who dropped out of the programme, should be followed up on, as their circumstances hold important evaluation information.

## TESTING OF AFFECTIVE DOMAINS

Cornell et al. (1991) advise that research into the impact of acceleration move beyond self-concept to include the evaluation of *intrapersonal* (including freedom from strife; depression, nervousness etc.) and *interpersonal* (relationships with family, peers, etc.) changes. To ensure that the evaluation produces a sufficiently rich and descriptive case study, and consistent with the recommendations of Cornell et al. (1991), developments in the interpersonal domain was incorporated into the study. The intrapersonal aspects were not included as it was felt they could not be appropriately covered.

Many authors (Callahan, 1983; Tomlinson & Callahan, 1994; Cornell, Callahan, Bassin, & Ramsey, 1991; Janos, Robinson, & Lunneborg, 1989) also herald the use of reliable and properly validated, standardised measures, but observe that these instruments are subject to “respondent defensiveness or lack of insight” (Cornell, Callahan, Bassin, & Ramsey, 1991, p. 92). Psychological testing instruments are used widely to evaluate social and emotional development. In this study, they were selected according to validation and with an appreciation of their limitations. Thus, careful selection ensured that those utilised could measure what was intended.

The issue of cultural differences in instrumentation is significant. The evaluation design developed for this research was led by studies of dual enrolment and early entrance to college programmes in the United States, which form a predominant portion of the literature. Many of the instruments used previously to test the psychological aspects were carried over. The instruments used in the evaluation of acceleration programmes largely utilise those developed in the United States. Though the instrument language is the same, much of the terminology differs (e.g. school *grade* compared to *class* or *year*; *freshmen* instead of *first year* etc.). With a culturally different sample, it cannot be assumed that the measure functions in the same way (Byrne, 1996). This was not however given to pose a substantial threat to validity, given that both countries share quite similar Western values, the proliferation of American culture in Irish society, and because the students participating in Early University Entrance are verbally talented (all scored highly on the PSAT-Verbal).

The instruments utilised in this investigation were mainly developed in US institutions: Piers-Harris 2 (Western Psychological Services), Student Adaptation to College Questionnaire

(Western Psychological Services), School Attitude Assessment Survey - Revised (University of Connecticut), the Social Coping Questionnaire (Iowa State University), with the exception of the Self Description Questionnaire II (University of Western Sydney). Each instrument will be explained in detail, and the justification for its use.

### Self-Description Questionnaire II

The Self-Description Questionnaire II is a 102-item scale that measures 11 components of self-concept (Marsh H. W., 1992), and is designed for use with students aged from 12 to 15 years. The SDQ II is based on the multidimensional, hierarchical, theoretical framework put forward by Shavelson et al. (1976), and modified to reflect the results obtained by the author when developing the instrument. It examines three aspects of academic self-concept (*verbal, math and school*), seven non-academic aspects (*emotional stability, honesty/trustworthiness, parent relationships, physical abilities, physical appearance, same-sex relationships and opposite-sex relationships*) along with a *general self-concept*. The scale has two other versions; the SDQ I and SDQ III are used with primary school and college age students respectively. The scale was standardised on a group of 5494 Australian students, and percentiles and T-scores are available.

The subscales express distinct aspects of self-concept.

### Academic Self-Concept

- *Verbal* – ability in and pleasure derived from English studies
- *Math* – ability in and pleasure derived from mathematics and logic
- *School* – ability in and pleasure derived from school subjects generally

### Non-Academic Self-Concept

- *Emotional stability* – examines emotional and psychological health
- *Honesty/trustworthiness* – looks at reliability and integrity
- *Parent relations* – examines associations with one's parents
- *Physical abilities* – considers interest and skills in sport and activities
- *Physical Appearance* – physical attractiveness
- *Same-Sex Relationships* – associations with similarly aged members of the same sex
- *Opposite-Sex Relationships* – associations with similarly aged members of the opposite sex



Adding the subscale scores yields a *total self-concept* score. The subscales are each composed of between 8 and 11 items, with a response scale of one (false) to six (true). Half of the items are negatively phrased.

The SDQ II was selected for use in the evaluation because it considers aspects of academic and non-academic self-concept that are likely to be affected by students entering into a new educational environment, such as on an Early University Entrance programme. It was also selected based on recommendations from several authors for its use with gifted students (Marsh, Plucker, & Stocking, 2001; Plucker, Taylor, Callahan, & Tomchin, 1997; Hoogeveen, van Hell, & Verhoeven, 2009).

#### Student Adaptation to College Questionnaire

The Student Adaptation to College Questionnaire (SACQ) (Baker & Siryk, 1999) is a 67-item scale that assesses student adjustment to university. Though it is designed for use at any stage during undergraduate level, it is typically administered on the eighth week of semester one, in a student's first year. It yields a *Full Scale Self-Concept*, and four subscales: *Academic Adjustment*, *Social Adjustment*, *Personal-Emotional Adjustment* and *Attachment*. Each subscale contains a number of item clusters. Scores are calculated by summation, with 34 of the items reverse-scored.

The ***Academic Adjustment*** subscale measures how well a student manages the academic burden at university. It contains 24 items, and consists of four subscale clusters:

- *Academic Environment* – level of fulfilment with the academic content being studied
- *Application* – how well the student is applying themselves to college coursework
- *Motivation* – drive to engage in college work and to accomplish educational goals
- *Performance* – including effectiveness of study strategies to achieve academic success

Low scores on the *Academic Adjustment* subscale are associated of students who are achieving low grades, have little power over their learning and set unrealistic goals.

The 20-item ***Social Adjustment*** subscale measures how well a student negotiates the university's social environment and deals with any associated anxieties. It also contains four clusters:

- *General Social Adjustment* – success in adapting socially

- *Nostalgia* – ability to cope with the move away from home and settle in socially
- *Other People* – success in making friends and acquaintances
- *Social Environment* – general contentment with the social elements of university

Low scores on this subscale indicate that the student is not settling in, is less involved in campus activities, has lowered social skills and confidence in their social ability, and believes he/she lacks social supports. It also points toward difficulties in detaching from home supports and becoming more independent.

The ***Personal-Emotional Adjustment*** subscale examines the level of psychological stress experienced in adapting to university. It also highlights any somatic problems. The subscale contains 15-items and has two clusters:

- *Psychological* – mental and emotional welfare
- *Physical* – physical health

Low scores on the *Personal-Emotional Adjustment* subscale are associated with students who have a greater emotional dependence on other people, are more likely to avail of the counselling service, don't cope as well psychologically and may be anxious or suffer from depression.

The ***Attachment*** subscale measures allegiance toward the institution and in particular the quality of that connection. The subscale contains 15 items and has two clusters:

- *General Attachment* – happiness with being at university
- *Attachment to This College* – level of contentment with this particular university

Low scores on the *Attachment* subscale are associated with discontent with the university experience, and indicate a high likelihood of dropout.

A high full scale score indicates a positive adaptation to university. The authors however advise against the singular interpretation of the full scale score, as central to the scale is the understanding that adaptation to university has many facets, and two students with identical full scale scores may have very different patterns of adjustment. They also caution against rudimentary interpretations of the cluster scores, as they contain few items and are not as consistent as the subscale scores (Baker & Siryk, 1999).

Taylor and Pastor (2007) did not recommend the use of the SACQ for identifying students who are not settling in or students who need professional (i.e. counselling) assistance. Though the scale was used with second year students, and not first year, as preferred by the original authors, Taylor and Pastor (2007) criticised the instrument, whose items were over 20 years old, and questioned whether or not they could properly interpret what we now know about adaptation to university.

The scale was selected because it had previously been used in research on early college entrance (Caplan, Henderson, Henderson, & Fleming, 2002), and was shown to be applicable for use with European students (Beyers & Goossens, 2002), though not all of its subscales are relevant. The *Attachment to This College* cluster is of little interest here because the early entrance students could not choose an alternative university. (The *General Attachment* cluster is however useful in determining the degree of satisfaction with the university experience).

#### Piers-Harris 2: Children's Self-Concept Scale

Also known as the Piers-Harris 2, this scale is a 60-item self-report measure for use with children from 7 years through to 18 (Piers & Herzberg, 2002). The questionnaire items are statements that require a *yes* or *no* response. The Piers-Harris 2 was normed on a sample of 1,387 US students. It resembles closely the country's ethnic composition. The scale calculates a total self-concept score, and six subscale scores; *Behavioural Adjustment*, *Intellectual and School Status*, *Physical Appearance and Attributes*, *Freedom from Anxiety*, *Popularity*, and *Happiness and Satisfaction*. The scale is arranged such that the higher the score, the higher the self-concept. A comprehensive discussion of each of the subscales follows.

The **Total Self-Concept Score** measures general self-concept and is believed to be the most reliable on the questionnaire. High scores are associated with high self-esteem or self-worth, while low scores point toward shortcomings in general or specific areas of self-value.

**Behavioural Adjustment** seeks to examine awareness of difficult behaviours. Students scoring high on this scale view themselves as complicit at home and at school, while low scores point to an admission of major difficulties with their conduct.

The **Intellectual and School Status** subscale draws out perceptions of ability in academic and intellectual assignments, and includes happiness at school and hopes for future academic

performance. High scores indicate satisfaction with school-life academically, achievement, and indicate a positive view of their demeanour at school. Low scores are associated with students who feel they are not performing well, and feel they are not integrated at school.

The ***Physical Appearance and Attributes*** subscale examines the child's assessment of their physical appearance, along with leadership ability and articulation of ideas. Individuals in this range with high scores are typically; happy with their appearance; observe that they are accepted by their peers, who they believe are interested in their ideas; and view themselves as physically capable, clever and can lead in sporting activities. Low scores signify individuals with a low physical self-image or those who feel that they are not respected by their peers.

***Freedom from Anxiety*** measures the degree of angst experienced by the respondent. It includes a number of emotions including – anxiety, apprehension, unhappiness, reticence, anxiety and a feeling of being overlooked or excluded. High scores on this subscale imply that such difficulties are unrealistically denied or refuted. Interpretation of such scores should therefore be treated cautiously. Low scores reveal an acceptance of trouble with dysphoric mood.

The ***Popularity*** subscale examines popularity, ability to strike up friendships and feeling part of a group. Those scoring high on this subscale feel they are capable in this regard, and are positively regarded by others, while low scores point to difficulties with socialisation.

The ***Happiness and Satisfaction*** subscale relates to general feelings of contentment with life. High scores on this subscale generally belong to individuals who have a positive outlook on life, and who see themselves favourably both socially and personally. Low scoring individuals are commonly disappointed with themselves or some aspect of it, disparaging of their looks or their social skills etc.

The Pier-Harris 2 scale was selected as it has been successfully used in the past with gifted children (Janos, Fung, & Robinson, 1985; Lewis & Knight, 2000; Colangelo & Assouline, 1995) and accelerated students (early entrance to college) (Shepard et al., 2009). The questionnaire provides a reliable measure of **total self-concept**, and includes a ***behavioural adjustment*** subscale, which is absent from the SDQ II. It also groups together a number of the subscales that were treated separately by the SDQ II. The similarities with the SDQ II subscales are important, as it additionally serves to corroborate the self-concept scores.

The Piers-Harris 2 scale is widely used, with over 500 citations in published articles (Piers & Herzberg, 2002).

#### Social Coping Questionnaire

The Social Coping Questionnaire is a 34-item scale, which examines specifically the social coping strategies employed by gifted students (Swiatek, 2001). Responses are made on a 7-point Likert scale ranging from *strongly false* to *strongly true*. Swiatek (2001) reported seven subscales: Denying Giftedness, Using Humour, Activity Level, Peer Acceptance, Conformity, Helping Others, and Focus on Popularity.

The questionnaire is relatively new and has undergone some factor analysis by its author (Swiatek, 1995; Swiatek & Dorr, 1998; Swiatek, 2001) and others (Chan, 2003; Chan, 2004; Chan, 2005; Moritz Rudasill, Clark Foust, & Callahan, 2007). Though the analysis has produced differing factors, those most recently reported (Swiatek & Cross, 2007; Cross & Swiatek, 2009) indicates five factors, namely; *Denying Giftedness, Peer Acceptance, Humour, Popularity/Conformity and Social Interaction*. Moritz Rudasill, Clark Foust and Callahan (2007) believe that the factors found time after time are most likely the coping strategies utilised by gifted students, i.e.; *Helping Others, Denial of Giftedness, Minimizing One's Focus on Popularity, Denying Negative Impact of Giftedness on Peer Acceptance, Conformity to Mask Giftedness and Hiding Giftedness*.

The scale was originally developed on a sample of high school students participating in selective, university-based summer programmes for gifted adolescents (Swiatek, 2001; Swiatek & Dorr, 1998), but was later used with a number of gifted and Honours students in different educational settings. To date, the scale has never been used with dual enrolment or early college entrance students, however given its specific application with gifted populations it has been selected for use in this study.

#### School Attitude Assessment Survey - Revised

The final scale in the battery is the School Attitude Assessment Survey – Revised by McCoach and Siegle (2003). The SAAS-R is used to identify factors that indicate underachievement in gifted students. It is a 35-item questionnaire with responses made to the item statements on a 7-point Likert scale that ranges from *strongly disagree* to *strongly agree*. The scale has five

subscales: *Academic Self-Perception*, *Attitudes toward Teachers (and Classes)*, *Attitudes toward School*, *Goal Valuation* and *Motivation/Self-Regulation* (McCoach & Siegle, 2003).

The ***Academic Self-Perception*** subscale examines self-belief and how students with a high academic self-perception, are more likely to undertake higher-level academic activities. This subscale is related to academic self-concept, and low self-perception is associated with underachievement.

The ***Attitudes toward Teachers (and Classes)*** subscale looks at perceived teacher behaviour as it is believed to affect student achievement.

***Attitudes toward School*** is included because positive attitudes toward school have been correlated (though moderately) with achievement. Underachieving students are likely to display negative school attitudes.

***Goal Valuation*** is an important aspect in the study of underachievement, because ambitions and aims affect the amount of drive and energy devoted to their realisation. When a task is regarded as important, students are more likely to be motivated to apply more effort in its fulfilment.

***Motivation/Self-Regulation*** levels are complexly combined. Motivation is an innate drive toward accomplishing a goal, but it is self-regulation, which is the planned and calculated focus of these efforts, which actually realises achievement.

The scale was chosen for use because “students’ perceptions, attitudes, and motivations influence their scholastic achievement” (McCoach, 2002, p. 66). For this reason, how these factors were affected by participation in the Early University Entrance programme was judged relevant.

One final note on psychological testing is with regard to domain interpretation. Some level of disagreement generally exists in the literature about what is understood to be the nature of different psychological domains. The nature of the author’s interpretation of the particular social or emotional domain, and how it matures at different stages of development should form a substantial part in the decision around choice of instrument (Byrne, 1996). Self-concept for instance is considered somewhat constant, but has the potential to adjust with changing environments (Marsh, 1990; Demo, 1992). Hoge and Renzulli (1993) advise the use of

standardised instruments for interpretative ease because the different definitions and instruments used to measure self-concept (or its subscales) make the research on it difficult to evaluate.

Thus, it is important to explain why a particular model (or instrument) is selected over another. Several of the selected instruments were found to have scales and subscales that overlapped in places, and thus provided a good opportunity to gain multiple perspectives the same topic. This coincidence would also prove useful should any startling test scores become known that might be explained by a language or cultural misinterpretation.

### *DOCUMENTARY EVIDENCE*

Documentary evidence was available in a number of forms, e.g. policy documents, email correspondence, text messages, student application forms, and formed additional sources of rich data.

## Data Collection to Analysis

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Qualitative, and to a lesser extent quantitative, data forms the basis of this study. Qualitative data was obtained through diary entries, focus groups, open question surveys, emails, texts and the researcher's aide memoire. Psychological testing instruments formed the quantitative portion, along with a limited number of closed survey questions. The means of analysing each of these data sets is the focus of this section.

At this juncture, it is important to mention the process of analysis permeates different stages of the research process, not least the data collection stage in a continuous back and forth activity (Bryman & Burgess, 1994; Merriam, 1998). The reflexivity of this evolving or emergent design affords the researcher the liberty to delve into new sources for data collection when the focus of interest orients or necessitates deeper insight (Merriam, 1998). Bogdan and Biklin (cited in Merriam, 1998) propose a number of useful ideas to assist in the process of analysis during data collection. Among others, they suggest starting the analysis early in the data collection stage as a means to inform and direct subsequent study. They also advocate writing observational remarks throughout this process to promote critical thinking, and revisiting the literature during this stage as a means to augment the analysis.

## QUALITATIVE DATA ANALYSIS

The analysis of qualitative data calls for the condensing of “voluminous, unstructured and unwieldy” data (Bryman & Burgess, 1994, p. 216) so that important details can be drawn out. More than an exercise in careful illustration, it requires sensitive analytical techniques that pay attention to the particular, the unusual, but also the commonalities, to create a true representation of the idiosyncratic case itself. Cohen, Manion and Morrison (2007) note one of the conflicts in qualitative data analysis as maintaining a balance between keeping the data complete, and the inclination to analyse it in parts. They warn against “losing the synergy of the whole ... (because) often the whole is greater than the sum of the parts” (p. 470). Stake (2010) believes it is a process of “deconstruction” where data is dismantled to isolate its constituent parts, which are then studied to see how they are related, while seeking out their “frequency of occurrence.”

Yin (2003) believes in “a general analytic strategy” for “defining priorities for what to analyze and why” (p. 109). Essentially, it acts as a guiding compass to the research undertaking, ensuring that every stage in the process is oriented toward producing a suitably edifying, superior-quality case study report. The analytic strategy therefore requires careful consideration at the beginning of the research process. He puts forward three analytic strategies for structuring a case study. A *reliance on theoretical propositions*, which brought about the study in the first place, directs how the study is organised, how the research questions are phrased or hypotheses set out. A *reliance on rival explanations* as a strategy formulates competing descriptions for testing thus shaping the case study. Finally, *development of a case description* is the creation of a descriptive structure upon which the case study is arranged. Stake (1995) presents two types of analytic strategy: *direct interpretation* and *categorical aggregation*. The former refers to the complex task of disassembling and reassembling an incident to generate meaning and understanding, while the latter relates to the construction of categories by instinctively grouping data that collectively provide broader meaning and highlights the issues in the case. Stake notes that the qualitative/quantitative gulf partitions these two strategies.

The analytic strategies referred to by Stake, are more akin to what Yin (2003) defines as analytic techniques. Unlike Yin’s strategies, which could be considered more empirical in style, Stake’s appear to be much more naturalistic, dependent upon the researcher having engaged in the



simultaneous process of data collection and analysis, or upon their instincts in creating data arrays. Moreover, the strategies (or 'techniques') put forward by Stake emerge later and in response to the data, disparate from Yin's methodologies, which position the stage upon which the data is consigned.

Robert Stake's (1995) strategies of *direct interpretation* and *categorical aggregation* are employed in the analysis of the data in this study. While direct interpretation provides an unsophisticated method of analysis, categorical aggregation goes further to link together similar thoughts, events and occurrences, seeking correlations and disparities. Merriam (1998) describes how classical qualitative analysis begins with the coding of themes, followed by their categorisation and individual examination. A grounded theory approach would continue to connect the categories with loose strands of hypotheses, and develop theory to explain the categories. Stake's approach is equivalent to the early stages of this process, though not going so far as to attempt to create theory.

## QUANTITATIVE DATA ANALYSIS

Quantitative data requires statistical analysis to extract its meaning. A more independent data, it is not subject to researcher interpretation to the same extent as qualitative data. The numbers generally speak for themselves. Teddlie and Tashakkori (2009) note three features of quantitative data analysis. The first is whether the data is to be analysed using *descriptive* or *inferential statistics*. Essentially, descriptive statistics summarise the data and are presented in tables, graphs, etc., to illustrate any trends that are apparent in the data. Inferential statistics are a step beyond descriptive statistics, and include analyses such as hypothesis testing and confirmatory factor analysis. *Univariate* and *multivariate statistics* refers to the linking together of a single variable to another (univariate) or multiple sets of variables to each other (multivariate), to find out whether correlations exist. The final characteristic of quantitative data analysis relates to *parametric* and *non-parametric statistics*. Statisticians usually suggest the use of parametric tests for samples with 30 or more values (Salkind, 2010). Samples with a greater number are believed to have a normal distribution. For analysis of data sets with less than 30 respondents, nonparametric statistical analysis is recommended.

The actual strategies used to analyse the quantitative data will be explored in detail in the section on research design.

## COMBINING QUANTITATIVE & QUALITATIVE DATA

Quantitative and qualitative data position themselves at opposing ends of the spectrum, thus due consideration should attend to how these data are analysed and how they will merge in the final report.

A *parallel mixed data analysis* approach is undertaken, where the quantitative and qualitative analyses proceed separately (Teddlie & Tashakkori, 2009). Reflexivity between data collection, analysis and interpretation is one of the cornerstones of the case study methodology, and regardless of the type of data, when available it will inform later data analysis, while tentative interpretations and inferences are formulated and modified. The process is thus “semi-iterative” (Teddlie & Tashakkori, 2009, p. 266), and has been labelled “crossover tracks analysis” (p. 269).

## ANALYTIC & NATURALISTIC GENERALISATION

With the methods of data analysis established, there are two important distinctions to be made in relation to case study research. Analysis in nomothetic research is concerned with deriving generalisations that are applicable across different contexts. Case studies however are not. They are concerned with *analytic* and *naturalistic generalisation*. *Analytic generalisation* is where the case study outcomes are compared against an already established theory. *Naturalistic generalisation* is where the reader compares the case to their own repertoire and amends their own conclusions as a result (Stake, 1994). Both analytic and naturalistic generalisation is facilitated when an insightful, richly descriptive picture of the case is presented, enabling a better contrast. The implications of this will be discussed in the next section on writing case studies.

## DATA ANALYSIS

Bryman (2004) provides a straightforward guide to the use of coding in the analysis of qualitative data. He recommends that coding should begin at the earliest possible stage in the data collection process, so that a better understanding of the data is obtained. Data coding is a fundamental step in qualitative data analysis, where datum are indexed according to different emerging themes (Bryman & Burgess, 1994). Bryman (2004) suggests that researchers begin by

immersing themselves in their data, reading diaries, transcripts, field notebooks etc., and afterwards making some preliminary notes. The process should be repeated, making comments on anything noteworthy in the transcript margin. The researcher may use idioms or words, or borrow phrases provided by the respondents. The next stage is to check the codes, checking for inconsistencies and overlap. Early codes might be replaced by ones more appropriately expressed in the literature. At this stage, similar codes may be linked together, and so further codes are named to explain the connection. As data are catalogued, researchers are reminded that maintaining the contextual factors of each piece of data is imperative (Mason, 1994). Coding provides a means of organising the data, which enables the researcher to think over it more carefully (Huberman & Miles, 1994).

Coffey and Atkinson (1999, cited in Bryman, 2004) suggest that coding has three levels. Level one coding is very rudimentary, and does not lend itself to any significant level of analysis or profound understanding. The second level brings a deeper perception of the substantive meaning in the data items, and here themes begin to emerge. The respondents underlying concerns become apparent. The final level moves beyond the specific to wider analytic themes. The authors caution that the dismantling of data that occurs during the coding process is indifferent to respondent's "narrative flow."

**The qualitative data** was analysed using Nvivo 7.0. Upon first reading through the data, it was coded into broad categories. Then these categories were examined and re-categorised or sub-categories created as necessary. Themes were allowed to emerge from the data itself, careful not to be influenced by themes or theories that exist in the literature. Where appropriate, the codes used the words or phrases given by respondents. The coded data were then further interpreted so that a deep understanding of the experience could be obtained. As this study utilised a mixed methodology, the coded data were then set against the quantitative data results, so that more profound insights could be drawn. The appropriately titled codes could be linked to the titles of tests and subtests in the quantitative data.

The qualitative data was analysed one week at a time. Within each week, the data was analysed chronologically so that any emerging issues could be traced. The coding was arranged so that it could be broken down into each week (e.g. difficulties with coursework 1, difficulties with

coursework 2, etc.) and course group where necessary (AP difficulties with coursework 1, etc.). This allowed the data to be clustered across the programme period and analysed generally and in a chronological manner. Using the approach it was also possible to see if any categories were apparent, e.g. “exam perceptions 1” and “exam realisation 8”.

The data clusters that emerged are presented as headings in Chapter 4 – Findings. An example of the coding frame used may be found in Table 3.4.

Life at University		
The College Timetable		
<b>Academic Integration</b>	A Suitable Learning Environment	Subjects that Captivate their Interest Acclimatising to University Coursework
	Acclimatising to the University Learning Style	
	The Knowledge Gaps	Conflicting Experiences of Physics-A & -B
	Knowledge Gaps Bridged	
	Autonomy in Learning	
	Commitment to University Work	

Table 3.4 – Sample Coding Frame

**The quantitative data** collected are in the main, scale and sub-scale values from a series of pre-, mid- and post- programme (administered) psychological tests (validated or part-validated). These are listed in Table 3.5.

Scale	Subscales	Scores calculated by
<b>Piers Harris 2</b>	Total Self-Concept, plus 6 subscales	Summation
<b>School Attitude Assessment Survey - Revised</b>	5 subscales	Means
<b>Self Description Questionnaire II</b>	Total Self-Concept, plus 11 subscales	Summation
<b>Social Coping Questionnaire</b>	7 subscales	Means
<b>Student Adaptation to College Questionnaire</b>	Full Scale Self-Concept, plus four subscales (consisting of subscale clusters)	Summation

Table 3.5 - Psychological Instruments

The data obtained from the psychological tests is believed to be ordinal data, because it is possible to put it in rank order. It is not nominal because it cannot be separated into categories, nor is it interval data because the numerical value obtained from each subject has no meaning.

The Wilcoxon Signed-Ranks test was used to analyse the data from these instruments, which were administered at pre-, mid- and post- programme intervals. Thus the data consisted of a series of repeated measures, which are statistically considered to be *dependent*. The signed-rank test identifies if there is a difference in the population medians of quantitative or ordinal data due to a treatment. In this case the *treatment* is participation in the Early University Entrance programme. The null hypothesis is set up as  $H_0: m = 0$ , where  $m$  is the median, and indicates that no difference between the treatment exists or that participation didn't have any impact. The alternative hypothesis can be one of three possibilities:  $m > 0$ ;  $m < 0$ ;  $m \neq 0$ ; referring to a positive, negative or no impact. If the p-value is less than  $\alpha$  (0.05, i.e. at the 95% confidence interval) the null hypothesis can be rejected.

The Signed Rank test is limited in that it can only detect if a difference exists and not the degree of difference between samples. The test works best with samples of 25 or more (Conover, 1999). The null hypothesis ( $H_0$ ) can mistakenly be found true, when it is indeed false when the number of values in the sample is  $\leq 25$ , and where ties exist in the data (Conover, 1999). Where this is the case, the p-value will be more conservative (Conover, 1999).

The SACQ (once-off test) was analysed using the Kruskal-Wallis test, which is used to compare the medians of more than two sample populations, akin to the ANOVA in parametric statistics. The population samples must be independent and have similar distributions and variances. It determines whether differences exist, but is unable to identify the source of the difference(s). The Kruskal-Wallis test was used to compare the groups of first year students and the EUE group to see if any differences between them existed.

A multiple comparisons procedure followed the Kruskal-Wallis test to determine where the differences existed. The Rank-Sum test (also known as the Mann-Whitney U or Wilcoxon-Mann-Whitney test) was used to do this. ( $k(k-1)/2$ , where  $k$  is the number of samples, determines the number of possible comparisons). This is the nonparametric version of the t-test for independent samples, and thus compares the medians of two population samples. A number of conditions must be met to use the Mann-Whitney U-test. The two samples must be

independent, they must have similar distributions, and the data sets should have the same variance or standard deviation. It is a test for the equality of the two population medians ( $\eta$ ). The null hypothesis is set up as follows:  $H_0: \eta_1 = \eta_2$ . The alternative hypothesis can be either; one-sided,  $H_a: \eta_1 > \eta_2$  or  $\eta_1 < \eta_2$ ; or two sided,  $\eta_1 \neq \eta_2$ . The Mann-Whitney U test calculates a test statistic,  $T$ . It also finds an upper and lower limit or critical value of  $T$  ( $T_U$  and  $T_L$ ), found by referencing the sample sizes on the Rank Sum table. Depending on the alternative hypothesis, the probability,  $P$ , is found by comparing  $T$  with  $T_U$  and  $T_L$  and determining whether the null hypothesis can be rejected or not. Where the sample size is above ten, the test reverts to a Z-test for the calculation of the test statistic. This occurs because larger samples resemble normal distributions. The probability,  $P$ , is then found by referencing the Z-value on the Z-table, and continuing as before.

To use the Mann-Whitney appropriately, it is necessary that the alternative hypothesis be generated before the data are subjected to any testing, in the interest of ethical, statistical analysis (Rumsey, 2009).

Spearman's rank correlation coefficient ( $r_s$ ) is used to identify the strength and direction of a relationship between two variables. Spearman's correlation is used instead of Pearson's correlation because it caters for ordinal and/or quantitative values of  $x$  and  $y$ . Spearman's correlation coefficient does not require that the relationship between the two variables to be linear. Instead, it checks for independence between the two variables. The coefficient falls between -1 and +1. If  $r_s$  is equal to zero, the variables are independent. A positive  $r_s$  indicates positive relationship; the two variables increase and decrease together. A negative  $r_s$  indicates a negative relationship; when one variable increases, the other decreases.

Though the data from both sources were analysed separately, the quantitative data was used to complement qualitative data.

## Assessing & Enhancing Trustworthiness

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Researchers must convince their readers and indeed the research community that their findings are worthy of note. Thus at a minimum, the research is expected to establish its findings as

valid; thus “‘really’ ... what they appear to be about”, *reliable*; thus consistent, and *trustworthy* (Robson, 2002, p. 93) (emphasis added). As this study adopts a mixed methodological approach, it is necessary to examine separately the ways in which qualitative and quantitative data (and their analyses) assured validity and reliability, before combining the two sets of data. Teddlie and Tashakkori (2009) suggest an “integrative framework of inference quality” when confronting the combination of the two data sets. Firstly, however, the validity and reliability issues affecting qualitative and quantitative data will be examined.

### **TRUSTWORTHINESS IN QUANTITATIVE DATA**

Issues of validity and reliability stem from fixed, positivistic research designs. Quantitative data, from the psychological testing instruments used in this study, are subject to examination in terms of reliability and three measures of validity; internal, external and construct. Reliability seeks consistency, constancy and repeatability in an instrument (Cohen, Manion, & Morrison, 2007). Correlation coefficients, such as Spearman’s rho, may be used to check for stability in the sample of respondents (statistics of 0.05 or higher denote statistically significant correlations). The internal consistency of the instrument checks that the items within the scale (or subscale) are homogenous, and is typically tested using Cronbach’s Alpha Coefficient (Byrne, 1996). Internal consistencies of 0.7 or greater are *acceptable*, of 0.8 or greater are *good*, and of 0.9 or greater are *excellent* (George & Mallery, 2003). Internal consistencies are calculated for each of the instruments in the substantive section.

Validity refers to the degree to which the instrument actually assesses what it set out assess, so that meaning can be derived from its results (Byrne, 1996). “...the relevancy, recency, and the representativeness of the normative data” need to be considered before opting for a particular instrument (Byrne, 1996, p. 46).

### **TRUSTWORTHINESS IN QUALITATIVE DATA**

Qualitative data may be regarded in somewhat the same terms. Internal validity, or *credibility*, may be augmented in this research by *member checking* with research participants, *prolonged engagement in the field*, and through *triangulation* (Lincoln & Guba, 1985; Stake, 1995).

*Member checking* or respondent validation is where some or all of the stakeholders are involved in the verification of the written case report (Cohen et al., 2000). *Triangulation* occurs where

several insights of the same event are obtained so the researcher can delineate an accurate account of the case. Stake (2005) finds that case study research gains integrity by triangulating accounts and their analysis at every stage during the research process. It is “used simultaneously for confirmation and differentiation” (Stake, 2010). He proposes the use of rigorous analysis and triangulation to seek out the experiential knowledge from beliefs and inclination.

External validity or *transferability* means determining the area to which the conclusions are generalisable. Much of the criticism levelled at single case studies is centred upon it lacking a solid basis upon which external validity can be established (Yin, 2003). This is of course missing the point, and only views research from the scientific platform of statistical generalisation. Case studies instead use analytical generalisation, where the conclusions are generalised to a broader theory, not to a broader population. Transferability is assisted by thick description (Lincoln & Guba, 1985). *Confirmability* authenticates the case study report in terms of how well it represents the data, whether the interpretations are plausible, and the presence of researcher bias (Lincoln & Guba, 1985). Reliability or *dependability* is a procedural matter concerned with decisions during the research progress (Lincoln & Guba, 1985). To ensure *reliability*, Yin (2003) believes, the researcher should employ as many steps as possible, documenting each one, and advises researchers to act “as if someone were always looking over your shoulder” (Yin, 2003, p. 38).

### **INTEGRATIVE FRAMEWORK**

Combining the quantitative and qualitative results and interpretations, researchers need to be cognisant of many issues. The framework provides a structure within which to do this and divides into two segments; *design quality* and *interpretative rigour* (p. 302-303), each of which will be explained in detail in terms of the programme evaluation.

#### **Design Quality**

“Design appropriateness” assesses fitness for purpose of the research design in suitably addressing the research questions. “Design fidelity/adequacy” examines the functionality of the research elements. “Within-design consistency” looks at how well the design elements fit together, and lastly, “analytic adequacy” considers the ability of the analysis techniques to address the questions in the manner that they require addressing.



Combining qualitative and quantitative inferences is problematic when inconsistencies appear. Interpretative rigour helps to address the handling of these discrepancies, and ensure that plausible explanations are made. “Interpretative consistency” refers to how close the assumption is to the data, or in the case of multiple conclusions, their proximity to each other. It is relative to the strength and constancy with the data. “Theoretical consistency” refers to its coherency with established theories and published findings. “Interpretative agreement” considers whether the same results would be explained in the same way by another investigator. “Interpretative distinctiveness” refers to whether the inference is the most probable of all that are available. Perhaps the change could be explained by factors other than those directly related to the research. Indeed, the researcher’s attempt to interpret participant interpretations is one criticism of qualitative research (Teddlie & Tashakkori, 2009). “Integrative efficacy” refers to how well the inferences from the two domains combine, not necessarily meaning agreement. Where the conclusions diverge, the researcher is forced to search for errors in each analysis. If this is not the case, the discrepancy should be observed in terms of the extent to which it can offer two different perspectives. This approach moves away from triangulation toward *complementarity* of purpose, where the data and inferences broaden out the understanding of the case (Greene, Caracelli, & Graham, 1989). Finally, the use a mixed methodology is endorsed by the combined inferences or conclusions (“interpretative correspondence”).

## From Methods to Findings

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The study requires a variety of data collection instruments to address the wide range of research questions presented at the start of this chapter so that the reader can gain a deep understanding of the Early University Entrance programme under investigation. The accelerants were central to the programme and thus to a profound understanding of what it meant to participate. Many of the research questions relating to integration into university, school life and the affect of the programme, therefore, were addressed by more open, qualitative methodologies, such as focus group discussions, individual diary entries and specifically developed questionnaires. These were triangulated with data collected from parents and

teachers (in the form of questionnaires and conversation notes). Its impact on a social and emotional level (e.g. self-concept) was addressed using externally validated psychological measures, which were in themselves triangulated by the use of several different instruments. The data collected from parents and teachers also served to triangulate these results. Questions relating to how the programme fitted into the university and the Transition Year programme in secondary schools was addressed by data collected through meetings, phone conversations and emails. (These were typically noted in the researcher's diary). Table 3.6 illustrates how the data collection approaches and instruments came together to triangulate the data.

How is EUE fitted into the university/TY programme	Correspondence with School/University staff
	Teacher Questionnaires
	Correspondence with Teachers
	Researcher Diary
Social & Emotional Integration into University	Focus group discussions (early entrants)
	Student Questionnaires
	Diary Entries (early entrants)
Academic Integration into University	Focus group discussions (early entrants)
	Diary Entries (early entrants)
	Parent Questionnaires
	Teacher Questionnaires
Impact of Early University Entrance on Students, Personally	Psychological Measures
	Focus group discussions (early entrants)
	Diary Entries (early entrants)
	Parent Questionnaires
	Teacher Questionnaires
Impact of Early University Entrance on School-Life, while Students are Participating	Psychological Measures
	Focus group discussions (early entrants)
	Diary Entries (early entrants)
Reintegration into School after Programme's Conclusion	Focus group discussions (early entrants)
	Student Questionnaire
Affect of University Experience on Participants	Focus group discussions (early entrants)

**Table 28.6 – Approaches employed to address Research Questions**

Design rigour was assured by correctly following the guidelines provided by the authors of each psychological measure in terms of use and analysis. Similarly, the best practice (found in the literature) on the implementation of questionnaires, focus groups and diaries was carefully acceded.

Utilising a wide variety of techniques to address each research question meant a fuller understanding of the experience of Early University Entrance.

## Conclusion

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This chapter set out to present the methodology and research design employed in this study, discussing the related literature and the reasons why a particular approach was followed. The chapter is intended to provide a firm foundation to the study that allows the reader to appropriately progress to the next chapter, where the research findings are presented.

# Chapter 4

## Findings

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True genius resides in the capacity for evaluation of uncertain, hazardous, and conflicting information.

- Winston Churchill

This chapter sets out the evaluation of the Early University Entrance programme in the form of a case study. It meant viewing it through what might be considered a series of lenses. Not surprisingly, the early entrants provided the sharpest insight of all. Their experience however, was truly only interpretable when set in a wider context. Thus, the views of parents, teachers, friends and acquaintances, involved university administrators and lecturers, taken directly and indirectly (through interpretations) were all important in building up the case study. The study is set out in a chronological manner, with the arising issues outlined at each relevant point in time. Figure 4.3 illustrates the progress through each of the ten sections.

The opening section begins with the students' motivations for applying and the reasons they believe they would make suitable programme candidates. It continues in the pre-programme stage to look at their expectations of Early University Entrance, as well as what they anticipate the programme to involve. The early entrants' academic and social experiences at university are chronicled at the next juncture. Aspects such academic fit (i.e. whether the level of academic challenge presented by EUE equated to their intellectual functioning), disparities in the styles of teaching and learning at school and university, and their social assimilation into the third level environment compose much of the discussion in this part. The closing weeks of the programme involved assignment submissions and exam preparation, and for this reason compose the next area of discussion.

Creating space for two educational programmes to operate side by side meant that life at school altered considerably for these students. Attitudes at school level seemed to vary. This meant that Early University Entrance became an uneasy experience for some students, and the divergence of academic commitments raised problems for both the students and their teachers. The personal impact of the programme on its students is also explored.

The prospect of returning to school comprises the next section. Here opinions about readjustment and reintegration are expounded. There is discussion about the transferability to school of skills and knowledge learned at university, as well as some newfound awareness about schoolwork.

The final few sections of this chapter present the wider reflections on Early University Entrance. The impact on the students as individuals (e.g. maturity, self-confidence, etc.) is followed by the conclusions about EUE made by parents and teachers. The longer-term impact of the programme is then considered in terms of changing opinions and focusing career objectives.

The chapter concludes with suggestions from all parties, as to how Early University Entrance should proceed from here. It includes considerations of the modules that should be made available, the timing of the programme and the availability of services, along with advice for future participants.

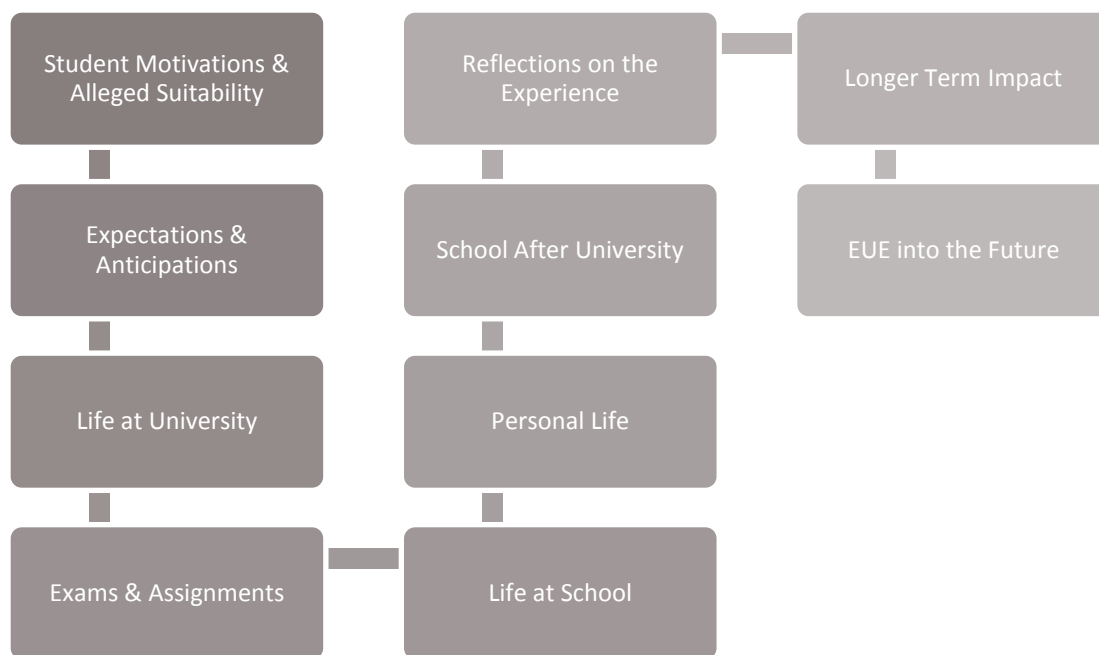


Figure 4.6 – Illustration of the Case Study progress

# Case Study – Qualitative Findings

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## Student Motivations & Alleged Suitability

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Understanding the motivations of the candidates, and their perception of their suitability as Early Entrance students, provides essential information for programme development and organisation. It also underscores the appeal of specialised gifted education programmes for academically able students.

The vain attempts of school to challenge them sufficiently were intimidated by most. Though having generally positive social experiences, they felt their capabilities were never fully extended. Schoolwork simply failed to nourish their academic enthusiasm. They frequently felt bored and frustrated, seeking more in-depth, stimulating coursework.

“The academic side can be very frustrating as so far in my academic life all that I have had the opportunity to do is to learn by rote from books just so that I can repeat the exact same opinions back” (Naomi).

“I am often bored. The work is very easy and I feel the progress is too slow.” (Alex)

Nearly all described themselves in intellectually favourable terms, placing themselves in the higher percentiles of their class. They saw themselves as fast learners, and accommodating of new, more intense learning environments.

“If I am chosen for this programme, I can guarantee that I would put my all into overcoming every challenge put to me. This is something that I feel genuinely passionate about.” (Naomi, Motivation Letter)

They considered themselves *good* students: smart, motivated and academically successful however, the curriculum was set so far below them that they regularly achieved above-average grades, with minimal effort.

“As a school student, I tend to do very well academically with very small effort” (Ruth).

This dichotomy between the second level curriculum and their actual potential has serious ramifications. Some explained that they rarely push themselves because they lack the motivation or are easily bored. Though involuntary, this lackadaisical mindset too often causes them irritation.

“I do well academically but am always a bit disappointed with my results, thinking I should have done better.” (Fintan)

“I suppose to most people (I am) quite an underachiever. I could be good at almost all aspects, but find it very hard to motivate myself to work at things that don’t interest me and so end up doing well at those things and average at others.” (Fintan, Reflection)

Others were keen to demonstrate their inherent intellectual motivation, attesting that it would carry them through the anticipated difficulties.

“I have always relished new and exciting challenges and am always willing to knuckle down and work hard under pressure, and would do so to the utmost of my ability during this course.” (Brian, Motivation Letter)

#### **EUE: TO FOCUS FOR THE FUTURE**

“It was academically valuable in refocussing my daughter on the positives of her abilities rather than on the negatives.” (Alice, Mother)

The motivations of some included a chance to work hard during Transition Year, and to focus their energies on their intellectual strengths. As well as opening up previously inaccessible courses, it would be a chance to focus on the subjects they believed they would enjoy, flex their ‘academic muscles’ and develop their study and learning skills.

#### **RELEVANT INTERESTS**

The chance to pursue a subject of interest was the foremost reason for applying for the EUE programme. They were excited at the prospect of lectures, university-level learning and campus life. It offered a chance to experience university first-hand, and will quieten any apprehensions they might have about third level learning.

“...it would allow me to be more prepared for the future stresses and successes of college life.” (Maria, Motivation Letter)



The students were keen to demonstrate how their past records paid testament to their motivations and seriousness as candidates for Early University Entrance. They cited literature they had read, courses they had taken, work experiences, etc.

“I am a subscriber to a science periodical ... manage the science notice board in my school and have taken part in the BT young scientist competition. ...I am hoping to study Applied Maths and Physics for the Leaving Cert. My maths and science teachers have both commented on my ability in the subjects, and ... remarked on my eager interest for both. Science and Mathematics authors clutter my bookshelves.” (Ryan, Motivation letter)

“I have visited courts in London, including the Royal Courts of Justice and a Magistrates Court. I am currently taking part in a CTYI correspondence course in Legal Studies.” (Henry, Motivation letter)

### ***SOCIALLY SUITABLE***

They also looked beyond the obvious intellectual requirements that university would require. Describing themselves as school students, nearly all referred to themselves in social terms. They saw themselves as outgoing, affable, friendly, good communicators, and as having good social skills. They each exuded an understated confidence, which was cultivated by school ethos, participation in extra-curricular activities, or came about simply as a natural attribute. Socially, they ranged from being happy within a small social circle, to being very active on a large stage, and thus all were confident in their abilities to interact socially at university.

Significantly, they believed they had reached a level of maturity (through past personal and academic experiences) commensurate with that perceived necessary at EUE.

“I think I would be a suitable candidate for the Early University Entrance programme because I feel I have the level of maturity of someone beyond fifteen years of age. I think this is necessary for this programme because the other students will be quite older and immaturity would be neither appreciated nor tolerated during the programme. I also feel being mature will help me to engage with the other college students.” (Alannah, Motivation Letter)

They looked forward to the university social life and though not entirely sure what to expect, most seemed to think it would be more relaxed than secondary school, albeit a more limited experience than that of a typical first year student. They regarded EUE as an opportunity to meet new people, both within the programme and the first year student body. They envisaged

the programme as being less sheltered, and actually looked forward to an environment where they could develop and mature into young adults.

“I believe that this would help me mature in many ways as college life is different to school life. I would have to take responsibility for my actions in college surroundings as opposed to my school. I think that it would help me develop in many ways, as I would have to be more mature and adult in my approach to daily life. I’m looking forward to the challenge that this will bring me, as I would have more aspects of my life to balance.”  
(Ryan, Motivation Letter)

It is clear that in putting forward their candidacy, the successful Early Entrants arrived to the programme with mature understandings of their academic and social selves. These realistic interpretations enabled them to place themselves within the university environment, and predict what strengths the situation would call upon.

## Expectations & Anticipations

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One week ahead of the semester, the early entrants attended the programme orientation. As well as an opportunity to become acquainted with one another and the campus, each was asked to reflect on how they anticipated university life and what it might offer them.

### PERCEPTION OF UNIVERSITY

They had many notions about what campus life would entail each with a positive overtone. They predicted a good experience: fun, likely to be hassle-free compared to school, and an opportunity to meet new people. They expected it to be quite busy, academically challenged and have greater responsibility over their learning and themselves personally.

### PROGRAMME EXPECTATIONS

They anticipated that Early University Entrance would provide the much-wanted intellectual stimulation. They actively sought challenges and a depth of knowledge and engagement. They felt that EUE would enable them to experience first-hand, university learning, and allow them some perspective on their future.

They imagined such learning would be enjoyable and though unsure about the level of difficulty in coursework and assignments, they felt confident that it would be within reach.

“I think that university sounds so much fun, so I can’t wait to start, early as this start may be. I think that you get to focus on learning what you want to learn and less on things that you find a waste of time. To learn about things you find interesting.” (Julianne, Expectations)

School, as they saw it, offered just narrow pathways through different subjects.

“I feel that the classes available in my school to Transition Years are not challenging to me in the slightest. The Early University Entrance Programme seems like a perfect way to challenge young people of high academic ability...” (Sarah)

For some, university would offer a chance to grow in confidence, while one student saw it as a more appropriate context within which to identify his academic aptitude.

“I think I will know more about who I am and what I’m capable of. I believe this course will help me establish my position in more of a real world context.” (Martin)

#### **EXPECTED ACADEMIC INTEGRATION**

They were however, anxious about meeting the high standard that university would call for.

“I’m worried about the academics and whether or not I’ll be at a disadvantage in that area due to my age.” (Sally)

“I’m apprehensive about completing assignments on time, at a certain level and with a decided point.” (Alice)

“I’m worried that because I haven’t done my leaving cert<sup>i</sup> I will have trouble keeping up with the classes.” (Clodagh)

They also expected to encounter uncommon teaching and learning approaches.

“While I expect the standard of academic work to be much higher than what I am used to in school, I expect it to be undertaken in a different way. I think, especially, that there will be a far greater emphasis on research and independent learning” (Ryan).

#### **THE UNIVERSITY STUDENTS**

Fitting in academically and socially were primary concerns, and most voiced nervousness. They worried about the age gap (of two years) between them and the first year students. In their

interviews, many of the early entrants expected a relatively positive response from the first years, though they anticipated that they might initially be shocked.

“I’m apprehensive about the relationships with other university students. I don’t know how they would react to us.” (Michael)

The prospect of being younger than the first year cohort and its social implications were also mentioned.

“I am a little apprehensive at how the other students on our course will receive us – will they feel that the age barrier is just too much of an issue?” (Naomi)

Participants however, were attracted to Early University Entrance because it offered a similarly interested and intellectually comparable, albeit older, peer group. They believed this would create a very new classroom dynamic and make it much easier to be oneself.

“A place on this programme would also benefit me hugely socially and personally because it would mean I would have the chance to work with people around the same if not slightly above my academic and social levels. I can only fantasize about being the person in a group who learns from everybody else, and not the one who carries the responsibility of teaching the others!” (Naomi, Motivation Letter)

One parent commented on the benefits of being with like-minded students.

“Ryan was very happy for the duration - he was with people of his own ability who wanted to work - he was under no pressure and could be totally himself.” (Ryan’s mother)

Typically, top of the class, their ability would likely normalise in shared lectures with similarly intellectually able students. Access to this older, conceivably more mature group, would only enhance the academic and social experience.

“I think there will be great advantages in social life in comparison to school because the people in my class will have chosen to be there and are interested in things that I’m interested in.” (Philip)

## VALUABLE TY EXPERIENCE

They believed EUE would be motivating and help them make more appropriate subject choices for the Leaving Certificate, and later, more informed decisions about a suitable degree programme.

“I have yet to decide on my future career, but having a great interest in politics I believe studying such a course at this stage would be extremely beneficial to me in the future; perhaps helping me to decide exactly what to do with my life.” (Sally)

“It will help me ... decide what to do with my life after school. This is something I hope to decide in transition year, before I choose my leaving cert subjects.” (John)

“It would allow me to return to school in September with a much clearer direction to my studies, which can only be a good thing.” (Maria)

Early University Entrance was considered a very worthwhile addition to their Transition Year and they were keen to take full advantage of what they regarded as an important opportunity.

“I feel that, as a highly motivated individual the challenges presented by this programme would provide me with the perfect transition year.” (David, Motivation Letter)

In a more general sense, the students believed that Early University Entrance would make them define new and more academically appropriate goals.

“I want to be able to feel like I’ve accomplished something really important and worthwhile and that I’ve risen to a new level both academically and personally.” (Maria, Motivation Letter)

## INDEPENDENCE

The expectation of freedom was an attractive one and at university, personal and academic independence was the shared expectation. They predicted a casual learning environment, where they had *more-or-less* sole authority over themselves and their education, and with this experience, most expected to mature.

“I expect it to be relaxed and freer in its atmosphere in comparison to school, but also demanding in keeping up with the work going ahead.” (Ciaran)

“I think that university will be different from normal school because the learning will be less “spoon-fed” information but will be more up to us to go learn for ourselves.”  
(Julianne)

## Author’s Experiences Contacting TY Coordinators

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The involvement of the schools played a minor role in the first year of the programme. Although they were a necessary contributor to a substantial portion of the application procedure, they were of minor import (excepting the odd phone call) once the programme was underway. With the many issues experienced by the first group of students, particularly those centring on work commitments, it was clear that a more concerted effort was required. Though the schools were not forthcoming, they voiced some disquiet and disapproval about the programme. Not alone was its organisation and arrangement met with suspicion and distrust, its being a specialised programme for gifted students raised more than its fair share of eyebrows. The researcher noted:

“I am beginning to see that the school involvement is a very significant part of this, and that there is a real need to build up a strong relationship with the schools involved. We have good, healthy relationships with our students and their parents, and they trust the work that we do. I can see clearly now that the same is not the case for the schools, and that I need to invest time from here on in, and most importantly at the beginning of the next programme (if there is indeed one) in nurturing a relationship with the TY coordinators. I underestimated the need for this, and the results are patently obvious in this case at least.” (Researcher, Diary week 4)

Despite the fact that many communication attempts (e.g. phone calls, invitations, etc.) were not returned, the researcher continued to correspond with the TY coordinators and school principals undeterred. Their lack of response was initially bewildering and most disconcerting, however in year two the researcher reconciled this behaviour as simply as the conduct of over-extended school personnel. In an attempt to curb the confusion experienced in year one, the author endeavoured to meet with each of the TY coordinators ahead of the programme in year two, to explain EUE in detail and address any concerns. It was considered crucial for cultivating positive relationships with each school, and a primary step in achieving a positive response to specialised gifted education. In an effort to convince the schools that the programme regarded

their position very seriously, the researcher reported to them participant attendance each week. Few however returned calls, and only one school visit was made. Though only some responded during the semester, by the end all voiced gratitude for the weekly updates.

In the end, some schools were contented with the amount of contact and explanation about the programme, but others remained dissatisfied. Why might they be dissatisfied? Was it the student's lack of contact, the schools being over-pernickety, or a combination of both?

## Life at University

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### THE COLLEGE TIMETABLE

The modules differed from year to year, as each programme took place during a different semester. Year 1 (cycle A) took place during semester II, while year 2 (cycle B) happened during semester I. The modules undertaken by each course are given in Table 4.13.

The EUE-A students returned to school at the very end of transition year, while EUE-B rejoined Transition year midway through the academic year.

Degree Programme	Cycle A (Year I)	Cycle B (Year II)
<b>B.Sc. Applied Physics</b>	<i>Thermal Physics</i> <i>Electricity and Magnetism</i> <i>Physics Laboratory</i>	<i>Physics for Science &amp; Health</i> <i>Modern Technology</i> <i>Physics Laboratory</i>
<b>B.A. Economics, Politics &amp; Law</b>	<i>Contract Law</i> <i>American Political System</i> <i>Moot Court</i>	<i>Constitutional Law</i> <i>Irish Legal System</i> <i>Introduction to Politics</i>
<b>Common Entry to Engineering</b>	<i>Software Development for Engineers</i> <i>Engineering Sciences</i>	<i>Fundamentals of Electronic &amp; Mechanical Engineering</i> <i>Professional and Personal Skills for Engineers</i> <i>Engineering Laboratory</i>

Table 4.29 – Selected Modules for Years 1 and 2

The modules for the Engineering, and Politics and Law programmes compared well in terms of the challenge provided from year to year. Those for the physics students however were taken from the B.Sc. in Applied Physics in year one, and from three separate degree programmes in year two, which meant the two years differed considerably. The modules balanced out with school commitments spreading out over two or three days each week. Physics-A and

Engineering-B however experienced a significant upheaval as their modules were scheduled over four days each week.

They enjoyed its variety and having an hour or two off at different times of the day was quite liberating compared to school but back-to-back lectures made little time for breaks some days were draining.

### **ACADEMIC INTEGRATION**

The central focus of the EUE experience would always be the ease with which participants integrated into the vastly different academic environment. The programme's success could not begin to be asserted unless the fundamental, intellectual fit between the abilities of these students and the academic level available in the university modules could be shown. This 'fit' could be examined in several different ways, most notably as their ability to keep up with their coursework, but so also in the ways that schoolwork had already failed them. Used to keeping up without a problem (in school), the experience of challenge, genuine stimulation and coping with the academic difficulties typically experienced by the average student, would all now likely become factors in their day-to-day educational experience. How they coped with all of these features would be a determinant of the programmes future viability.

In the next section, these fundamental aspects of their integration are explored. So too will the differing academic experiences, such as different teaching styles and the autonomy required of university learning.

### ***A SUITABLE LEARNING ENVIRONMENT***

#### ***SUBJECTS THAT CAPTIVATE THEIR INTEREST***

In the early days and weeks, the coursework genuinely captivated the early entrants. They relished the range of knowledge at their disposal. Their pleasure was always obvious, and all appeared happy with their chosen course. The more specialised course material was much more engaging than anything they had previously experienced in school, and it thoroughly absorbed them. An enjoyable, stimulating learning experience, it seemed to match their academic needs.



“I also liked how the material that we learnt was very different from anything we would learn in school. The courses were on topics which challenged me and which I found interesting and I feel that this helped to keep me focused.” (Alice, Reflection)

Stimulating and motivational coursework progressed at a good pace and at a manageable level of challenge for the participants in Politics and Law. They looked forward with eager anticipation to the new knowledge they could expect. They enjoyed the reality that *Moot Court* lent to the course. *American Political System* was as enjoyable as it was relevant (the primaries for the 2008 presidential election in the US were at the time underway). With some initial uncertainty, *Contract Law* was actually an unexpected delight. Both *Constitutional Law* and the *Irish Legal System* were thoroughly enjoyable, in large part because of their entertaining and inspiring lecturers. The *Introduction to Politics* module was the only one that posed significant challenge. They found the content tedious and turgid but remained committed to performing well in it.

Both sets of Physics students thoroughly enjoyed the laboratory module. Physics-A considered the *Thermal Physics* and *Electricity and Magnetism* modules to be interesting, though often very difficult. Physics-B also seemed to enjoy their two modules (*Physics for Science and Health* and *Modern Technology*).

Engineering-A took great satisfaction from the *Software Development for Engineers*, which was as challenging as it was enjoyable. The *Engineering Sciences* module branched into three areas; each of which had its own challenges. Engineering-B found much enjoyment in the practical *laboratory and project sessions*. The *Fundamentals of Electronic and Mechanical Engineering* was all the more enjoyable for its relentless challenge, but they disliked *Professional and Personal Skills for Engineers*, which had no real relevance for them at this stage in their careers.

Overall, the coursework excited and motivated them. They enjoyed the challenges and the atmosphere, and although by the fourth week they were fatigued, they remained committed and always positive.

“Brilliant is the only way I can describe today!! For a first day, I was surprisingly nerve free. Though the first lecture we walked in to allowed the reality of it all to hit me, it was exciting much more than daunting. ... Overall, I can't wait for Thursday and the next 12 weeks.” (Maria, Diary week 1)

## ACCLIMATISING TO UNIVERSITY COURSEWORK

In the main, the coursework was pitched at a level that allowed the students to keep up with the pace with relative ease. Though some required a period to acclimatise, others were surprised to find that the material was within their reach.

“Even though we’re only in the first week, it feels that things aren’t going to be as ridiculously difficult as I thought it would be. The lectures are interesting and make me pay more attention and force my brain to work, which I like, but they haven’t made me feel overwhelmed.” (Philip, Focus group 1)

“I thought academically it was easier than I expected it to be. I guessed it would be at a much higher level than the junior cert and in ways it was but everything was explained thoroughly and if you tried you couldn’t be left behind.” (Sally, Reflection)

Adjustment for the engineering and physics students however took a little longer. Some admitted that it felt strange adapting to the material initially and required some work to keep up.

“It just seems simple enough, but if they go into like harder stuff that we haven’t done before, that’ll take extra time to look into it, but it should be alright anyway.” (Brian, Focus group B-1)

For the most part, the level of challenge never really became unmanageable for the majority. Acclimatising, while course and module specific, varied from student to student. Naomi, for example, found one of the engineering modules quite tricky: one that Martin and Michael found relatively easy. Readiness, in the form of prior experience, seemed to be a predictor of integration.

## ACCLIMATISING TO THE UNIVERSITY LEARNING STYLE

The university learning style could be described as a *baptism of fire*. Until they became accustomed to the self-directed learning approach espoused at university, the early entrants grappled with learning. The realisation of what university level learning required occurred slowly as the semester progressed. They quickly learned that lectures comprised just a portion of the amount of time required by each module, and that the remainder was personal study.

“I didn’t realise how much time outside of lectures was needed to be put in till the other day. So adding that in its more busy or something, which I like.” (Sally, Diary week 4)

By the midway stage, they approached their work with greater consistency, maintained by individual work on assignments, lab reports and tutorial homework. Those students who needed to spend additional time working on understanding the course material did so as and when necessary. Only in the middle to late stages of the programme, with assignments pending did some come to the realisation that university coursework was so demanding, and that the lecture material often only served as a springboard to the independent study required for writing an assignment.

“I thought the politics essay I was writing about hadn’t really been covered in class so it was a true representation of our understanding of the material covered, only a chance to show off how well we could research.” (Alannah, Diary week 9)

“They also tended to simply give students concepts and information while comprehension and applications was left to students.” (Ryan, Reflection)

In most cases, the students kept up with the demands placed upon them by university programme. It was difficult at times, particularly when they were settling in and at the times when a backlog of work hung over them. Keeping ahead of prescribed readings and lecture attendance were minimum requirements to stand a chance of understanding the content. Other students acknowledged a failure in this regard, for whatever reasons. Sarah found the academic experience quite stressful. Brian found that the workload oscillated between negligible amounts to a great deal, and in the process learned something of university convention.

“Definitely learned that there is a big atmosphere in college about having to remain on your toes, and on top of your assignments, due to the continuous assessment. Not a lot of room for slip ups.” (Brian, Diary week 9)

### *THE KNOWLEDGE GAPS*

The programme however was not without its difficulties. Deficiencies in content knowledge were most evident. Most had to begin their personal study almost immediately. It was for survival purposes as unfamiliar symbols and new terminology got in the way of new concepts being understood.

“Most of the time I’m studying is trying to figure out what they were talking about, and I mainly study things that I didn’t understand.” (Sarah, Focus group A-2)

The Politics and Law early entrants also encountered new legal terminology, which caused some initial confusion, as it might for any first year student. It was considered a minor issue, easily rectified with some additional revision. Once familiar to them, they maintained the course pace with relative ease.

“The course content, if anything has become easier or we have learnt more of the words associated with our subject; this mainly applies to law.” (Henry, Diary week 8)

A much larger disparity however existed between the engineering and physics early entrants and their college classmates. Not having studied the Leaving Certificate Mathematics curriculum hampered their understanding of the more complex theories. Foundational maths techniques, such as differentiation and integration were recognisable gaps, but so too were the notation and symbols that appeared in new formulae.

“I think for us ... because we kind of start to understand that maths now as well. We can actually focus on the actual engineering involved, so.” (Michael *Engineering*, Focus group A-7)

The disparity for the engineering students was less significant, and while Naomi admitted that confusion beset her initial academic integration, she, like her colleagues were quick to identify these deficiencies. (They addressed them in the second week of the programme).

“... everything that seems really hard is actually turning out to be really simple, but it’s just that the symbols look really difficult and strange. So once you learn them, you’re grand.” (Naomi, Focus group A-2)

“I am going to do some independent research and try to find some explanations for these theories in layman’s terms on the internet and I’m also going to ask my dad to sit down with me at some point and explain these things in basic terms.” (Naomi, Diary week 5)

Any earlier reprieves were temporary. The Electronics module (Engineering-B) was proving a considerable challenge. This constant struggle was new terrain and sometimes disconcerting, but as the knowledge gaps were bridged, their ability to cope with the challenging coursework improved.

“Yeah, like kind of with the homework you know, like you’ll have no idea what it is, when you get the next homework you’ll have no idea what that is but you’ll get the one that was last. It kind of takes you a while to catch up, which can be kind of annoying.” (David, Focus group B-10)

## The Conflicting Experiences of Physics-A and Physics-B

Though Physics-A enjoyed their lectures, the module selection grossly underestimated their mathematical capabilities and these deficiencies were evidenced almost immediately. Thermal physics proved a constant strain, though they did to an extent get to grips with new symbols that had initially caused confusion.

“Our thermal physics lectures are becoming much easier to understand. Just the fact that we’re used to seeing  $1/4\pi\epsilon_0$  and things like that makes it much easier to handle.”  
(Ruth, Diary week 7)

When the topics within the Thermal Physics module changed, they experienced some relief, as the introductory material was usually quite manageable. Overall, they found the course enlightening and engaging, and though during the programme they believed that they had kept up, they struggled enormously with the challenges they faced. Additional tutorials were insufficient to cope with their level of confusion. In the end, the excessively challenging course material contributed hugely to the stress experienced by them.

“I don’t think that I was able to keep up very well with the demands of university. Even though I immensely enjoyed the time I spent at the university and I genuinely feel I’ve learned a lot, at times I felt pretty much under a lot of pressure and stress... I adored the social aspect, yet the work was more stressful than I thought it’d be. (Confusing time – but worth it. I sorted out the stress in the end!)” (Sarah, *Cycle A*, Reflection)

Following poor exam results in cycle A, it was clear that the knowledge gaps were simply too extensive to overcome. It was decided (by both the researcher and the Head of School) that less mathematical modules would be selected in year two. As hoped, Physics-B found the course material easy in the opening weeks of the programme. Apart from elements of the laboratory work and updating their report books, there was little to challenge them.

“...it’s like first and third year math, and second year science.”

(Ciaran, Focus group B-1)

The level of challenge never significantly increased. Toward the closing stages of the programme, Physics-B commented that they only experienced one major difficulty. The rest of the work was really quite manageable.

“...it (course material) wasn’t really that new to us. Like what we did in differentiation, that was huge. That was new, but other than that like, not much.” (Ciaran, Focus group 12)

In terms of challenge, it seemed that the physics cycles went from one extreme to the other. The modules in year two were developed by the School for degree programmes with no requirement of Leaving Certificate maths or science. Of the three course options in year two, Physics-B was regarded as the easiest.

“Like from what I heard from the others, it really seems like we got the easiest course. There doesn’t seem to be any problems really at all, apart from doing the work in labs, but like nothing difficult.” (Fintan, *Cycle B*, Focus group 10)

Much of the stress experienced by the students stemmed from gaps in knowledge. Some were unavoidable (as there was no equivalent, preparatory school syllabus), while others were simply disparities created by them not having taken LC syllabi.

“I knew that I was puzzled not by the actual theories but by the basic formulae and terminology – things which everyone else would have learnt for their Leaving Cert.” (Naomi, Reflection)

As they filled in the gaps, they could begin to see the discipline at heart.

“I think for us, and like I say basically every week, because we kind of start to understand that maths now as well. We can actually focus on the actual engineering involved, so.” (Michael, Focus group A-7)

### **KNOWLEDGE GAPS BRIDGED**

The difficulties were an expectation for all of the students but there was a quiet reassurance when they observed the regular first years shared their confusion.

“Yeah, like all of the first years are completely confused, because it’s just like he puts ... letters, like  $bw = fy$ , and we don’t know what any of the letters stand for, so we just take it down” ... “I think there’s just like a few basic things that we don’t know. Just like the moles, and the  $\frac{1}{4} \times \pi$ , which comes up everywhere. (All agree). So it’s just like when we cover the basic areas, I think we might get it.” (Ruth, Focus group A-3)

As the course pressure eased and each became familiar with the unique symbols and terminology of the discipline, they began to think like physicists, engineers and lawyers.

“a lot about physics is like just about just kind of getting used to solving problems in different ways because he explained to us, we don’t need maths, we’re doing physics. If

you need maths, look it up in the maths tables, but don't spend time on it, because you kind of think physics and you automatically think solving physics problems in a mathematical sense but I've kind of stopped doing that now, so." (Sarah, Focus group A-4)

### **AUTONOMY IN LEARNING**

Coming from secondary school however, they were not used to such autonomous learning. Learning there was a lot different to school, where there was much less *handholding*. If you did not grasp the concept first time around, it was up to you to figure it out for yourself.

"well my lecturers, kind of like 'okay, you've gotten it. If you don't get it you go read something'" (Maria, Focus group A-10)

Many spoke about how the lecturing style promoted self-directed learning skills. Though this brought with it a great deal of responsibility, it was a refreshing change. It made the learning experience more personally fulfilling, and they relished the chance to learn at their own pace and in their own time.

"Doing work was up to you so you were self-motivated alot of the time so you cared more about the work you did and therefore it was more rewarding to do." (Brian, Reflection)

"I enjoyed the whole experience of being at university but one of the highlights was the freedom I got from being allowed to work to my own times (something I have really noticed from going back to school!!). ... since I've been back I have missed being at DCU and the freedom you are given at a university level to be your own teacher and work at your own pace." (Henry)

"I liked college work because it was more independent because there wasn't anyone pushing me to study or do the work so I was able to learn it in my own way." (Clodagh, Reflection)

The coursework seemed to stimulate their internal motivation and fuelled an impetus to work.

Though quite an intense learning experience, it was also confidence boosting and motivating to know they could keep up with university level coursework, and make such academic strides.

“It’s very satisfying to know that I’m able to keep up with the work in here that was set up for people much older than me and that I want to spend time doing it even though I don’t really have to.” (Philip, Diary week 3)

They surprised themselves with the amount of independent learning they engaged in as well as their depth of understanding.

“It’s weird because we don’t even have to go, because like I was talking to [the lecturer] like yesterday, and she was like *“yeah, you don’t need to do all of them [prescribed readings]. I’m expecting you to do like one a week.”* And I did all three of them, and there’s five this week, and I fully plan on doing them. Because there’s no incentive or anything, because like you might as well. ... It’s a completely different environment, because you’d never have that in school... It’s just like you have to be in school, so you don’t want to do anymore than you absolutely have to, if you don’t want to be there because you have like other interests. But it’s like, we’ve all kind of chosen to be here, so I suppose it’s kind of well I want to do this so.” (Philip, Focus group 2)

But they were not the only ones struggling with this new found autonomy. The early entrants could see how this new level of responsibility also affected some of their first year classmates.

“Without a rule or any motivation to be there other than our own, the classes dwindled in size towards the exams.” (Ciaran, Reflection)

### **COMMITMENT TO UNIVERSITY WORK**

The early entrants quickly realised that the university modules compelled a great deal of commitment, and they each willingly made space in their school and personal lives for the programme. They forfeited things like school vacations, family holidays, sleep, and time with their friends. Their schoolwork at times too receded into second position in favour of their college commitments. Their dedication to their coursework was evidenced in their faithful lecture attendance. (Some students did miss lectures, but only in exceptional circumstances such as illness, school obligations or previously planned trips).

Most attended to their studies as required, sometimes surprising themselves with their steadfastness, which was, at times, in obvious stark contrast to their university counterparts. The early entrants observed negative behaviours such as poor attendance, leaving lectures early and watching programmes on the internet during lectures. The Politics and Law students found that they were often among the first to submit assignments. Dropping off an assignment a day ahead of the deadline, Alice described the reaction of her lecturer.



“She was laughing at it yesterday when I went up to her and I was like, ‘*I don’t have an ID number but I’ve sent it in.*’ And she started laughing when she realised I was an early entrant.” (Alice, Focus group 8)

## LECTURERS

Over the course of the semester, they developed relationships with their lecturers whom they found very helpful and academically supportive (and some even made a concerted effort to help them to settle in socially). They seemed to *like* their lecturers as individuals, and described them in positive terms: *pleasant, captivating, approachable, cheerful* and *entertaining*. Their interactions with them were very friendly and relaxed and set down the foundations for a very positive lecturer – student relationship.

“With our lecturers their personality comes across during the lecture anyway, so it’s different because you feel closer to them than you would to school teachers.” (Alice, Focus group 4)

The early entrants found the genuine passion they exuded for their individual subjects, very appealing. It made for an inspiring, enthusiastic learning environment.

“I just love the way that like the way that, like you know you were talking about how they’re all involved in research and everything. I love the impression that you get from lecturers that like they’re minds are ticking away, and they still like really care about their subjects, and like they’re just really interested in whatever it is they’re doing. Like I love that impression you get off lecturers.” (Ruth, Focus group 10)

The early entrants found their lecturers to be very effective communicators, and frequently noted how they surpassed their schoolteachers in this regard. They had the much-wanted depth of knowledge and detail they so craved.

“The other lecturer is a bit long-winded in working through problems but I much prefer his teaching to that of teachers in school as he pays more attention to the stuff behind maths and connects different solutions and formulae.” (Fintan, Diary week 4)

They perceived them as more student-friendly, unafraid to admit their own teaching inadequacies. Engineering-A were pleasantly surprised by one lecturer who adopted a very student-centred approach in her teaching.

“What made a really big difference to me like, I really appreciated was, one of our lecturers ... she was doing thermodynamics with us and she went through it and she was like, “*so do people get that?*” And she looked around the room and there was just blank faces, and she was like, “*okay, well*” and then she was like “*was it the material or is it the*

*way I'm explaining it?" And she was like "I honestly, I really would prefer if you told me and I'll try my best to explain it different ways." And she was really like working, like she just presumed it was the way that she had taught it and not just that the material was hard, which it was just hard. But you would never get that in a secondary school. Like a teacher would never kind of accept that maybe they were the problem. So I really appreciated that." (Naomi, Focus group A-10)*

Not all lecturers were such natural teachers however. Some were wholly uninspiring and made interesting content quite dull. In addition, they sometimes complicated things unnecessarily. These issues made lectures trying, but no more than at school where classes could sometimes seem endless.

*"It's sort of disappointing because you could have a real interest in something but then just don't get anywhere with it. And a balance it's a lot like school, because it just depends on who you're being taught by." (Philip, Focus group B-8)*

Even though the regular course material, while somewhat interesting, was a significant challenge, guest lecturers meant that Physics-A, Politics and Law-A and Politics and Law-B remained positively fascinated by their subject.

*"The course [sic] content is all really interesting, especially the american [sic] politics module. We had a speaker in today, who was a part of the Clinton administration and he had done loads of campaigning for presidents and worked with the secratery [sic] of education and with the president and it was just really cool to get his opinion on the Obama administration, current affairs and loads of other stuff because he could give real first hand experienced opinions which I thought was awesome." (Julianne, Diary week 8)*

As was apt to happen however, they began to draw comparisons with their experiences of schoolteachers, remarking that lecturers display greater tolerance and ease in their teaching approaches.

*"They were a lot less formal in the way that the lecturers did not have as much of a controlling presence in the room, as a teacher would, which led to a much more relaxed atmosphere." (Ciaran, Reflection)*

*"I like how no one was pushing anything on you, the lecturers were more preaching than teaching (in the classical sense I mean) of course they were teaching us, but they weren't trying to beat anything into us if you know what I mean." (Brian, Reflection)*

They detected a subtle, but distinct difference: teachers *teach* and lecturers *present*. It was a more mature learning environment, where students were expected to take responsibility. Theirs was a purposeful teaching approach.

“The lecturers are different to my normal school teachers in that the lecturers come in, say what they have to say then leave, they don’t involve the students as much or give out to them if they’re not listening and this is a good thing because it means it’s up to the students if they want to learn.” (David, Diary week 1)

Whilst their lecturers seemed more relaxed, they described their seeming lack of concern about student performance. This plainly illustrated to the early entrants the degree of personal responsibility they themselves had over their achievements. Exam grades were indicative of their commitment.

“It was much more relaxed. I mean there doesn’t seem to be as much worry, like, the lecturers aren’t chasing you, so. You’re here to do well and if you don’t do it, it’s your problem. It’s up to you.” (John, Focus group A-20)

This is in contrast to teachers who often appear to take personally the results achieved by their students. Teachers are singularly rated on the achievements of their students, while the performance indicators for lecturers is two-tiered: they are rated primarily as academics (i.e. for their research, publications and citations), and secondly as teachers.

#### ACTIVE PARTICIPATION IN LECTURES

Some modules were more interactive than others were. Most of the students from Physics and Engineering tended to keep their counsel in lectures, though one or two were regular contributors. Politics and Law-A found that student contributions were an essential part of their lectures, and if they hoped to succeed, they had little option but to participate. This was however, the most appealing aspect for Maria, who seemed to revel in the banter between the lecturer and his students.

“Moot is completely interactive. Like if you don’t talk, it doesn’t happen; you’re just ignored. But then in like Politics we’re getting all these like situations now, and we have to like work them all out and everybody’s kind of asking on the internet ‘*why do you think this*’, and ‘*what is your opinion*’.” (Maria, Focus group A-6)

“I loved the atmosphere. The way you can interact with the lecturer and get a discussion going and really be involved in the class.” (Maria, Reflection)

## MATURE ATTITUDE TO EDUCATION

University in general brought the early entrants great relief. Here they encountered a mature attitude toward education from both their fellow students and in the expectations, their lecturers held of them. It jarred with the childishness and infantile behaviour they often endured from some of their school contemporaries. The hierarchical nature of their interactions with teachers seemed to promote this immaturity. At university, they did not need to prove themselves; the mutual respect and trust was an accepted feature of the university way. They enjoyed being considered academically mature, trusted to take charge of their own learning.

“Another thing was just how we weren’t babied or treated as kids. The lecturers spoke to the class as if we were adults and capable of thinking which just made such a difference.” (Sally, Reflection)

This was a very new experience for some, quite different to the “them-and-us” mentality that they felt characterised the normal teacher-student relationship. Both students and parents valued this mature relationship with their lecturers, which many found personally maturing.

“He felt treated as an adult and has therefore taken on more responsibility for his own time management and looking after his property, and he prepares himself for new activities without our prompting.” (Henry’s Parents)

The students felt strongly that the mature attitude and relaxed atmosphere stemmed from the undergraduates actually *wanting* to be there. While in school, they talked about being there *against your will*, and having to endure classes that held little interest. At university, students could choose to attend.

“That’s because in secondary school you have to learn, but as Philip said when you come to university, you choose to do it. If you’re choosing to do something you’re much more likely to want to do it than if you have to do something.” (Henry, Focus group 4)

Any immature behaviour or distractions were either ignored by the lecturer or, on occasion reprimanded by other classmates as time wasting; something they had never seen before. They heartily welcomed this mature response from both the lecturers and their classmates.

## LEARNED COMPETENCIES

The experience of EUE provided opportunities to learn new skills, and learn from mistakes made in a secure environment and get a headstart on university. Sarah explained how the university approach helped her to learn new skills.

“I learned a lot about kind of trial and error study habits. Mostly error, but eh, but some things kind of stuck. Like I learned how to work things out a lot better, not just through like what you’d work out in the courses, but kind of methods of problem solving and all that.” (Sarah, Focus group B-20)

On the other hand, Alannah learned a valuable lesson about university preparation from a mistake she made.

“I felt that leaving the essay until days before it was due was a mistake, however at least I know for next time!” (Alannah, Diary week 9)

Naomi explained the benefits of being *thrown in at the deep end*, and how in the longrun, this actually was advantageous.

“I think it was really good for like, kind of, helping me to focus a bit and learning how to teach myself stuff, because like in the first few weeks before we had the tutors and whatever, I had to cover differentiation, well I had to try and do it myself, and that’s like a sixth of the Leaving Cert paper on maths, so like I kind of taught myself a lot of it. And also I’ve covered a good bit of the Leaving Cert course for physics and maths as well, which is handy.” (Naomi, Focus group A-20)

## SOCIAL, EMOTIONAL & PERSONAL INTEGRATION

### EARLY ENTRANTS

From the outset, each course group became very close-knit. They endeavoured to catch up with the other early entrants whenever possible but timetabling often made this difficult. They adopted a communal area in one building as a meeting point for whoever was free at that time. Here they enjoyed both serious and frivolous conversations. They also enjoyed spending any spare time together at a nearby playground, often encountering college students with the same idea.

The parents generally commented favourably on the social interactions between the early entrants, and were pleased that they were part of a large, similarly aged group and had made new friends.

“I think amongst other Early Entrants their (sic) was a great sense of camaraderie and they got along together with great ease and the group was inclusive of all which was great.” (Sally’s Mother)

Early Entrance had meant a significant social and academic upheaval, and on both fronts the group tackled arising issues together. They organised their study and homework sessions together. They preferred to group together on assignments where possible, and organised group study meetings in the run up to exams. In their class groups, they watched out for each other academically, and as a whole, they socially provided a safety net for each other, inadvertent though it was.

“We all work together and attempt to solve problems on a unit.” (Henry, Diary week 8)

“Sometimes I didn’t understand the material but for the most part I was able to overcome this with help from David and Alex.” (Brian, Reflection)

To the early entrants, the weekly focus group held greater social than research relevance and gave them a valid excuse to spend some time together. Such was the closeness of the group that their interactions extended to their university-free days. During each semester, a group outing was arranged. The students seemed to thoroughly enjoy these group events.

“OMG our bonding activity was really fun. Like a super long focus group or something!” (Julianne, Diary week 6)

The EUE students worked well as a collective, and genuinely made good friends with whom they hope to remain in contact when the programme has concluded. For those who endured an exacting academic experience, the social aspect carried them through the difficult patches.

#### ***RELATIONSHIP DIFFICULTIES BETWEEN THE EARLY ENTRANTS***

Some students however did not find friendships with the group. One student in particular felt socially isolated from his EUE class group, to whom he did not warm. He struggled to form strong friendships. Though he did seem to make friends early on, these never developed into anything other than mere acquaintances. It was a lonesome period for him as he did not seem

to gel with his EUE classmates, and while he seemed quite self-sufficient, it was nonetheless a most unsatisfactory aspect for him.

“This was the disappointing aspect for me. The Early University students seemed to form a very strong social bond which Fintan did not share. He is confident and happy in his secondary school and extremely comfortable with his peers - he identifies himself very much with his friends before his family! So he was fairly downbeat towards the end of the Early University Entrance.” (Fintan’s Mother)

This was quite an unexpected outcome. Where a large cohort of students had been selected to participate, it was thought that such an issue would not have arisen.

### *INTERACTIONS WITH THE FIRST YEARS*

The early entrants were surprised at how effortlessly they blended into the University’s student population. This was particularly the case in the second phase, when the programme began in semester one. They looked the same, were treated the same as any first year and were generally assumed to be university students when approached by others on the campus. Right from the very start, both groups felt accepted into the university community by the first year students.

“Other students don’t seem to have any problem with us there. If anyone is talking to you it’s fairly straightforward like a normal conversation with anyone else. Either they don’t mind that we’re younger or they don’t know.” (Philip, Diary week 4)

During this discussion, some early entrants commented that some of the first year students looked even younger than they did, which might explain why they integrated so readily.

“Most of them are just like halfway through being 17, so there’s not a lot of gap like really.” (Brian, Focus group B-4)

Still many of them embarked upon Early Entrance deeply conscious of being much younger than their university contemporaries. There was a deep-seated mindset that they were different. Some felt that they had no real *right* to be there, and regarded themselves to some extent as *illegitimate students*.

“Initially she felt very much ‘different’ and that she stood out in a negative way, e.g. nerds etc.” (Naomi’s mother)

“Although most first years did not realise I was younger when I talked to them I admittedly felt quite self-conscious while talking to them and I felt this made it harder for me to integrate into my class.” (Ryan, Reflection)

This frame of mind took a little time to abate, though traces remained.

“I’m able to talk to people and don’t mind them knowing that I’m not technically supposed to be here.” (Philip, Diary week 8)

They seemed fearful about what connotation being younger might bring or that it might make them appear to be a nuisance in the classes they had joined.

“... we had software development; the class itself was good unfortunately...well we kind of stuck out like sore thumbs because although ... Martin decided to make it a mission to shout out the answer to every single question [the lecturer] uttered, rhetorical or not, even once or twice before [the lecturer] had finished speaking!!! Let’s just say a number of our classmates who were just starting to accept us as friends got a nasty reminder of who we are and why we’re really there.... ☹” (Naomi, diary week 5)

The early entrants too were reticent in their early exchanges. If they happened to be sitting beside their older classmates, they would converse, but still sought the sanctuary of their fellow early entrants.

“For ages it was just the three of us. I feel so, like the losers of the group for ages. It used to just be me, Michael and Martin just on a row behind everyone else, but I don’t know, I’ve made a point of like when we walk in going up and sitting beside them now, because they don’t mind. Like obviously they like chat to us and stuff when we sit beside them, but you know the way there’s always that awkwardness when you walk into the room and you’re like *oh God, where do I sit?* Like today I was by myself and I sat with this group of people, and I was chatting away.” (Naomi, Focus group A-9)

As the semester wore on, the relationships between the first year students and the early entrants developed to the point, where they would have lunch together or stop to chat in the corridor or arrange to meet off campus during the day.

Individual group experiences varied. The EUEs in year one (semester II) had somewhat different encounters to those in year two (semester I). The former were more recognisable, having joined midway through the year, while those in year II seemed to slip into the university completely unnoticed.

Much to their surprise, the Physics-A early entrants were greeted warmly by the first year students. They were friendly and welcoming, and curious about the programme. They



accepted their younger classmates and treated them just the same as any other student. They took them “under their wing” and said they would look out for them.

“... the only kind of reminder we got that we were different was they were kind of conscious of us, conscious about our safety and they were like ‘are you okay for lifts home?’” (Sarah, Focus group A-1)

Their open-mindedness and immediate acceptance would make them feel more secure.

“I think it helped a lot that you know in physics everybody warmed up to us like *instantly*. I made like so many friends. And it was a really good, kind of, booster, because you know they liked us regardless.” (Sarah, Reflection)

For Engineering-A, the first years initially seemed hesitant. Some early entrants believed they were actually *afraid* to involve themselves with them. Whilst to a degree, they were curious about their university status, when they realised they were TY students some of the first year engineering students offered to teach them any maths that would help them catch up.

“It was kind of different with the Engineering with making friends. Like it took us ages, but by the end of it, when we were like meeting up with them outside college and whatever, like I realised it wasn’t that they didn’t want to talk to us or whatever, it was that they were scared that they’d offend us or say something weird or whatever. But I think it was really good. Like it would have been nice if they warmed up to us straight away, but it’s also really good to know that.” (Naomi, Focus group A-20)

The early entrants’ integration into the Economics, Politics and Law class in year one (semester II) was an even slower initiation. The majority of the class seemed cool and aloof. Though some were exceedingly friendly, they felt others ignored them. The class in general seemed cliquy to them, seemingly preoccupied with other things. They were reassured by one of their lecturers who said it was just their disposition, and they should not perceive it as a personal affront. For them, relationships did not seem to form properly until late in the semester when they were involved in group projects.

“When we were paired up with first years to work with though they were really nice and stuff. They did treat us just like any other student and so I guess by working with them we got to know them a bit more but also they got to know us too.” (Julianne, Reflection)

The first group of early entrants were surprised at being so readily received as bona fide students. Their expectations grossly underestimated the extent to which they would integrate. By the end of the semester, Law and Politics-A, Physics-A and Engineering-A seemed to have made firm friendships with some of the first year students.

“Even in class, the people we were almost afraid of in the beginning have become people I'm proud to call friends.” (Maria, Diary week 12)

“In physics we bonded with the class early so by the end we had become great friends with them and still sometimes stay in touch.” (John, Reflection)

Social experiences in year two were quite the reverse. Law and Politics -B received quite a different reaction from the first year students. Some poked fun at them for being younger and not *legitimate* students, but it was playful and unthreatening.

“The first year students have been extremely friendly this week and have easily introduced themselves and others to us. We have told a few of them that we are Early Entrance and they are still very welcoming and nice. I think that this has made a clear difference in seating and atmosphere during the lectures for us.” (Alice, Diary week 4)

Two of the early entrants remarked that they likely composed the largest group in their class, and were perhaps themselves threatening to the first years.

Conversely, the physics and engineering students in year two blended in so well that they felt overlooked. Though they enjoyed positive relationships with their lab and project collaborators, the remainder paid little attention to them. Physics-B sat amongst different student groups (as each of their modules originated from a different degree course). Too many unfamiliar faces made it hard to integrate and there were few opportunities for interaction. Ciaran found that there were already established groups, which made interactions even more difficult.

“... non-academically, it was quite hard to actually talk to most of the students, as they all had already become friends and created their social groupings in their other modules, so bar labs, we had no reason to talk to them, or them us.” (Ciaran, Reflection)

“They mostly ignored us. Not in a purposeful or particularly mean way, but in much the same way you would someone at the bus stop.” (Ciaran, Reflection)

Still Ryan was a little more positive.

“Although I have not had many interactions with 1<sup>st</sup> years, I get the feeling that I'm accepted, or that I seem to 'blend in'.” (Ryan, Diary week 1)

Engineering-B also seemed 'to fly under the radar' for the most part.

“It was minimal to be honest. We couldn't really socialise along with the first years (going to pubs etc.) but I did make friends with the people in my project work, who I still talk to.” (Brian, Reflection)

## **GROUP WORK**

Each course involved a laboratory component, project or assignment that required the students to work in groups. The lecturers generally placed the early entrants as additional members so that the first years would not feel they had to “carry” the younger team member. They found that as well as allowing them a legitimate means of breaking into the first year student circle, the experience of working alongside these academic peers was worthwhile, and all felt they contributed positively to the task in hand. For most, it was the only way for them to become acquainted with the first year students, as Maria explains:

“We had a meeting with the 1st years today, about the Moot, so that gave us a good chance to chat with them and just generally hang out. It's the same few who we talk to the whole time but there's no harm in that so it's all good.” (Maria, Diary week 8)

Group work however was not without its issues. David struggled with the lackadaisical approach of the first year group to whom he was assigned. Henry found himself falling into the unlikely position of team leader, as his teammates gladly assumed secondary roles (they each admitted to feeling less pressure taking on just a portion of the overall task). The weight of the task fell to him, and he alone assembled the individual compositions into one cohesive document.

## **DIFFERING LEVELS OF SOCIAL INTEGRATION**

Though EUE had opened up a new social outlet in both its assembly of a large peer group of similarly aged students and the potential for interaction with first year university students, the difference between them was stark. EUE highlighted the difference between full integration and the forming of friendships, and semi-integration and the making of acquaintances. The expectations of some were of friendships with first years, but the limited opportunity for interaction meant only partial connections could be made. Because they stood out in year one, they were *noticed* and the first years made an effort. Their anonymity in year two meant they were largely overlooked.

Though both years were quite different in this regard, the students were disappointed with their progress in making new friends amongst the first year population. With interactions limited mainly to lectures and labs (to them more outlets would have been preferable), some of the year two students were unhappy not to have formed friendships at all with the university

students. Some did not reach the level of social *saturation* they had expected or intended. Their interactions permitted acquaintances, but not real friends, as some had hoped. Sally, who believes she makes friends easily, lamented this:

“We’ve been here for seven weeks now though and we really haven’t made many first year friends at all, there are a few who we talk to during class or before lectures but they’re more acquaintances than friends. It’s probably harder for our course because there’s no practical element.” (Sally, Diary week 7)

In all cases, lab partners and teammates were very friendly toward the early entrants and were praised for their helpfulness, friendliness and patience.

“The first years treated us very well. They helped us out when we had problems at the start of the semester.” (Michael, Reflection)

(Indeed, on a couple of occasions the early entrants returned the favour helping the first years in the laboratory sessions). Most found that only a few students consistently conversed with them. They were invisible to the remainder.

Reflecting on the programme, Maria commented that one of its merits was the peer group of early entrants from different disciplines. Socially, this enabled them to get to know each other, as well as the first year students that were friends with their fellow early entrants. Knowing how well the other early entrants were integrating socially made her more confident in herself and be more outgoing. She found being by herself gave her greater opportunity to interact with her university classmates and that the timetable which hampered socialising with the other early entrants, in fact better placed her to develop friendships with the first year students:

“I think because ... (we have) completely opposite timetables to everyone else, I kind of felt that ... it’s allowed me to be more friendly with people in our class as opposed to like the group. ... I’m nearly as friendly with the people in the class as I am with the 8 of us (early entrants)” (Maria, Focus group A-11)

Some students were surprised that the social element of the programme surpassed the academic aspect.

“I came in kind of more excited about the whole doing physics than the actual social part ... Even though physics was great too, it was so nice meeting people, and just hanging around and you know. That turned out to be the more enjoyable part.” (Ruth, Focus group, A-20)

## *SOCIAL DISAPPOINTMENTS*

Though generally contented, some of the early entrants complained about aspects of their social life at university that disappointed them. Some would have preferred to greater social involvement, as others struggled to interact at all. Prevented from participating in certain events, prohibited from entering the campus bar and from joining any of the Student Union clubs or societies, made forging friendships and interacting with the first years a significant challenge. Politics and Law-B noticed how little the first years interacted in lectures. It was only during announcements about class events that the early entrants realised how limited a scope lectures provided to meet and chat.

“Yeah, because like they don’t talk in class, so ...they all go get wasted and that’s how they socialise, and we’re just kind of like, ‘*yeah okay. No pressure!*’” (Sally)

“... because we’re not actually college students it’s kind of isolating, or something. All the law students are bonding on some night out tomorrow, which we can’t go to because it involves getting ‘hammered.’ So we’re missing out there.” (Sally, Diary week 4)

They were included (invited along by the first years) but this fell outside of what they were permitted to attend. In ways, their youth was actually very apparent.

## Continuous Assessment, Assignments & Exams

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Participation in university modules also required students to engage with their assessment procedures: assignments, lab reports and the end of semester exams. These requirements frequently brought about issues and caused the students to suffer from self-doubt and uncertainty over standards.

### CONTINUOUS ASSESSMENT

The engineering and physics students were required to submit lab reports every week following their practical session. Most of the students found these relatively easy to compose, and quickly got used to the format, which differed significantly from a typical report at school. This additional work was difficult to begin with, though within intellectual grasp. They found them

long and time consuming, though not much different to what they were used to at school. Having completed these by the deadlines sometimes caused them considerable pressure.

“I understand most of what we are doing in labs. The lab books are sometimes difficult to write but I manage to get them done.” (Clodagh, Diary week 8)

“Well if you work completely hard for the whole three hours like in labs, you normally get the experiment and most of it written up. Then like half an hour at home to finish it off.” (Fintan, Focus group B-10)

The lab lecturer commented at the end of the semester that Physics-A had been a little wayward in handing in their lab reports. Thus, a much tighter rein was kept on Physics-B.

Only being permitted participation in one laboratory session each week was a source of disappointment to Physics-B. Missing the morning practical, they often spent the first part of the afternoon catching up before taking on the afternoon’s experiment. It was a source of irritation, but could not be helped because they were not permitted to attend the morning session.

“The lab class itself worked really well yesterday though. They hadn’t a morning session so they were starting from scratch on a new experiment and we didn’t miss anything. It was the first time I was able to complete the sheets on the experiment and hand them up.” (Fintan, Diary week 5)

The lab reports also proved a constant challenge for the Engineering-B.

“Some of the bad things about the reports are that they are very long and sometimes you can get writers block. The worst parts about the assignments are that for electronics we haven’t done the same type of thing before and we have no idea what to do.” (Alex, Diary week 9)

The engineering students were also required to complete continuous assessment work, which too was not without problems.

“Like in school, 20 minutes before the test you can have a quick look over it and take in most of the stuff (Philip –Yeah) but like here you couldn’t really do that. You know the CA, like its not really all about just the test at the end, so you have to kind of work through, work it through in stages.” (David, Focus group B-12)

## ASSIGNMENTS

The Politics and Law students had something of a baptism of fire when they began to write their assignments. Many struggled with the writing format, which was a lot different to the more

familiar school requirements. They contended with plagiarism rules, referencing, footnotes, and a much longer word count. They grappled with proper researching techniques in a bid to compose an essay that would measure up. They struggled with the detail that was required, and found regularly that the assignment titles differed greatly from the course material.

Some of the Politics and Law students complained that their assignments often dealt with material that extended well beyond what they had covered in lectures, and caused them much uncertainty and confusion. They remarked that school assignments were much more straightforward, with obvious assessment procedures fitting the modules of work they studied.

“I think there’s loads of information coming at you but there’s nothing you do with it when you get it...like you don’t do questions...” (Sally, Focus group A-8)

Still, while the university approach was confusing for some, it lent itself to being more student-centred. Philip explained how he welcomed the opportunity to input his own opinions into the assignments, though he did wonder if he was doing so correctly. Alannah said she felt safer working in a group, where the combined document would have some level of validation.

## EXAMS

Each degree programme had a number of continuous assessments (CA), which contributed a portion to their overall module grade. Table 4.14 outlines the modules and the contribution of the final exam and continuous assessment to the overall grade.

The prospect of exams brought about a mixed response from the students. Though all wanted to perform well, their expectations in this learning environment of achieving top grades, may not very well be realised. Average or above average marks would be an achievement, and few hoped for anything better.

“I was hoping to get a decent mark in my exams (Decent being a 2.2, 2.1 or first) not that I would have minded getting a third!” (Henry, Reflection)

“At least a 3<sup>rd</sup>, so its a good pass, without being over ambitious, or just scraping a pass.” (Brian, Reflection)

Module	EUE group	CA	Exam
Electricity & Magnetism	Physics A	25%	75%
Modern Technology	Physics B		100%
Physics for Science and Health	Physics B	20%	80%
Physics Laboratory	Physics A & B	100%	
Thermal Physics	Physics A	50%	50%
American Political System	EPL A		100%
Constitutional Law	EPL B*	30%	70%
Irish Legal System	EPL B	30%	70%
Introduction to Politics	EPL B	30%	70%
The Law of Contract	EPL A	25%	75%
Moot Court	EPL A		100%
Engineering Sciences	Eng A	30%	70%
Fundamentals of Electronic & Mechanical Engineering	Eng B	30%	70%
Professional Skills	Eng B	100%	
Software Development for Engineers	Eng A	50%	50%

**Table 4.30 – Course Modules**

\* Maria (EPL A) took the Constitutional Law Module, in addition to the already selected modules.

### **EXAM STRESS**

The issue of the end of semester exams really only entered into their minds at the programme's midway point, and stress only became apparent at the latter end of the programme. It is difficult to say whether this stress was different to their normal response to impending exams. The early days of the semester somehow seemed trouble-free by comparison, academically (and emotionally).

“The beginnings of the course, are much easier, when you just have to keep up and keep your head down, when you get towards the end of the course, everything seems to come at you at once. The end of the course, exams, back to school etc. It's much harder



to deal with, and the little things start to get you down. It's tough to deal with at times, when your head is about to explode. Taking time out away from DCU helps." (Julianne, Diary week 11)

All students were anxious to some degree about the prospect of taking university exams, and each struggled with different feelings. Some worried about whether they would meet the standard, while others were just nervous about the prospect of actually doing them. One mother remarked that dealing with exam stress was a positive learning experience in itself.

"... if you starting thinking about the exams, I get this feeling of dread" (Naomi, Focus group A-10).

Julianne explained the uneasiness she was felt at perhaps *not* being the best in her class.

"... starting to panic about the exams. I know you said that you don't expect us to do well, but we are all overachievers, it's what we do best. I guess it's like finishing 2nd in a race. No one can dispute that you didn't do really well (unless there is only 2 of you in the race), but its not the same as winning, 2nd is still 2nd, never 1st. Not saying that I want or expect to be best in the class or nothing, but to do well is becoming ever more important to me, which I didn't think it would." (Julianne, Diary week 11)

#### ***COPING WITH THE PROSPECT OF FAILING EXAMS***

In general, the students were broadminded about the possibility of failing exams. The exams having no direct educational consequence, other than what it would mean to them personally, made the prospect of failure more bearable.

"I really do want to do the exams now, and I don't mind not doing great in them because in the end of the day nothing's expected of us so anything's an improvement." (Sally, Diary week 11)

"Yeah, I'd say everyone could pass most of them, but like, I don't know. I'm not aiming to get like really high marks. Like I'm aiming to pass and that way like, if I'm aiming for high marks and I fail, I'll be really disappointed because I'll be like *oh my God I thought I was going to do so well*, but if I'm just kind of aiming for 50 or 60, you know even if I fail, I'll kind of be like at least I worked hard. But you know there's no point in being that gutted, because it's not the end of the world." (Naomi, Focus group A-6).

Some students explained how a failure grade would in fact be personally distressing.

"I would prefer to not have it validated that I passed, than have it validated that I failed... It's not going to bother me that I didn't do the exam, but it would bother me if I did do the exam and failed." (Martin, Focus group A-10)

"I don't want to do them in case like I do really badly and then everyone's like, '*oh how'd you get on?*' and they're all like ... and then you do dreadfully in the exams and they're like '*oh?!*'" (Sally, Focus group B-3)

Others found themselves in a bind: in sitting the exams, they faced the prospect of failure; choosing not to sit the exams, they feared forever wondering how they might have performed.

"I don't know I think I would be disappointed if I didn't do well, and I kind of have in my own mind how well I want to do, but I think if I didn't do them, that'd be worse because I'd never know how well I could have done, so it's kind of weighing those two up."  
(Maria, Focus group A-6)

Some of the students saw a wider implication of poor exam performance. They worried that a failure on their part would equate to the failure of the EUE programme.

Sarah            "No, mainly I think I'd kind of feel like I'd failed you (the researcher). (You can't fail me!). I'd feel like, "*oh no, poor Catriona. She failed.*"

Michael        But if we all failed, then wouldn't it be like a failure, the experiment?

...

John            Because it's a pilot, it's still an experiment. If everything goes badly, it won't happen again."

Most of the students seemed happy to validate their experience by taking part in the end-of-semester exams, even though some modules were quite testing. Some felt that as they had come this far, then they may as well. Others felt that the exams provided an appropriate conclusion to their experience, and illustrated exactly what they had done there.

"You didn't do it all for nothing." (John, Focus group 6)

"...there'd be nothing to show and no real idea of how well or how much I'd gotten out of it." (Maria, Focus group 6)

"I had expected the exams to be a lot more difficult than they were and although they were not easy I also felt that they were an experience which I needed to have to complete this programme." (Alice, Reflection)

## **OPTING OUT OF THE EXAMS**

Philip undertook to do a number of the assignments during the term, but shortly before the exams were due to begin, decided that he would not undertake them. He had earlier given reason to believe that he would participate.

*“I’d like to have done something at the end of it, so that people won’t just be like *ah you were just kind of floating through*. So that I actually have something.” (Philip, Focus group B-8)*

His reasons for opting out just one week before they were due to begin, were many. He had anticipated having a long period to unwind over the Christmas break, but this did not pan out because of extracurricular engagements. Along with a very time-consuming commute, he felt under great pressure when the exam preparation week arrived. He began to consider the programme in a broader sense and felt that, for him, the effort he would expend far outweighed the benefits. The programme, to him, at this stage was of little value, particularly as he already had a greater sense of his abilities at university through his assignment grades.

*“The effort I was putting in didn’t seem remotely proportional to anything I could get out of it.” (Philip, Why I didn’t do the Exams)*

Philip had initially opted out of the assignments for the same reason. Though he wanted to do them, he found that he would have to decide between his outside commitments and university study. When he weighed up the two, he felt that the university experience was of secondary importance.

*“I’m not doing it. It’s kind of annoying though because I actually do want to do this. It’s like for once there’s actually work that I want to do that I can’t do, rather than having loads and loads of homework and then being more interested in something else. It’s just now I have to really figure out where my priorities are in the more long term. Because I didn’t expect that – the work, that things would go so backwards. ...like my own kind of work. (So you’ve other commitments outside of here that are making it harder to keep up with things). Yeah.” (Philip, Focus group B-8)*

## **EXAM PREPARATION**

Preparing for the end of semester exams brought about different reactions. Some early entrants found difficulty with the manner in which some lecturers covered only a small portion of the examinable coursework, while others were so thorough as to include exam questions in

lectures. In this very different educational landscape, their time-honoured approaches to exam preparation were failing them.

“I mistaked (sic) the timing.” (Sally, Focus group 8)

Julianne recounts her less than satisfactory Moot Court experience:

“Well today was probably one of the more stressful days I've had here. The Main Moot really freaked me out cause, the whole time we have been here in moot court has been working towards this Main Moot ... all leading up to this 5 minute speech. And I was really scared the other day but, by the time we had to go into the room and sit, all formal and polite, I was fine. I knew what I was going to say and it would all be good. But my heart sank when the judge ... told me that the court ... didn't want to hear the facts of the case!!! THATS ALL I HAVE TO SAY!!! YOU CAN LOOK YOURSELF THERE IS NOTHING ELSE ON THIS PAGE! So I stood there, and absolutely nothing came to me. The tumbleweed slowly passed by. Awkward silence - sit down Julianne. And I was worried about not having enough time! Well yea I did have enough time, I lasted only about 30 seconds ... I just feel like I put a lot of work into this especially, thinking that this is like the one module I can realisitcally pass... and it bombed. Thinking back on it now, I have like a ton and a half quick answers. I'm supposed to be the one who is really quick thinking on her feet and all that jazz but not today ... I just feel like I didn't really get a fair chance to show that I had done alot of work, and that I did know what was going on in the case.” (Julianne, Diary week 11)

The university experience seemed to bring about new levels of stress and nervousness. These usually self-assured, confident students now began to question their abilities.

One interesting aspect of the programme was whether the high ability, transition year students would actually be on the same academic footing as the first year college students. During the times where they fell short, it was interesting to see how they coped with not being at the top of the heap. Used to achieving top grades with ease, slipping into second position was a daunting prospect for some. Achieving high grades was second nature, and though not always realised, they at least knew they were attainable. The upward shift in standards was now challenging the academic ease they had always known. It meant uncertainty and insecurity. Achieving less than the highest was less unnerving for others. It was instead humbling, in fact strangely intriguing to be less than average for once.

“... it's intriguing interesting to learn how to be at the bottom of the class, and how to get yourself average with everyone else, but I think that's one of the best bits. You know getting to do the opposite role for a while. Depend on other people to explain things to you.” (Naomi, Focus group A-7)

In hindsight, some early entrants were annoyed that they had not done sufficient preparation and felt they should have begun their exam preparation earlier, while others felt the grades they achieved correctly reflected the work they had done.

### *EXAM GRADES*

Though they may have encountered increased levels of challenge, extraordinary intellectual demands and at times doubted their capabilities, the early entrants achieved grades at or above their first year classmates (with the exception of Physics-A). (A comprehensive breakdown of their exam results may be found at the end of this chapter).

While they were not aware that they had outperformed the first year students (as the programme had concluded by the time the grades were collated) in earlier instances, they seemed to enjoy the fact that they could outperform them, no matter how minor.

“And even though I got 26% in the test, I am proud! Especially having been out the week before, and also I got the last question right, something nearly half the class didn’t.”  
(Sarah, Diary week 6)

“only 2 people in the class had full answers, one of those was me. Granted, there were only 21 people in attendance, but half of them were final year students so I feel I must be at least slightly proud of myself.” (Maria, Diary week 10)

“A couple of results from the lab in programming came out and I know that myself and Michael both were on the lists for the best in some labs. 92.25!” (Martin, Focus group A-7)

This section highlighted how gifted students, through academically incompatible school experiences, are very often not equipped with the coping skills for dealing with academic uncertainty and stress. Average-ability students, who encounter these feelings frequently, have developed their own skillset to deal with these situations. As high ability students rarely meet intellectual activities that they cannot overcome, facing these issues is a new, unnerving experience. At interview, the early entrance candidates were asked to name a situation that posed academic difficulty for them, and how they had coped with it. Participants were selected largely based on how they answered this question. (The answer to this question given by one

student at the interview initially ruled him out. However, following representations by one of his parents, he was awarded a place. This same student opted out of the exams at the end of the semester).

## Life at School

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The majority of students testified to a positive school experience, though individually, they could be very different. For most it was positive or relatively positive socially, but academically mediocre. Only one student had a favourable experience in both facets of school-life before, during and after the programme, and in light of the other programme participants, she admitted that she was very fortunate in this regard. The early entrants only really enjoyed attending school while the programme was underway to meet up with their friends; the academic component seemed to interest them little.

“I have my friends in school. That’s kind of it.” (Alannah, Focus group B-8)

### ACADEMICALLY NEGATIVE

Their complaints about school were far-reaching. In general, they found its ability to challenge is disproportionate to their capabilities. Many complained about feeling bored and frustrated with limited course material that was simply too easy. School seemed to be all about ‘spoon-feeding’ much to their dismay. There was rarely an opportunity to genuinely contribute their own ideas into their schoolwork. The slow pace of learning seemed to be a constant source of frustration for some, and they longed for a more effective learning experience.

“It’s just like if I spent like a month of just maths classes, I could easily go into this course like. And I have to now go back and do seven subjects for my Leaving Cert that I’m not going to need ever!” (Alex, Focus group B-4)

Several early entrants felt that their schools were inflexible to their individual needs as gifted students.

“The Irish school system is generic and standardised. It is not built to facilitate people of every ability, but to facilitate the average student. This does lead to me feeling a bit limited and frustrated a lot but I understand why the system is how it is.” (Naomi, Reflection)

Some students remarked that at school you are legally required to be there and participate in certain subjects, whereas at university, it is your choice whether you attend and the subjects you study.

“I guess one of the biggest differences is at college you choose to be here, and then at school, like whether you like it or not you have to sit through it. And even if you do like the subject, there’s still a little bit of resentment for the fact that you have to sit down for three hours straight.” (Ruth, Focus group A-10)

## LIFE AT SCHOOL DURING EUE

Fitting a part-time programme into school that was held at a different institution was likely to be problematic. The majority of students did not encounter difficulty in the coordination of Early University Entrance into their school’s Transition Year programme. In some, a concerted effort was made by school management to ensure their participation: freeing up their timetables and facilitating it around the school’s modules. Though some schools were cautious of the personal impact of EUE (e.g. stress), knowing the student’s determination, they reorganised timetables, commitments and requirements to accommodate. Their compliance was contingent on the programme not “taking advantage” of the Transition Year, as long as they (the early entrants) were not simply being *used* for research purposes.

While some students found that the school authorities were very accommodating, this was not always reflected at classroom level. In the early weeks of the programme, many of the students found themselves having to explain to different teachers from one week to the next why they were absent or had not completed assigned work. It seemed that many individual teachers were conveying their irritation at them missing classes and school time to the school’s upper echelons.

“I don't think very many of my teachers care any more because my tutor and year head talked to some of the more...ehh difficult teachers shall we say.” (Julianne, Diary week 6)

One student accepted the offer of individual letters for each teacher, so that the programme could be explicated properly, and this stemmed some of the ambiguity.

Absence from school often meant that the early entrants missed important information, sign-ups, etc. that their friends and teachers neglected to inform them of. Thus, they frequently found themselves trying to catch up on matters.

“Well we had to pick our subjects this week. That was one thing I meant to say. I went in and everyone was like ‘*oh we picked our subjects*’ and I was like ‘*uh-oh*’.” (Julianne, Focus group A-5)

### **NOT MISSING MUCH (ACADEMICALLY)**

In contrast to the school attitudes, there was a general feeling amongst the early entrants that academically, Transition Year held little significance. Schoolwork was scant and what was on offer was all too often uninspiring and insipid. While some enjoyed particular modules, the common view was that their time was better spent at Early University Entrance.

“It’s just like a complete doss [Transition Year] really because I’ve got no homework to hand in. I’m not going to be doing any homework, so I’m just kind of observing class and like we’re not doing really much anyway. ... We’ve done like ten pages in our book this entire time, and English was doing a project by ourselves, doing nothing really. It’s just TY, not much going on.” (David, Focus group B-7)

It appears that the schools had one opinion of commitments during TY, and the early entrants had a different one. It is beyond the reach of this study however to determine if this attitude is any different from that of their school-based, TY classmates.

### **DON’T ENJOY GOING TO SCHOOL**

Some students used EUE as a means of escape from school.

“It sucks bad. I think it just, like, school sucked before I got into it, that’s why I did the programme really. I was so motivated just to get out of there for a while, because even like my mam said the other day, like and she wasn’t even messing, that if I hadn’t have done this, I would be suspended by now. Like I just get frustrated, but I don’t know, I think that’s just like the way I am.” (Naomi, Focus group A-10)

Some students mentioned they found it hard to enjoy going to school as the programme got underway. Philip especially found school increasingly difficult to deal with, and his parents mentioned that the only negative change they witnessed was that he now had “no interest at all in ordinary school life”.



Though some students were happy to miss school, others missed the atmosphere, particularly the social atmosphere, and missing certain academic subjects. Many surprised themselves at how happily they forfeited their school midterm break to come to EUE for lectures.

While the early entrants were considered highly self-motivated and diligent students, they were apt to take slight advantage of their dual studentship. On a number of occasions, they admitted to have used DCU as a means to opt out of their school commitments.

Ciaran found that his attitude toward school changed as the term progressed.

“While I’m still willing to go to school when I don’t have university, I feel that it is a bit more reserved and there’s much more of a force making you go to the classes, rather than a genuine interest in the subject. I think that I am spending a fair amount of time in both school and university.” (Ciaran, Diary week 3)

#### ***OTHER MISSED ACTIVITIES***

Early University Entrance was found by some schools to impose significantly on their planned Transition Year programme. The early entrants mentioned examples from practically all aspects of Transition Year. Many lamented missing particular subjects that they enjoyed or felt were quite important. This was often contentious for these schools, the students and sometimes their parents.

“Very difficult to attend Transition Year - 4 out of 5 days spent at DCU. Fintan's school was close to DCU but it still proved almost impossible to get any real access to the TY program (which in Mount Temple is really very good). He did very averagely overall in TY achieving only a pass grade. More importantly he missed opportunities to travel, act, play sport and generally integrate with the staff and students.” (Fintan’s Mother)

Some students forfeited school trips to participate, while one parent said EUE had hampered any real involvement in TY. Others mentioned missing the school musical, sport, work experience, trips. Others still said EUE had not caused them to miss anything. Clearly, the varied levels of communication required of each school’s TY reflect the plethora of opinions.

One TY coordinator said it was a year of immense personal development, and wondered how the student could hope to be integrated into the TY year if they were absent.

The parents of one student were dissatisfied that the timetable meant their daughter missed quite a lot of school. They felt she had become quite apathetic toward school as a result. (The same student transferred to another school at the end of Transition Year).

Others mentioned the basic class work that formed the basis for 5<sup>th</sup> year, as being a potential problem later on.

“He did miss an awful lot of basic classwork with the result that he wasn't happy to take the end of year exams in Maths and Irish, but we think he will catch up again easily in the Autumn. Henry missed more school than others because of living in Dublin all autumn.”  
(Henry's Parents)

## SCHOOLS NOT ACCOMMODATING EUE

### TEACHER ATTITUDES TO EUE

Some of the early entrants endured many difficulties because schools' seemed to simply, *miss the point* about the functions of academic acceleration for high ability students. In one school, the pervading undertone was that it did not count toward anything, and therefore was not important. (It was unusual that this was the perception, given that transition year is founded upon the principle of personal, social, vocational and educational development).

One student anticipated the attitude he would meet upon his return to school.

“All my teachers are going to be like *okay, you've had your two terms off, now you can come back in and do some actual work*. Because most of my teachers have had this weird thing where they think that the only proper work is the work that they assign. Like, they don't actually think that anyone else gives work.” (Alex, Focus group B-12)

Teachers seemed to vary considerably. Some students commented that some of their teachers expressed little interest in their pursuits at university; others were quite enthralled.

Some students experienced quite a difficult time at school throughout the semester while Early University Entrance was underway. In some schools, the expectations set out for a typical TY student remained unchanging, and they failed to regard EUE as anything other than something extracurricular. Some seemed unapologetic for their unyielding system. One TY coordinator commented that the push-and-pull the student was experiencing was somehow part of growing

up. It was as though she abdicated her responsibility because EUE was undertaken individually. Even though the school had to acquiesce for the student to participate in the first place, it was as though this in itself was enough of an accommodation, and their responsibility toward the student seemed to fade away. In another school, the student was told by her TY coordinator to sort out any school issues with her individual teachers. There was little in the way of tangible support and encouragement.

In another, hints of disapproval about special programmes for the gifted were perceptible in some of the conversations with teachers. One in particular, was very disparaging in his response when contacted by the author.

“He then queried what benefits a person would derive from such a programme. He said he expected it was something like Mozart or something. ... He made some ill advised comments about how gifted students should be learning how to cook and do metal work.” (Researcher diary, Week B-5)

The degree of scepticism around EUE was very evident in one school. Here the TY coordinator required the participants to submit their university assignments to the school. Interestingly they did not require their exam transcripts.

## **A BALANCING ACT**

Though the vast majority of their week had them scheduled to be in DCU, many students made an effort to attend both institutions on days where they only had one or two lectures. This however was quite demanding, and by the end of the semester, many just attended to their university commitments on such days.

Some schools struggled to keep track of the early entrant at their school. Frequently marked absent, they sometimes found themselves in receipt of a detention. To address this difficulty, attendance records were emailed or posted to the TY coordinators during each week of attendance, helping to improve and maintain relations between the programme and the school.

The obligations of both the Early University Entrance and Transition Year programmes came head to head, and many different experiences precipitated. For some, the expectations however never abated and they found themselves having to sit in on classes and exams at school that they had not attended previously. They continually experienced pressure from their

teachers and in some cases year heads and TY coordinators to maintain their school commitments, regardless of whether or not they had attended the class.

Two early entrants who came from the same school interpreted their school's expectations of them quite differently. One consulted regularly with the year head and TY coordinator, who expected her to complete all of her school obligations, but suffered a great deal of stress in this attempt. The other took a *laissez faire* approach, and barely consulting them at all, much to the disgruntlement of the school management.

"To be honest, I found that Alice came and spoke with [TY coordinator] and I regarding "juggling" the workload for both programmes but Ciaran prioritised DCU which caused conflict in school. Had he taken a more responsible attitude to his work in TY and communicated with his teachers, it would have been easier for him to balance both."  
(Year Head, Alice & Ciaran)

Her interpretation was that Ciaran endured more difficulties than Alice. The "balancing both" actually placed quite a strain on the conscientious student, as reported by both her parents and herself. The student who "prioritised" the university programme did not endure the same pressure and tension.

### ***STRESSED KEEPING UP WITH SCHOOLWORK***

The burden of school for some students was quite a significant one. Whether it only affects the more conscientious students, or that those who mention it are apt to respond negatively to pressure, is uncertain. Either way, for these students the school workload became an onerous one.

"I do feel that the teachers are not cutting the students much flack and so they are expected to carry a full course load, which granted, is milder than usual, but for the students who take their studies very seriously they are now operating under greater pressure." (Researcher, Diary week A-4)

In the main, the students said less about keeping up, and more about the times when they were not keeping pace. It seems these issues were more likely to arise in the early weeks of the programme, when fitting the programme into their school schedules was first put to the test. Four weeks into the programme, a small number of very conscientious students began to feel they were slipping behind in their schoolwork. Some became adept at ducking and diving when called upon to hand in work, while others found they had little to do at school anyway, so it was

of little consequence. For the majority of students however, falling behind with schoolwork happened at one point or another during the semester.

“When I go back to school I sometimes feel lost in some classes because of what I missed during the week. I usually don’t catch up with work I missed.” (Clodagh, Diary week 4)

### *EXCLUSIVE APPROACHES TO GRADING IN TY*

The grading system in transition year, which is devised by each school, seemed in completely uncompromising some places. Students were often knowingly downgraded, because they were absent from classes or tests due to their university commitments. Instead of taking account of the work they were doing at university, the grading system stood.

“They (school) wouldn’t make any other like options for me, they were like ‘yeah, we know you’ll fail your exams, but you really have to do them anyway.’ I was like ‘bu-but? I turned in all the other work because I just can’t actually be there for the exams.’ ‘Oh sorry, we’ll have to fail you on that.’ ‘And I was like okay, but you won’t count it right because you know?’ ‘No, no, we’ll have to count it.’” (Sarah, Focus group A-20)

Indeed, in some schools the manner in which grades were awarded to the early entrants exacerbated the uncertainty, and caused unnecessary confusion and anxiety for some students. While some played down or ignored the pressure placed upon them to keep up at school, others carried the burden right the way through.

“... the biggest source of stress I found was just my actual school. Just the teachers and stuff, because, I don’t know, none of the teachers seemed to understand what I was doing here. They were all kind of like, you know, why don’t you have your homework done and stuff like that, and that just kind of annoyed me, and even at the end of the year, you know the way they give you a grade for TY, and we can get either a pass, merit or distinction. And everyone else in the year got a merit or distinction except for me and I got a pass, and everyone was like ‘woe?! *Ruth didn’t get a pass*’, because I’m seen as ... and it was just for the fact that they didn’t like recognise that I was actually doing something here. So that was the only thing that got kind of stressful.” (Ruth, Focus group A-20)

Some schools however embraced the programme. A small number said that their school obligations were revised by some teachers to take account of the additional commitments they had undertaken. One student told how she was in regular email contact with her school’s vice-principal. Others described how their teachers had taken time to help them individually keep up with the classroom work. Though Maria’s teachers relaxed their expectations, she however

did not, and managed to put herself under immense pressure to keep up at both institutions. (This was not the case for everyone however).

## FEELINGS ON THE SCHOOLS' REACTION TO EUE

### *PARENTS EXPERIENCES OF SCHOOL WHILE EUE WAS UNDERWAY*

The reaction of some schools dissatisfied greatly some parents. In the run up to the end-of-semester exams, virtually all of the early entrants took time off school to study for their exams. In year two, a letter was prepared for each student to take into school to explain this request, though not well received by one school.

“Aoife requested ‘time out’ of the TY programme to study for her exams which meant she missed ‘extra’ TY time. Having those exams AFTER Christmas meant more ‘disruption’ to the TY programme.” (Year Head, Alannah & Ciaran)

One parent was infuriated when the school that would not allow her daughter time off to study and sit the end-of-semester exams. Another was annoyed at the manner in which school was grading the year's work.

“I had a call from [a parent]. She was very happy with the programme but was very unhappy with the school's response to [her child's] participation. They have not eased up, and one teacher told her that she had failed her subject. She's not happy at all with this, and the only reason she hasn't gone into the school is because [student] told her not to.” (Researcher's Diary, Year 2 - Week 10)

In another case, a parent expressed grave annoyance at the school's failure to acknowledge her daughter's “double achievement.” This was particularly apparent when no representative from the school attended the Early University Entrance graduation ceremony. (In fact, only two out of the 17 schools were represented).

“The school never engaged with early entrance from my experience and indeed did not attend the graduation ceremony which was very noticed as Aoife had been at the MUN the same day and teachers had attended that to acknowledge achievement. This upset her and was a source of disappointment. She did not need huge acknowledgement as she had successfully achieved something for herself but a small in-school acknowledgement should have been given even if only at the end of her transition assessment. It was not acknowledged once at any stage and appeared to be an inconvenience to the school rather than an achievement. I was upset for her and at a loss to explain the rudeness of the school which was a source of frustration.” (Alice, Mother)

One TY coordinator was spurred to make accommodations for the programme only when a parent made an appointment to see her. While not indisposed to facilitating the student's participation, up until that point the school's TY programme was ranked of highest importance. The matter seemed to resonate a little more upon learning that the programme was fee-paying, (they had "invested" in it), and greater modification to the school's TY programme now seemed more possible.

Balancing school and university, both logistically and academically, was tricky in the early stages of the semester. For those whose school had given them 'a free reign', there was understandably no issue. For the remainder, school featured strongly, and the complexity of the balancing act they had undertaken became quickly apparent in the opening weeks of the programme. Many students however were quite rational in how they dealt with the imposition of Early University Entrance into their lives.

"Ehm, I'm not getting that much school in. Like there's six classes on Monday, three classes on Wednesday. I could have been in for more classes on Wednesday but it's still kind of like important to take time out and kind of like sit down for a while, and not just be like in the car, out changing, and back in from school." (Sarah, Focus group A-3)

Some were beginning to become quite selective about what could reasonably be expected of them.

"I just said that I can't do a book report. I can't do Classical Studies. I actually like Classical Studies, but then I couldn't do it, so." (Sarah, Focus group A-4)

By the midway stage, the students seemed to have a better handle on everything and were better able to cope with the amalgamation of their now partitioned education.

"I think as well from a social aspect, it's like we're starting to kind of get used to it now. And you know something like a regular routine whereas before, it was kind of *will I manage this? And will I manage school as well?* But everyone seems to have kind of worked it out at this point, so it gets easier." (Naomi, Focus group A-7)

It appears as though four different situations arose for students with regard to balancing their academic commitments for school and university. The first group seemed to experience considerable stress, as they were expected (or chose) to maintain all of the school subjects along with their university obligations. In four out of the five students for whom this was the

case, the school were insistent that they follow the TY curriculum. The next group seemed to opt out of some school commitments, whether of their own choosing or in consultation with the TY coordinator. Theirs was a relatively worry-free experience, as EUE seemed to fit more seamlessly into their TY experience. The next group seemed to opt out of all school commitments, either through their own decision or in accordance with the school authorities. The semester for them was a more harmonious experience, as they could fully explore and enjoy the academic challenges at university, while maintaining only social links with their schools. The final group seemed to maintain a congruous balance between both institutions, but only because their Transition Year held so few challenges that they were easily able to keep up.

Early University Entrance, more than anything, however appeared to be an inconvenience to some schools, but this was manifested differently. The educational value of the programme was acknowledged and embraced in some schools, and they moved all possible impediments out of the way to ensure that the student could make the most of the opportunity of an advanced university experience. In others, the slight recognition that the achievement of a place earned early on failed to translate into any meaningful or lasting support. Sometimes it was the individual teachers who struggled to understand and accommodate the student within their classes, while for others, the letdown occurred at school management level (i.e. the TY coordinator or Year Head). In this way, the experience of practically every student was different.

## Personal Life

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The impact of EUE also imposed considerably on the students, as individuals. Such things as maintaining friendships, personal health and wellbeing and extra-curricular activities were all affected by the incorporation of EUE into their lives.

### PERSONAL TOLL

The programme was taking its toll physically and mentally. Constantly running around, the students frequently complained of feeling tired. Life during Early University Entrance became a



balancing act, sustaining three *lives*: home, school and university, and some fell ill from this hectic combination of schedules.

“I was literally either doing stuff or studying or sleeping, and I ended up getting really sick for like two weeks straight afterwards, because I’d kind of burnt myself out a lot, but. I don’t know it was never just DCU that kind of put the pressure on, like it was everything really, but particularly I suppose it was being, it was kind of thrown into the deep end as far as academics goes.” (Naomi, Focus group A-20)

One student said she felt guilty when taking a break from study, while others sometimes felt weary at the prospect of work when, they needed to study or had deadlines approaching.

### **LONG COMMUTES**

Some students demonstrated remarkable commitment in their pursuit of a place on the EUE programme. Henry, Clodagh and Ruth each left their homes to stay with relatives and family friends near the university campus, so they could attend. Henry felt the move meant fewer interruptions and enabled him to focus better. Clodagh found the experience of travelling alone a formative one. The remaining students commuted to the campus on public transport, by bicycle or with lifts from family members. The students became more self-reliant as they had to learn to manage travel arrangements, etc. Those using public transport had to figure out bus and train timetables, which was a complication the first couple of weeks. One parent mentioned that making their travel arrangements helped his son to develop greater independence.

“Helped his confidence greatly - had to fend for himself - had to get used to travelling to and from DCU by bus - could be trusted to get himself out if I was in work.” (Ryan’s Parent)

Lengthy journey times however proved inconvenient for some. They endured very early starts to make it in for 9.00 AM lectures, while making it from school to the university was often quite problematic. Most students however found the commute tolerable and some utilised their transit time to do some study. By the midway point, all were well adept at getting themselves to and from the campus, but the journey continued to take its toll on those whose commute was not so straightforward. It was particularly stressful for some, like Maria, who found it tricky to fit the intensive programme into her already busy lifestyle. Managing to attend both school and university on the same day was not easy.

“... though mixing school and DCU in the same day is possible, it's only barely so. It took me over an hour to get to the college and I only got a few hours in school. Keeping the days separate, for me, seems like the best way to go.” (Maria, Diary week 6)

David remarked that while he enjoyed the programme, he would not miss the long commute.

Philip too found that travel was the most stressful aspect of the programme.

### *OTHER COMMITMENTS*

The inclusion of Early University Entrance to an already hectic lifestyle was a stress for many students. For those who had full social diaries (socialising, extra-curricular activities, music etc.), there was a sharp realisation not long into the programme that EUE was a significant commitment. Some recognised this and took steps to adapt their agendas. Others were not so well organised.

“Music got in the way a lot during the semester. It gets in the way all the time during school but the difference was that I was trying to do well in DCU and couldn't put either on hold. The end result was pretty much everything blowing up in my face. Apart from that though I didn't have any real priority problems. I wouldn't leave early to see my friends if I needed to finish something I didn't understand etc.” (Philip, Reflection)

### *COPING WITH TWO INSTITUTIONS*

Combining the two institutions was problematic at one time or another for many students. One student explained how she often confused her university-self with her school-self. When in DCU however they were able to switch off and enjoy their time there. Many students agreed that opting for one or other, may perhaps be the best approach.

“It'd be fine if you were kind of doing just college, you know life, but I think the fact that you're doing like two, you're running two lives at the same time, which is like your fourth year and your college and I don't know. I think that makes it a lot more difficult.” (Naomi, Focus group A-5)

By the midway point, there was a feeling that each of the students had figured an individual coping strategy for combining their split academic lives and their social diaries. One student explained how her sense of belonging was to some degree compromised.

“Around half way through I hit a point where I felt I didn't belong in DCU or in school fully which I found difficult and struggled with. I was grand after a while though but I did find it hard because it was so hard not being able to completely be somewhere and it felt like getting half of both, which I suppose is what happened. We had the education of college and the social side of TY.” (Sally, Reflection)

## SUPPORT FROM FRIENDS

In the early part of the programme, keeping in touch with school friends was not really considered a problem, as they managed to meet up at weekends, in school and commute by phone and text. In their friends, they found much support, in the early stages at least. Some adjusted their plans so that they would still be able to stay in contact.

“My friends kinda took the same amount of time to get used to me not being around as it took me to get used to it but now I’ve got a great little system going in terms of work and notices and things that need to get to me.” (Maria, Diary week 5)

Naomi mentioned how her friends were a little worried about her ‘locking herself away’, after she spent two full days at the beginning of the programme studying to catch up. Others commented that transition year, with its different projects and trips, had a tendency to scatter its students anyway, so keeping up with friends was always a difficulty and meant they needed to be more organised.

Increasingly, time became a factor in maintaining relationships. Having to make time for university study on top of their school commitments encroached on their social time, and by week four, they realised they had not seen their friends in all that time.

“I think it might have been the second or third week or something and we were all kind of like *oh my God I haven’t gone out*. You know like the first week or whatever when you were coming in, the first or second week you were coming in and it was all like brand new and it was like a great thing, and it was so much fun, but like the third and fourth week like I think it got to. Like I don’t know if it was just me, I think we were all like this. We were kind of like *I haven’t seen my friends in ages*, and it was just trying to make it fit, but by the end of it like, yeah, I had it all down. Like I had the whole thing sorted. I knew what I was doing, and I knew when I wasn’t ... so it just took a while to change, because it was a big change of schedule like. I think that was like the only...that felt like pressure.” (Julianne, Focus group A-20)

Understandably, the early entrants missed their friends. At different stages of the programme, some complained about feeling a little *out of the loop* at school. Long absences often left them a little socially adrift. They missed the small things: *in-jokes* and general school gossip: what might be considered the *glue of social relations*. Coming back into school a little clueless placed them somewhat on the fringes. This was particularly so for those considered socially active as well as those with exacting college timetables, which left them absent much of the time.

“This week especially I have really been missing my school friends. I guess I just feel like I haven't seen them in forever. They call like everyday to see how I got on, but its weird going from spending every minute of everyday with them, and never going anywhere on my own, to barely seeing them.” (Julianne, Diary week 2)

It is understandable that some succumbed to the social draw of school friends. Reflecting on the semester some admitted that they struggled to adapt their ordinary social life around the EUE programme. Some found themselves easily distracted from their studies by friends who did not fully appreciate the commitment EUE required. Now, in hindsight, they regretted that they had allowed themselves be so easily diverted. Some complained about arriving late or having to leave early from gatherings.

The frequent absences were irksome not only to the early entrants, but also to their friends. They complained that they were “never there.” Some of the early entrants began to fantasise about a full-time, residential programme, which would provide them with a more “legitimate excuse.” The parents of one early entrant were dissatisfied with the distance the programme placed between their child and their friends, which caused relations to grow more and more detached.

Many of the students found that their friends at school became less and less interested, and more and more indifferent to EUE. This happened quite quickly, and by the middle of the semester, the students had ceased reporting comments from their school classmates. Though initially excited for them, they quickly reverted to being more preoccupied with their own lives, and no longer asked how they were getting along at university.

“... they never ask about DCU, but they're always like, they ring up and they (tell) me like their news.” (Julianne, Focus group A-4)

At times, it felt like they were beginning to forget about their friends. Excited to be participating in the EUE programme, they inadvertently overlooked their school friends.

“Last week I felt a bit like, not like they were forgetting about me, but I was kind of forgetting about them, because it was hard like to divide your time.” (Julianne, Focus group A-4)

“I think that already I can feel myself loosing contact with a few of my school friends and I'm not trying to catch up on any news with the group as a whole in school but I still don't think that this is a bad thing” (Alice, Diary week 4)

In time, they figured out a way to harmonise both environments. In fact however difficult the separation, for some there was unseen benefit. The division had given them time to consider what their relationships really meant.

“While at university my friends from school carried on without me and trying to keep my friendships with them and trying to keep up with their lives and news was very distracting, but I don’t think that this was a negative experience because it helped me to become independent of some of my friends and also to make an effort in keeping the friends who were important to me in my life and involved in my life.” (Alice, Reflection)

“...it made me realise what was really kind of worth it” (Sarah, Focus group A-20)

## PARENTS STEPPING IN

On a number of occasions, parents were called upon to deal with issues, typically school-related, arising from EUE. Either the students had been forgotten about (e.g., missing information, trips etc.) or the expectations placed upon them took little account of the work commitment on the Early University Entrance programme. There were also times when they had to step in to support the students in times of trouble. One mother had to intervene when anxiety over an assignment deadline got too much. Another sought the help of the researcher to motivate a student who was showing a continuing pattern of underachievement, having chosen to opt out of assignments and exams.

## School after Early University Entrance

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Much time was expended considering the inevitable return to school as full-time students, at the end of the semester. For all stakeholders, how the students would reintegrate back into school-life, was a valid question.

## READJUSTING AFTER EACH DAY AFTER EUE

The students had some knowledge of how this might be, having had to regularly switch between their school and university status because of the part-time nature of EUE. The degree of readjustment after each day at university illustrates the very different systems that exist at second and third level.

“Just the bureaucracy of school, and once you come here everything’s so free and not really laid back but just kind of like you enjoy everything you do, and everything, and it’s just like it’s such a contrast.” (Ruth, Focus group A-10)

Returning to this system was challenging at times, once they had grown used to their freedom and autonomy.

“But do you guys not find that when you go into school, because everything is just suddenly so slow-paced, you’re just like *oh my God, get me out of here*. Like I went in for three classes, I stood up to go to the bathroom, and the teacher just looked at me, expecting me to ask, I’m like, *I’m not going to ask. I’m not going to ask. I can’t do it.*” (Naomi, Focus group A-5)

## OPINIONS ABOUT EVENTUAL SCHOOL REINTEGRATION

### *POSITIVE OR NEUTRAL REINTEGRATION*

Parents and TY coordinators had a largely positive outlook on the early entrants’ eventual reintegration into full-time school. Many believed their return would be without issue, no different from any TY student returning to embark upon the Leaving Certificate cycle.

Many of the students themselves were primed for their return, and in some cases more prepared than they considered their TY classmates, as the experience had given them the much-needed stimulation and academic focus that they felt the Transition Year lacked.

“I would have been so lazy if I hadn’t done this in fourth year...I literally would have done nothing.” (Julianne, Focus group A-20)

For others, they did not expect much to change upon their return to school, as their experience at Early University Entrance had not been exceptionally challenging.

“I haven’t really been doing any work at all, but this course hasn’t been that difficult either... It’s not going to be a huge change in the amount of work.” (Fintan, Focus group B-11)

Another student explained how she felt relatively well prepared, but having missed a lot of Transition Year coursework, was anxious.

## *NEGATIVE OPINIONS ABOUT REINTEGRATION*

A number of parents however voiced apprehension about their child's reintegration into school life. Those whose children were returning to the last five months of Transition Year (particularly in year two (semester II)) noticed restlessness. One parent felt that Transition Year was not a particularly good fit for her son, and the only positive she could see was that he was one year older to cope with it. Another said that motivating their son (Philip) in Transition Year proved a constant struggle. The parents of another however were pleasantly surprised, contrary to their earlier apprehension.

"Our only fear was that he might not settle back into school life after this taste of independence and self-management, but that has not transpired -- he has gone happily back to [his school] and immersed himself in new activities there." (Henry's Parents)

Settling back into the lower academic level after the experience of early entrance was a little problematic for some.

"I was apprehensive about the return to the less demanding school experience but she coped well but I feel did experience a sense of boredom with the lesser content of lessons." (Alice's mother)

"Before going to college I thought school was grand but often the work could be quite boring. After going to college I now find the work in school pointless when I know what I want to do after school and very often work in school has nothing to do with it." (Alannah, Reflection)

The students in year two were much more pessimistic about their return to school and Transition Year. Though similar concern was expressed by a student in year one (semester II) their attitude had reversed by the end of the semester. Extreme dissatisfaction was articulated by a student from year two (semester I) over what the concluding months of Transition Year offered her. She had gone from the comfortable surround of academic challenge and stimulation to tedium and ennui. Returning to school with a broadened perspective of her education, she saw plainly how her school was neglecting to set down any of the building blocks of university preparation. This caused acute frustration, so much so that she longed for a meticulous curriculum and more strenuous assignments that would come in fifth year. It would provide some direction, which is frequently missing in Transition Year.

One parent concluded that it would not have had the same impact as Early University Entrance.

Even still, the early entrants in year two complained at the prospect of being *bored* and anticipated not having any “proper work” to do upon their return to school. They predicted their knowledge in some subjects would be ahead of the curriculum, which meant tedium almost certainly lay ahead. With a dearth of *interesting* subjects, they could see little to advance them in university. Some described the prospect with *dread*.

“I amn’t (sic) looking forward to having nothing to do when I get back to TY, so I’m dying for fifth year and homework again! It’ll be better because I’ll be able to start from the beginning with a fresh plate, because going back to TY everything’s half done or half started and it’s so confusing so I can’t wait to be back to being completely doing one thing!” (Sally, Diary week 11)

Not all were quite so negative. Others enjoyed that it kept their brains active during transition year, leaving them more ready for the cut and thrust of fifth year. Many remarked that they felt better prepared, ready to go back to school at the end of the programme than they believed they would had they pursued a typical transition year. It seems that going directly from EUE into 5<sup>th</sup> year made for an easier transition in academic terms. The shift in academic activities did not appear as drastic.

One said he looked forward to an easier commute, while another said he was excited about the school trips. One parent was happy that her son would be able to participate in some aspects of the school’s Transition Year programme.

Though EUE had brought disharmony to their usually routine lives, for most there was sadness at the prospect of its conclusion. For others finishing was bittersweet. Many of the students from year two frequently expressed their wish to continue at university, into semester two or to finish out their chosen degree. This wish found its way into much of the discussion during the late stages of the programme.

“Ryan loved Early University Entrance programme from start to finish - he would have gladly stayed for the year.” (Ryan’s Mother)

“Course is nearly over. :( Gonna be such a bummer going back to school knowing that with a few months of maths I could be doing this course no problem, but that I have to do 2 and a half more years of the mind numbing secondary school.” (Brian, Diary week 11)



The open-endedness of transition year never sat well with some students in year two and they looked forward to a more organised, consistent curriculum offered in 5<sup>th</sup> year, where greater challenge and more definitive subjects were expected.

Two students changed schools following their participation in Early University Entrance. Upon completion of EUE, Clodagh requested a transfer from Transition Year into 5<sup>th</sup> year, though this was not permissible by her school.

In her evaluation, her school principal said she would not allow another student from her school to participate in EUE, without a written contract between the student and the school that they fully engage in both programmes. She was dissatisfied with the programme as it hampered the school's own TY curriculum.

It would seem there was a failure on Clodagh's part to engage in her school's TY programme. She encountered some difficulties at classroom level with individual teacher's expectations for her work. At the end of TY, Clodagh changed school. It would seem as though relations were not satisfactory before she committed to EUE, and her participation brought a few issues to a head.

The programme may not be directly responsible for her moving schools, but her participation was used to evade the now obvious problems she was experiencing there. These problems did not go away during the semester, but intensified in its aftermath.

### ***CONTENT TO RETURN TO SCHOOL***

After an auspicious experience at EUE, one student was happy to be returning to school. She still looked forward to the upcoming two years at secondary school, which would be a safe-haven before she enters the outside world. Another explained that he has always seen his gifted education as separate from his school education, and so he has little problem going from one to the other.

### **TRANSFERABLE SKILLS & IDEAS**

The applicability of what they had learned at EUE was more apparent to some than it was to others. The advanced subject knowledge gained was obviously a significant plus-point, and made some more resolute in succeeding academically. One student felt however that there was

nothing transferable from university back to school however. He had taken the politics and law modules, which have no equivalent Leaving Certificate subject.

Others found they learned to study more effectively.

“I also learnt how to do work and study more efficiently.” (Clodagh, Reflection)

For another student it helped her to recognise when she was over-stretching herself, and how she could avoid this in future.

### REALISATIONS ABOUT SCHOOLWORK

As enjoyable as the learning experience at university was, it was not regarded as realistically adaptable to school. One student said he would miss being able to work on his own, at his own pace: very different to the way of learning at school.

One issue of importance to a few related to autonomy of opinion. Schools appear to impede the opportunity for any level of individualism, which the participants found was a minimum requirement at university. Having upskilled to meet this requisite, they were unconvinced that this new learning style was something they could readily transmute into their schoolwork. They believed the school curriculum would make this approach an ineffective use of time.

“... even the opportunity for individuality in our work can be very frustrating at times”  
(Naomi, Diary week 9)

- |            |  |
|------------|--|
| “Alex      | Like I mean even in English you’re not really saying what you think about something. You’re saying what your teacher thinks.               |
| Ciaran     | Basically, you just learn off an essay and just write it down several times.   |
| Henry      | ... It’s going to be really difficult after doing the assignments (in university) where you have to think for yourself. We’ll just go back |
| Sally      | Completely take that away and then get back to like writing out revised ones.  |
| Researcher | Well you can still think for yourself when you go back.  |
| Philip     | Well yeah, it just takes up too much time for the same amount of work.   |
| Sally      | There’s too many subjects.”  |

Their university-learned skills would likely wither in an environment that seems to strangle individualism.

One student from year two remarked in her reflection that she now viewed schoolwork with greater disdain than she had done previously. Before EUE, she thought it a little boring, but she now feels it is meaningless given what she wants to pursue at university and as a career. She also felt there was too great a disparity between the expectations at school and those at university.

“I don’ like the way school is so different to college, it is a big transition. Writing a college essay is very different to anything ever done in school.” (Alannah, Reflection)

## Reflection on the Experience

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### HOW DID UNIVERSITY AFFECT THE EARLY ENTRANTS?

#### *EXPECTATIONS*

At the end of the programme, the students were encouraged to reflect on their experience at EUE relative to their initial expectations. Some found EUE a lot easier (academically) than they had set themselves up for. Certainly, for some it was more than challenging but most were surprised to find it within reach.

“The work was difficult if you didn’t keep up. Not doing the Leaving Cert was a disadvantage, but not as much as you’d expect.” (Brian, Reflection)

One student was pleasantly surprised when their course proved to be enjoyably enlightening, especially when it had not been their first choice.

The social expectations were quite different. Some admitted that their primary reason for applying for EUE was *social*. Some believed their social experience would be less enjoyable than it actually was, while others found it fell short of what they had anticipated; this was particularly the case for Physics-B who had hoped to integrate more into the first year groupings. Interestingly, though the academic expectations of Physics-A were not achieved, it was overshadowed by the thoroughly positive social experience they enjoyed. Like all of the students in year one, they had a remarkably congenial relationship with their first year classmates.

“The social side was better than I could have hoped for. I never thought the students would have been as accepting to us as they were.” (John, Reflection)

Some too were pleasantly surprised that the environment was much more agreeable than they had predicted.

“I also always kind of dreaded my future because I imagined it as extremely serious but I found that people hit college and surprisingly the youth isn’t drained from them as they walk through the gates!” (Naomi, Reflection)

For most however, the experience exceeded both their apprehensions and their expectations. Some came away with the more informed knowledge of university they had hoped for, while another student felt the programme vindicated her presuppositions about third level learning.

“College did meet all of my expectations. I had always thought that college would be the best style of teaching for me to learn from and the Early Entrance programme helped to confirm that.” (Alice, Reflection)

“... you’re judged by your peers, there like about how well you’re capable of chatting or what you look like or stuff like that. It’s just kind of weird how you came here and you were recognised for your other abilities. It’s just like really small things. Like I’m really into music and other people like, I found other people who are like just like that, and you know, you get recognised or the fact that you’re good at ... Il (game) or you know things like that, and you know you get recognised for different abilities than just academic. That’s kind of nice. (And not the typical ones that you come across that other teenagers rate you by?) Yeah!” (Ruth, Focus group A-20)

During and after the programme the students remarked on some of the reasons why they felt EUE was beneficial. Some saw it as a solid focus, with *real* challenge, and indeed a couple of students said they only registered for Transition Year because it would allow them take part in the programme. Others felt it added a new dimension to their already action-packed year.

“I have no doubt that my TY would have been interesting even I hadn't come on the Early Entrance but it's been a hundred times more so by my coming here.” (Maria, Diary week 11)

One year head felt that EUE was valuable (though did not specify why).

#### **SHOWING A PREFERENCE FOR UNIVERSITY**

The experience led them to conclude that *school* is very institutional when pitted against the university system. Freedom is constrained by rigid timetabling, teacher authority, and the

subtlety of wearing a uniform, and they felt this infringement on their autonomy even more since experiencing the more liberal system at university.

“It kind of showed me how rigid school life is. Here everything is so relaxed I think.”  
(Michael, Focus group A-10)

Some talked of a damaging hierarchical system in their schools, where they very much feel subordinate and experience adverse relationships with some members of the teaching staff. The sometimes-condescending manner in which some teacher’s converse with them is strongly resented (as immaturity is implied). The university as an organisation however, was quite different. Relationships with lecturers were more constructive and the impression was that they were held in higher regard.

“I feel pretty bad about school now to be honest. The difference in the way teachers treat students particularly annoys me. While in university it feels like we’re respected as people, in school it feels like we’re beneath the teachers. I know teachers need more authority in secondary schools, but it still annoys me.” (John, Reflection)

Many students preferred their university lifestyle to school. The heightened academic experience fulfilled them. Though the learning culture was more *real world*, it remained more relaxed and liberated, and they were pleasantly surprised.

“...the atmosphere in university is a lot more relaxed than people have you believe.”  
(Alice, Reflection)

It better promoted scholarship. School soon began to lapse quietly into the background for some, with friends and coursework sidelined for their campus endeavours.

“I have been feeling as though I am becoming increasingly detached from school life and as though this is actually a positive thing because although I realise school matters as well as the social relationships that develop from it, I feel as though I am much happier and fulfilled if I am doing work and have work to do.” (Alice, Diary week 8)

University was thus a visual as well as academic liberation, as they were released from the homogenous attire.

“(at school you) can’t wear makeup, can’t wear nail polish, you have to wear your uniform, your shoes have to be black like. Here you can be who you want to be.”  
(Alannah, Focus group B-4)

Inwardly, they began to favour the more mature, grown-up university environment. With distance and time, they could see pettiness and insular behaviour in their school

contemporaries that had previously influenced much of their teenage existence. University was different. Here, they broke from the perceived trivialities and frivolity that defines adolescent social norms.

“Spending time in college feels so simple and nice compared to the hectic drama of all the TY girls in my school.” (Sarah, Diary week 5)

Naomi explained that university is much more socially liberated, compared to secondary school. Referring to an incident where upon return to school she casually made conversation with some sixth year students.

“I just randomly started talking to the girl beside me and started chatting away, and they’re all looking at me like there was a problem. I was sort of going *what is this?* And then I kind of realised, in college it’s fine, you just turn around to people in your class, you don’t know and start talking to them, and you know, you learn people’s names or whatever. That’s how you do things. But it’s so different in secondary school. Like they have this whole thing of, you’re two years younger, so you shouldn’t just walk up to people and start talking to them, when you know. I think like college is much nicer for being yourself and sort of being open.” (Naomi, Focus group A-20)

Ruth too found university to be more amenable to individuality than evaluation against a set of superficial social norms.

Many enjoyed the less regimented system at university. The limitless freedom to explore tangential topics in lectures, as well as the unscheduled bouts during the day, were a source of much relief.

“It was so much like freer than school. School like has this set schedule and at any time like I’d be able to work out where I’d be kind of thing, whereas when you came here like you had your lectures, but then like, the lectures weren’t as set as school is again. Like if something interesting came up or if someone asked a really different question like you could go off and explain that and you know.” (Julianne, Focus group A-20)

Overall university was more appealing because of the physical, intellectual and personal freedoms it afforded.

“I really enjoyed the freedom of university life. Being trusted to study when you needed to and not to get lost on the way to lectures. The way we just had time to socialise and hang out and got to the playground. I loved that we could sit and talk about the stock markets or political situations ... I loved that the library had books on every possible subject of interest.” (Sally, Reflection)

## **IMPACT ON STUDENTS PERSONALLY**

### **GREATER SELF-AWARENESS**

The programme brought about personal insights both personal and academic in nature. It enabled some to learn more about themselves. The physical distance between them and their age peers afforded time for greater self-reflection. It gave them space to see their *real* selves and contemplate their own identity. It allowed them better place themselves amongst their age peers.

“I really think that this has helped me to find myself by being apart from my classmates who I’ve been with for three years. Coming into a new environment with new people helped me to be as I am as opposed to a TY student. It lifted preconceptions and labels so I became more confident in who I am and how I act.” (Sally, Reflection)

The students and their parents found that the programme helped them fully appreciate the extent of their intellectual capabilities.

“... working with (sic) alongside much older students and managing to do well allowed him to "own" his abilities - making him more "sure" of his academic ability” (Martin’s parent)

“... he discovered he was intellectually capable of doing a university course, but emotionally he was still a 16 year old.” (Philip’s parents)

They could see not only the level of material they are capable of engaging with, but learned just how they respond to real academic pressure, and how they enjoy learning at this, more fitting level. One student remarked that she had learned a considerable amount about herself in a learning environment, i.e. the way she approaches her studies; an outcome she had not anticipated.

Interestingly, when asked to describe themselves following the conclusion of the programme, 15 of the 20 students described themselves as achievers, and only one as an under-achiever.

### **MATURED**

This broadening of perspective brought about significant changes in the students personality. They noticed themselves mature considerably over the course of the programme, and

increasingly, they could see a divergence between themselves and their school friends. They were happy to miss the schoolyard squabbles, and were glad that they could rise above the competitiveness that epitomises much of this adolescent stage.

“Spending time in college feels so simple and nice compared to the hectic drama of all the TY girls in my school.” (Sarah, Diary week 5)

“The only effect that has maybe produced difficulty for me is an increased intolerance for pointless arguments and for bitchy behaviour.” (Naomi, Reflection)

Though this maturing happened ahead of their peers, it was no bad thing. It enabled them a broader outlook to see with greater clarity the social rules and customs that pervade secondary school. They could now see their redundancy in the real world.

Parents too noticed the maturing that occurred, although some felt that the older surroundings and the expectations of the two environments brought about some internal tension and confusion.

“At times Naomi seemed slightly conflicted between being a relatively immature teenager and the expectations she felt were on her of being a university student.” (Naomi’s parent)

The maturing extended to them academically too.

#### ***ACADEMICALLY MATURED & MOTIVATED***

Many (students) felt that the programme helped them to become more academically motivated at school. It gave them a renewed focus and determination to perform well now that they were knowledgeable about what university would be like. Having had the opportunity to achieve there, and seen the extent of their potential (as well as their weaknesses), they returned to school with greater enthusiasm and application to their studies.

“I feel school is necessary. But that doesn’t make me like it. I know that to get into college I have to do well in school so I’m motivated in that sense. ... I think that this has really shown me that doing badly doesn’t help anyone, but hurts my grades and chances of doing well where as doing well would help me reach goals and friends can only be with you so far. I’m more motivated to do well for myself now I believe. ... It’s like I know where I’m going and this makes me more sure of myself. ... I don’t mean I know what course or college. But 600 points in the leaving seems a good place to be trying to get.” (Sally, Reflection)



“I think it has been a very rewarding experience. She is much more mature, more confident and ready to learn.” (Naomi, TY Coordinator)

One student explained how this maturing had helped him to cultivate better relationships with his teachers, to the benefit of his education.

“I get on well with teachers, I find treating them almost like friends can help develop good relationships and this has definitely helped in my education.” (Brian, Reflection)

Some said they were thankful for Early University Entrance, which had kept them challenged when schoolwork had not.

### *SOFTENING OF NEGATIVE ATTITUDES TOWARD TEACHERS*

Just as the early entrants had compared their teachers to their lecturers, it was clear that these negative attitudes toward school were crystallising over the semester. This was precarious territory, and it was important that in preparing them for their inevitable return to school, they needed to come to a more positive conclusion. It merited a discussion that not only compared and contrasted teachers and lecturers, but also looked to understand why they behaved so differently. In doing so the students began to see that, they, as school students, were still legally regarded as children, and while lecturers could excuse classes early, teachers were responsible for their students welfare, literally, until the bell rang. In fact, the students concluded that their responsibility was much more far-reaching, and they were sometimes more like mentors than teachers.

“I think the basic point is that they’re more responsible for a wider range of, like they’re more responsible for the actual students, whereas here they’re not really.” (Michael, Focus group A-10)

Teachers are accountable for learning, exam grades excetra to a larger extent, as they are validated (however informally) as teachers based upon their students’ grades. They felt university lecturers could be more complacent, as teaching adults allowed them abdicate a large proportion of this responsibility.

“(Teachers) also feel sort of responsible for making all of the people, which is different from the lecturers. They might want everyone to learn, but after a while they just sort of think, *well if they don’t want to learn, well they can’t*; I’m just going to keep talking.

Whereas the teachers, they sort of feel responsible for making everyone learn.” (Martin, Focus group A-10)

In the end, they empathised with their teachers having to cope with students who adopt a cavalier attitude toward their studies, and how having entered into the teaching profession with great passion and zeal, many are frequently worn down after years in the post. The experience of Early University Entrance helped the students to place the two institutions alongside one another and, with guided discussion, come to draw a rational, fairer conclusion.

“I know that teachers must be authoritative as not everyone wants to learn, but everyone “has to”. I do wish though that it was possible to learn in a more relaxed, respectful and friendly atmosphere.” (Naomi, Reflection)

### ***BOOSTS SELF-CONFIDENCE***

Further positive changes in their disposition were perceptible. The experience had the effect of boosting their self-confidence, which was obvious to, not only themselves, but to their parents and their transition year coordinators. This confidence manifested itself in many ways: in sorting out their future, in their social interactions, and in fending for themselves. For others, being accepted to the programme was itself confidence enhancing.

“He seemed happy and self-assured, quite confident and proud to be doing the course.” (Martin’s parent)

No negative changes were reported by parents or teachers, though one teacher pondered whether the student would now feel that the Leaving Certificate was beneath her.

### ***Socially Confident***

Some students remarked that they feel more settled in themselves socially because of EUE. They found that the campus was more open and accepting and less insular than they sometimes found school. They felt more socially confident as a result.

“... you’re judged by your peers, there like about how well you’re capable of chatting or what you look like or stuff like that. It’s just kind of weird how you came here and you were recognised for your other abilities. It’s just like really small things. Like I’m really into music and ... I found other people who are like just like that, and you know, you get recognised for the fact that you’re good at ... II (game) or you know things like that, and you know you get recognised for different abilities than just academic.” (Ruth, Focus group A-20)

Though EUE brought about some very positive personal changes, it unsatisfactorily exposed the ability some students wished to conceal.

### **NOT WISHING TO BE DIFFERENT**

Some of the early entrants described how they often wish to blend in, and not be identified as different because of their intellectual ability, but to their discontent, this sometimes does not happen. This was particularly so in their attendance, both at the university and at school, during the programme. Some were conscious of standing out from the crowd, even in small things, such as appearing on an exam grade list by name, and not number like everyone else. Alice was very mindful of appearing different at school. For her and others, teachers and friends often asked, in the presence of other students, about their progress at university. This situation left her a little ill at ease and more prominent than she would care to be. She felt that her DCU studentship pigeonholed her as too academic and would affect her socially, where she would have rathered appear just like everyone else.

“... the people in my class and in my year just kind of presume that now I’m really, really, really just more academically focused whereas I’d still kind of like to be just drifting along or. It’s really hard to explain. And I don’t really like them asking me questions about it too often, but I’m fine with expressing opinions and that sort of thing. (So when you say *drifting along*, do you mean like drifting along with the rest of the transition years at the same kind of pace?) Not at the same pace or standard or anything, just that they wouldn’t perceive me differently because of the way I learn something. (Henry – Like keeping your head down?) Yeah. (So this is making you stand out a bit, you think?) Yeah. (And that’s not a good thing?) For my school and the way that everyone is, every year just sticks to itself and then there are different groups, but most people are generally talking to everyone, but to be sort of different is, it’s something to be scared of sometimes” (Alice, Focus group B-3)

Sally’s experience at school suggests why Alice might behave in this way.

“If I tried I could get all As but I haven’t really tried since primary school. In secondary, I was so desperate to fit in I didn’t want to appear different and then I lost my motivation to try.” (Sally, Reflection)

### **PARENTS SATISFACTION**

Parents were largely positive in their opinions about Early University Entrance. All were satisfied with at least some aspects of it, and virtually all were satisfied with it completely. Some explained how it had allowed their child to develop in a safe environment, while others were happy with their noticeable contentment while participating in the programme.

They were satisfied with the programme organisation, all noting the pastoral care structures, in particular. They approved of how the students were supervised and monitored, and all felt that good care was taken of their children. Some remarked that the availability of the programme organiser helped them feel more reassured.

“Everything about the programme was positive. The positive child protection issues were very good as was the ease with which everything was facilitated. ... There was a very good and easy flow of information while allowing Alice to do things independently and confidently.” (Alice, Mother)

“Very well run and managed. Parents had access to information and staff at any time. Very considered and caring management of students - follow-up calls to ensure Fintan was OK on occasions when he did not sign out etc.” (Fintan’s Mother)

To other parents, the academic challenge posed by Early Entrance was desirable, as were the impressive exam grades achieved by the students.

Some issues were highlighted however. The parents of one student were dissatisfied that an exam could not be rescheduled to accommodate a compulsory TY event. The author endeavoured to facilitate a change in time however this was not permissible from the School’s perspective as it compromised the integrity of the exam. Another would have preferred greater follow up by the programme when the students returned to school.

Loneliness was mentioned by one parent as a cause for disappointment. Her child found integrating into their particular course group quite difficult. She did however comment that he dealt with this remarkably well.

The parents of another participant were satisfied with the academic aspect of the programme, but were unhappy with the personal unrest caused by the social portion. They had particular issue with the level of interaction with the first year students; a situation they felt she was not emotionally ready.

“Difficult to judge in teenager what is due to the course or what is normal. [Their] social peers were 2 years ahead of [them], caused problems emotionally. ... Socially and emotionally [our child] has been drawn into a group that was 2/3 years older, at the time this was not a good situation.” (Parents)

Neither Ruth nor her parents were forthcoming with her previous difficulties at the time of application. This only emerged in a discussion with her about the results on one of the psychological scales.

## Longer term Impact on the Students

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Given their motivation to participate in a programme such as EUE, it was never in doubt that these students had their sights on attending university at a later stage. What EUE did however was help to clarify the impending experience and crystallise their determination to get there.

### FUTURE ATTENDANCE AT UNIVERSITY

They acknowledged that the programme had demystified university, and some admitted that it had completely quelled their fears. While each aspired to go to university, they did so without really knowing what awaited them. Now, having been there and back, they understood exactly what lay ahead. Some of the students said it taught them valuable lessons about university.

The experience changed their minds about third level education. It also confirmed their decision to go there after their Leaving Certificate, and through direct and indirect experience, they could see that it had the potential to offer much more than a purely academic experience.

“I had always known I would go to university...I always hoped I would love it. I now know I will, but for more than the course and the results and the lectures. Though we weren't allowed to join ourselves, stories of *clubs & socs* and the SU bar and the fun outside the classroom is entering my dreams. While I know and hope I will try my hardest in class, I now know that I what I get will not just be a degree and I think I know it has taken the EUE to show me this.” (Maria, Reflection)

“I always feared that after secondary school, life became all about responsibility and supporting yourself. Now however, I feel that your life only properly starts when you get to university. It is the time in your life to try everything and to flourish as a person.” (Naomi, Reflection)

The students came away from the programme with more positive views of university. Some could now see that it paved the way to a better future, while the experience confirmed for others already optimistic notions.

“I really feel third level education is the way to go to get on well in this world.” (Sally, Reflection)

The parents too agreed that the programme was academically valuable, pointing to a sustained period of academic challenge and the benefits of gaining an insight into university. For the science students, the programme laid foundations for their Leaving Certificate, as they happened upon material that would later appear in the curriculum.

“It allowed them to develop the aforementioned skills which otherwise they would only begin to learn in preparation for their leaving cert.” (Sally’s Mother)

#### FOCUS STUDIES & GOALS FOR THE FUTURE

They acknowledged how it had helped them to achieve the important perspective they lacked on third level education. One student remarked that if *everyone* participated in EUE, *everyone* would want to go to college. Though they had not taken the usual route there this time, they knew what getting into their chosen course would require and would set them up for a more fruitful entry into their first semester.

“I don’t think I’ll be scared going to college. Like nowhere near as nervous as I was coming into this. I know how it works now. I know how much of your college work depends on yourself which I’m glad I figured out before I went into college because I quite possibly would have failed my first exams.” (Sally, Reflection)

“Lots of students find the full transition to independent learning very traumatic.” (Ruth’s TY Coordinator)

With this clear knowledge, they formulated goals to chart a successful completion of second level. They could now realistically begin to focus their thinking beyond secondary school.

“It has given me an outsiders look at the whole education system, and I feel this is a major advantage. It’s shown me what I need to prioritise in order to reach my goals.” (Brian, Reflection)

The prospect of being back at university, doing exactly what they wanted to do had ignited a faint goal into a gloriously burning ambition.

“I think that Early Entrance gave me a great chance to try out, what I thought I wanted to study in college, but it turns out this may not be the course for me. I know that I’m in the right field, but a different area I think would be better but I think that realising this was really important. I’m pretty stubborn and if I hadn’t had a chance at EUE I probably,

in a few years, would have been doing a course that I wasn't entirely fanatical about but too stubborn to change, so that's a plus." (Julianne, Reflection)

The perspective had also brought school into sharper focus. One student was now more concerned about her school education, knowing the impact it would have on her subsequent university choices. Others now saw school more *a means to an end*, (i.e. to get to university you must do well at school), and so to this end, the programme proved to be motivational. Another parent noted that the foresight gained through Early University Entrance had helped her daughter to cope with school.

"Naomi was negative about school, however she made a very positive comment saying even though she had to go back to school, she knows in 2 years she will be doing something she will really enjoy." (Naomi's Mother)

#### **HELP DECIDING ON A COURSE TO PURSUE**

By the end of the programme, the majority of participants had achieved some level of focus on the future course of their education. It helped to broaden their horizons and confirmed, for some, their Early University Entrance course was indeed the right one for them. Some students were shocked to find their course so thoroughly enthralling, opening up an avenue that they had never before considered. Some of those who had taken their preferred course found they had been looking down the wrong career path. Though it may have initially thrown their plans into disarray, its enlightenment was satisfying. Refining their degree choices would avert a later costly mistake.

"Great opportunity to sample campus life and to experience a subject at third level. This allows the student make a more considered choice when selecting subjects for further study." (Fintan's Mother)

For some it confirmed what they had hoped about a particular course of study.

"...my greatest satisfaction so far has been learning much more about law and I am now sure about what I want to do when I leave school." (Henry, Diary week 8)

"The opportunity to find out what a Law degree would entail, and to discover that his interest in the subject is genuine has been invaluable." (Henry's Parents)

For others however, whose preferred degree programmes were not offered by EUE, participation not so much changed but altered their university course direction.

“I’m kind of like thinking because I went into this thinking *I love physics. I’m doing medicine. Medicine, medicine, medicine.* But I’m kind of thinking like biomedical sciences, because you can do like physics with biomed. So I’m kind of broadening my outlook on what I want to do because I like it so much.” (Sarah, Focus group A-4)

Interestingly, some participants admitted that Early University Entrance had augmented their opinion of this particular university. Where previously they had focused singularly on UCD and Trinity, some were so impressed with DCU that they were now seriously considering it in their third level plans.

“Trinity may not be the place for me after all. . . .” (Maria, Diary week 12)

“Before now I’ve always had it in my mind that I’d like to go to Trinity, because of location and everything, but now like all the people in our class are like *DCU is so great and there’s so much to do* and all this stuff, so I’m getting to see all the socs and everything.” (Ruth, Focus group A-4)

Whether the course at Early University Entrance will ultimately alter their university decisions remains to be seen.

## EUE into the Future

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Experiences on the programme suggested ways in which EUE might run differently in the future. Based on their experience parents, students, university staff and teachers put forward a number of changes that they believed would improve its running.

### DCU SCHOOLS

For the Schools within the University, EUE had always been an attractive notion. The Head of Electronic Engineering explained its merits from his standpoint.

“If the students subsequently come back to DCU, we will get the full value of them taking an undergraduate degree - perhaps more - irrespective of what they pay now. If they do not, well we still have excellent ambassadors for the University. Given the circumstances, I think there is a good case for them being only charged a nominal fee. A counter argument is that their families can probably afford the per module fee and we shouldn't undervalue the benefits that we provide.” (Email correspondence, February 2009)

The School of Physical Sciences also commented that an increase of just one or two students would mean EUE had a significant impact. They also considered as significant, the *knock-on*



*effect* of the programme, i.e. early entrants conveying positive reports about the University to their school friends.

Within some Schools, the potential impact on student numbers made EUE a worthwhile endeavour. This however was not the case for all.

### **MODULES**

The careful selection of modules was obviously important, but so too was the course group from where they were taken. Taking modules from a number of degree programmes (as in the case of Physics-B) was believed to have had a detrimental effect on the social experience, according to one student.

“I think it would have been better if we were originally put in the same course for all our modules so that we would get to interact with the same people in our classes and get to socialise with them more.” (Ciaran, Diary week 7)

“It was a bit less social than I had expected and the modules were a bit less academically engaging and challenging than I had expected, but other than that, it did meet my expectations, those that I remember.” (Ciaran, Reflection)

One parent thought that the Physics-B would have been capable of more modules. The combination of under-stimulation and disjointed modules made for a less satisfactory outcome.

The engineering students in year two felt that the Professional Skills module, which dealt with careers and work experience, was of little concern to them at this stage. They felt challenged enough by the other modules but the material here was largely irrelevant and only caused them additional stress.

### **FULL OR PART-TIME**

Coping with the school and university commitments led many participants to show preference for a full-time programme (over one semester) as it would allow them to focus on a single educational programme more comfortably. In hindsight (and perhaps because she had been back at school for a number of weeks), one student thought that a full-time course may actually prove difficult in the end.

“Well I think that, like we were saying, during it we miss our friends, and if I took a whole semester out, like you’d go back and you’d feel so weird. I think that ... like if you were going to do the whole semester you’d be here the whole time ... This would be your life, which would be good here but as soon as you left you’d remember you’re not a college student, you know what I mean? You are only in fourth year. So maybe then going back would be way more difficult.” (Julianne, Focus group B-20)

Some parents favoured a full-time programme, with one suggesting it take place over the course of the full academic year. According to one, the chaotic timetabling, (which was endemic in the two pilot programmes) would have been negated in the event of a full-time programme. While she acknowledged however that this would deal with the nonflexible university schedule, doing so would subtract from the advantages of the concurrent model.

## SEMESTER I OR II

Discussion also concentrated on the most appropriate semester to run the EUE programme. Some of those who participated in the second semester (year one) found it suited them very well. The later term accommodated them getting to know their TY classmates at the opening of the year. It is often a busier term academically (at school). For others, EUE taking place during semester II clashed with major school events (i.e. musicals) and deadlines set down at the start of the year were doubling up with college commitments and causing additional stress for some. (For schools too semester two seemed more practical. One school principal in year two would have preferred the programme to have taken place during semester II).

“In TY they say like, okay everybody, do all these projects and these extracurricular things and then there’s usually some big finale to whatever we’re doing in march or April, and kind of nothing happens until January or February. And then everybody kind of goes insane, and goes *oh my God, we’re not ready, we’re not ready* and that’s all that happens in TY. So starting this at the start of all the kind of hectic *oh Jesus we really have to start getting into gear* part of TY is more difficult.” (Sarah, Focus group A-4)

Only one early entrant from year one (semester two) believed that a semester one programme would have made for an easier adaptation.

Some of those who took part in EUE in year two (semester I) felt that their interaction with the first year students would have suffered had they joined in semester two.

## LARGER NUMBERS OF PARTICIPANTS

The potential for social isolation is increased when there are very low student numbers. One student recommended that at least three participants be assigned to each course.

## CLUBS & SOCIETIES

The students expressed a strong desire to become involved in the university's clubs and societies. Though disqualified from doing so under the terms of agreement for the pilot programme they suggested they be available to future participants. The students lamented (this restriction) very much, especially when they saw their impact on the social integration of the first year students.

"The fact that we weren't allowed to join societies and clubs was annoying because I think that's where I'd really make friends with people who have the same non-academic interests and talents as me, and I'm really looking forward to being able to participate in these at college next time round." (Sally, Reflection)

"I also think allowing students to participate in some societies would help them immerse into campus life." (Naomi's Mother)

## OPTION TO CONTINUE COURSE DURING LEAVING CERTIFICATE CYCLE

One parent expressed the wish that her son could continue the studies begun at university throughout the remainder of his two years at second level. Alex commented that school could be challenging for all of the wrong reasons, and so some sort of fast track programme through the Leaving Certificate, would be attractive to him.

## ADVICE TO FUTURE EUES

Reflecting on their experience, the early entrants were asked to think about what advice they would give to Early Entrants on future programmes. In terms of academic counsel, they suggested they begin to study as soon as possible: listening in lectures even when it seems tedious; studying notes directly after lectures; starting assignments early; taking a *crash course* to bridge any knowledge gaps, and making time for personal study at the beginning.

“Start working from the start on anything you don’t know because you haven’t done the Leaving Cert. If you don’t, you’ll just fall further and further behind.” (John, Reflection)

Indeed the engineering students in the first year of the programme strongly urged the inclusion of a preparatory maths course to help close the Leaving Certificate knowledge gap.

“Because if we had have done some sort of maths course before we got here I’d say it would be so much easier, because it’s just like you go and you’re not really sure what you need to learn until you hear it and then you’re like ‘what the hell is that?’” (Naomi, Focus group A-2)

Not leaving assignments until the last minute was also recommended, and pacing oneself so as not to overdo it. Keeping up with continuous assessment tasks and assignments was also considered important, as work can quickly build up. So too was working together to figure out problems, and collaborating on homework assignments was also recommended.

Others stressed the importance of perseverance and belief in your own ability as critical for maintaining focus and keeping on track. Use of technologies available was also recommended; thus checking email regularly and making use of the material on Moodle.

Confident that their abilities compared favourably with the first year students, one advised that they not to be afraid to seek clarification in lectures if they are confused.

“If you need to ask any questions don’t be afraid to because everyone respects you and won’t slag you off for needing something clarified. They’re all in the same boat.” (Philip, Reflection)

The students also warned about taking care of one’s health and wellbeing during the semester. Adequate sleep and healthy eating, as well as knowing when to take time off, were all advocated.

“If you need to sleep or watch a movie or help someone in school you need to take of that as much as everything because it will hang over you. When you’re in the lectures commit yourself to them as fully as you can but remember that the lecture is over when it’s over and not after you read 7 out of the 10 chapters on the reading list. Enjoy it! You don’t have to be here, you chose it, now enjoy it to the best of your abilities.” (Maria, Reflection)

“Just work hard and keep up with your assignments and you’ll be flying. Keep concentrated and interested. If you can’t figure something out, ask someone who

knows. Don't be afraid. Never give up. Never quit. Most importantly...HAVE FUN!!!"  
(Brian, Reflection)

One student warned prospective participants to consider carefully how the programme would fit into their lives.

"Just kind of people should be warned that they have to really think about whether they're going to still take part in school or not." (Sarah, Focus group A-20)

There was uniformity of agreement around these hints and tips, from both students who had succeeded academically and from those who had struggled. In the end, persistence and commitment were considered non-negotiable to yield the full benefits of the programme.

"... what I'd say to other people, is that it takes a lot of time and commitment as well. Like you have to study ... You have to really want to go to university. To have the desire to go to university, because some people they're just like '*nah, you can mess here*' and for them I don't think it would be as enjoyable. (So don't enter into it lightly then?) Yeah. Definitely." (Michael, Focus group A-4)

### IS EUE TO BE RECOMMENDED?

Having participated in the programme it was interesting to see whether they would encourage their academically gifted friends to try it. Ciaran applied for EUE because it was recommended to him by students who had participated previously. Having enjoyed the programme, Ryan said he would highly recommend Early University Entrance.

"It is definitely an experience I'd recommend." (Ryan, Reflection)

Some parents felt that the Early University Entrance programme would be beneficial to "certain students," while one Year Head felt it would only be academically valuable to students who are already mature.

"For the right child, it is a very worthwhile experience." (Maria's parent)

"I think that for those who are motivated enough and with a mature attitude towards the programme they will certainly get a lot out of it." (Martin's parent)

## Concluding Remarks on Qualitative Findings

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“... studies of the academic and social development of gifted young people conducted contemporaneously, when the young subjects are actually experiencing the upbringing, the school programs, the social relationships, and other influences that contribute to their overall development can provide rich insights. Events and situations that impact on the child’s development can be observed as they occur. The changing influences of family, school, and society can be observed, and can be analyzed and discussed with the children themselves and with others involved in their academic and personal growth. These young students can describe their feelings, impressions, or desires with an immediacy that is not possible from the more removed perspective of adulthood.” (Gross, 2004, p. 88)

This chapter sought, not the author’s evaluation of the Early University Entrance programme but the opinions and evaluations of those critical to its central functioning. However, the predominant evaluators were its students, the inclusion of comments and reflections from parents, teachers, university administrators and lecturers were important contributions, though they often presented many conflicting arguments and contradictions. The case study illustrated expectations that were at odds, notions that were unfounded and perceptions that appeared misguided. This however is individual thinking, and in evaluation terms, presents the author with a toolkit of sharpened, blunted and broken implements with which to create the case.

The resultant study therefore resolves some issues, but leaves others open-ended. What is presented is a snapshot of the pilot programmes that took place at Dublin City Univeristy over the course of two semesters in 2008 and 2009. Though the research questions have been answered in great detail by some, the nature of the research means that as many more have been proposed, pointing toward further research.

What follows now is the quantitative results and analysis, which will give another dimension to some of the findings put forward in this chapter.

# Quantitative Findings

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Quantitative data sources were used alongside the qualitative approaches in the evaluation of the Early University Entrance programme, as a means of reciprocally bolstering (or *complementing* (Greene, Caracelli, & Graham, 1989)) the arising interpretations to build up a deeper, fuller appreciation of the case.

The quantitative data was derived from five standardised psychological tests:

- *Self-Description Questionnaire II (SDQ II)* (Marsh H. W., 1992)
- *Piers-Harris 2: Children's Self-Concept Scale* (Piers & Herzberg, 2002)
- *School Attitude Assessment Survey – Revised (SAAS-R)* (McCoach & Siegle, 2003)
- *Social Coping Questionnaire (SCQ)* (Swiatek & Dorr, 1998; Swiatek, 1995)
- *Student Adaptation to College Questionnaire (SACQ)* (Baker & Siryk, 1984)

With the exception of the SACQ, the scales were administered to students on week -1 (pre-programme), week 6 (midway through the semester) and week 19 (following the conclusion of end-of-semester exams). In accordance with the instrument manual, the SACQ was administered on week eight of the semester.

A table of the descriptive statistics for these measures may be found in Appendix K.

The full scale and subscale scores of each of these tests are outlined, followed by some preliminary inferences. The results and analyses of each test are then drawn together in a comprehensive review, where a broader set of suppositions are formulated to conclude the section.

## Self-Description Questionnaire II

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The SDQ II (Marsh H. W., 1992) was used to assess for changes in self-concept. It is composed of three components of academic self-concept (*verbal, math and school*), seven components of non-academic self-concept (*emotional stability, honesty/trustworthiness, parent relationships,*

*physical abilities, physical appearance, same-sex relationships and opposite-sex relationships*) and a *general self-concept*.

All submitted questionnaires were found to be valid, according to the author's manual. The response rate for the pre- and mid- programme data collection was 100%, but 90% at the post-programme stage (18 out of the 20 students returned questionnaires). Cronbach's alpha (Cronbach, 1951) was used to test for the internal consistency of the full scale and subscale scores (Table 4.3).

		Pre- Programme	Mid- Programme	Post- Programme	(Marsh H. W., 1992)
		Week 1	Week 6	Week 19	
# Items		n = 20	n = 20	n = 18	
Physical Abilities	8	0.80	0.81	0.76	.85
Physical Appearance	8	0.79	0.93	0.95	.91
Opposite-Sex Relations	8	0.86	0.94	0.94	.90
Same-Sex Relations	10	0.87	0.94	0.94	.86
Parent Relations	8	0.73	0.76	0.82	.87
Honesty-Trustworthiness	10	0.81	0.90	0.87	.84
Emotional Stability	10	0.88	0.84	0.89	.83
Math	10	0.97	0.92	0.92	.90
Verbal	10	0.94	0.91	0.88	.86
General School	11	0.80	0.75	0.84	.87
General Self	10	0.85	0.85	0.87	.88

Table 4.3– Cronbach's  $\alpha$  for the Self-Description Questionnaire II

Internal consistencies of 0.7 or greater are considered *acceptable*, of 0.8 or greater are *good*, and of 0.9 or greater are *excellent* (George & Mallery, 2003). The coefficients for these samples range from acceptable to excellent, and compare well to those reported by (Marsh H. W., 1992).

Nonparametric statistics were employed to analyse the SDQ-II because of the small number of students in the total population. The Wilcoxon Signed Rank test, which compares the medians in matched-pairs, was used to analyse the data. In this instance, the pre-programme, mid-programme and post-programme scores were compared against each other. The test sets up the null hypothesis ( $H_0$ ) as;  $m = 0$  thus there is no difference between the student scores at any point during the programme. The alternative hypotheses ( $H_a$ ) can be set up as one of three



possibilities:  $m > 0$  (positive difference, i.e. scores improved),  $m < 0$  (negative difference, i.e. scored disimproved) or  $m \neq 0$  (any difference). Thus, if the p-value is less than  $\alpha$  (0.05, i.e. at the 95% confidence interval) the null hypothesis can be rejected. The results of the test are found in Table 4.44.4.

The *Opposite Sex Relations* factor examines how students rate their popularity and the ease with which they make friends with members of the opposite sex. This factor was found to be significantly higher in the pre-programme data when compared to scores midway through the semester. No significance was found when the pre- and post- data, and the mid- and post- data sets were compared, thus indicating that the effect appears to moderate.

	Pre $\neq$ Mid		Mid $\neq$ Post		Pre $\neq$ Post	
	p-value	w stat	p-value	w stat	p-value	w stat
	n = 20		n = 18		n = 18	
<b>Total Self-Concept</b>	0.097	150	0.089	39.5	0.799	79
<b>Physical Appearance</b>	0.865	80.5	0.890	63.5	0.782	70
<b>General Self</b>	0.766	77.5	0.519	30	0.055	26
<b>Honesty-Trustworthiness</b>	0.61	73	0.517	62	0.169	35
<b>Math</b>	0.421	75	0.821	73	0.196	116.5
<b>Parent Relations</b>	0.074	127	0.144	38.5	0.9	71
<b>Emotional Stability</b>	0.465	114.5	0.274	45.5	0.963	78.5
<b>Physical Abilities</b>	0.302	79.5	0.782	62	0.404	95
<b>General School</b>	0.09	151	0.421	45	0.284	100.5
<b>Verbal</b>	0.0007 <sup>†</sup>	170.5	0.626	43.5	0.012 <sup>†</sup>	124
<b>Opposite-Sex Relations</b>	0.0042 <sup>†</sup>	174.5	0.860	72	0.073	92.5
<b>Same-Sex Relations</b>	0.169	130.5	0.597	56.5	0.263	101.5

<sup>†</sup> - statistically significant 1-tailed test

Table 4.4 – Wilcoxon Signed Rank test on matched pairs of data from the SDQ-II data

As the statistically significant changes on the *verbal* factor were somewhat unexpected, further analysis was conducted. The scores on the *math and verbal* scales were re-examined, this time splitting the group into humanities and science students. They were tested for significance, again using the Wilcoxon Signed Ranks test (Table 4.5).

		Pre ≠ Mid		Mid ≠ Post		Pre ≠ Post	
		p-value	w stat	p-value	w stat	p-value	w stat
<b>Verbal</b>	Science	0.0015†	76.5	0.206	17.5	0.193	41.5
	Humanities	0.297	21	0.75	4.5	0.109	24
<b>Math</b>	Science	0.734	26.5	0.820	25	0.465	42
	Humanities	0.686	13.5	0.938	15	0.375	20

† - statistically significant 1-tailed test

Table 4.5 – Wilcoxon Signed Rank tests performed on Verbal and Math factors – sample divided into Science and Humanities students

The verbal factor for science students was found to be statistically significant when pre- and mid-programme scores were compared.

## DISCUSSION OF SDQ II RESULTS

The statistical analysis of the SDQ-II questionnaire indicates that there is little variance in many areas of self-concept, as measured by this scale. Statistically significant differences were only found was on the *Opposite-Sex Relations* and *Verbal* factors. All other comparisons were non-significant.

Two possible reasons for the balancing out that was found on the *Opposite-Sex Relations* factor are suggested. It is possible that the early entrants simply became accustomed to being in the company of the older university students, and so the initial effects just evened out over time (no significance between mid- and post- data). At the final point of assessment (week 19), the students were no longer in the same regular contact with their university peers, having returned to school, full-time. The opposite-sex, comparison group has thus reverted to their age peers, where they find it easier to interact with members of the opposite sex. This would account for the uniformity between the start and endpoints (pre ≠ post).

The *Verbal* factor examines the way students rate themselves in English language and reading. This measure was found to be significantly higher at the beginning of the semester than it was at any other point. It is not surprising that this was found to be the case, as the early entrants were studying from university level books and notes; a much higher level to those used in their school classes. It is interesting that the same difference was not found to be the case on the *Math* scale. To investigate this further, the group was divided into science and humanities, and their scores on this and the *Verbal* subscale were re-examined. As expected the *Math* factor did not show any statistical significance, however when the pre- and mid-programme *Verbal* scores

were compared, the scores for the science students were found to be statistically significant. (Mathematical ability was obviously not a factor for the humanities students). It is likely that the science students, with high mathematical ability, but perhaps comparatively lower verbal ability, were simply struggling with the new terminology and language.

## Piers Harris 2: Children's Self-Concept Scale

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The Piers Harris 2 scale (Piers & Herzberg, 2002) also measures self-concept. It yields a score for Total Self-Concept as well as six subscales: *Behavioural Adjustment, Intellectual and School Status, Physical Appearance and Attributes, Freedom from Anxiety, Happiness and Satisfaction, and Popularity*.

As with a number of the psychological measures used in this research, the Piers Harris 2 was administered pre-programme, mid-programme and post-programme. The Wilcoxon Signed Rank test was also used to compare pairs of data and check for statistical significance.

Before the results of the Piers Harris 2 Children's Self-Concept Scale can be interpreted, a number of validity considerations outlined by the authors (Piers & Herzberg, 2002) must first be checked. These are *Exaggeration, Response Bias* and *Random Responding*.

Information about possible **exaggeration** is found in the Total (TOT) Self-Concept scores. Piers-Harris 2 cautions the interpretation of raw scores above 57 points (Piers & Herzberg, 2002), as it indicates that fewer than three items were responded to in the direction of negative self-concept. *Exaggeration* is an intentional attempt by the respondent to alter their answers to bring about a more desirable (or more undesirable) result. It points to a variance between the student's own opinions, and what they interpret as the expectations of significant others. An elevated score may indicate a genuinely high self-evaluation but it may too denote a wish to appear extremely self-confident, or be simply an idealistic self-evaluation. The authors suggest that the test items with negative responses be further examined to understand the actual response behaviour. (Supplementary data, when available, may also be considered).

The progress of the total self-concept scores (TOT) are illustrated in Figure 4.2. Four students can be seen to have TOT scores at or above 57 points. The scores of three of the four remained in this range over the subsequent data collection points, and so their results are deemed an

honest self-evaluation. The scores of the fourth student slipped at the midway point (by 11 points), but rose to within three points of his pre-programme assessment.

Exaggeration may also occur at the opposite extreme, though this is quite rare. Low scores typically indicate low self-esteem (Piers & Herzberg, 2002). The individual scores are given in Figure 4.2. The scores of four students were in the *Low Average* range at the initially testing. Two shifted downwards over the subsequent data collection points to the *Low* range. Another fell at the midway stage but recovered to the initial score at the post programme stage. (No post-programme data are available for the fourth student, whose scores dipped at the midway point).

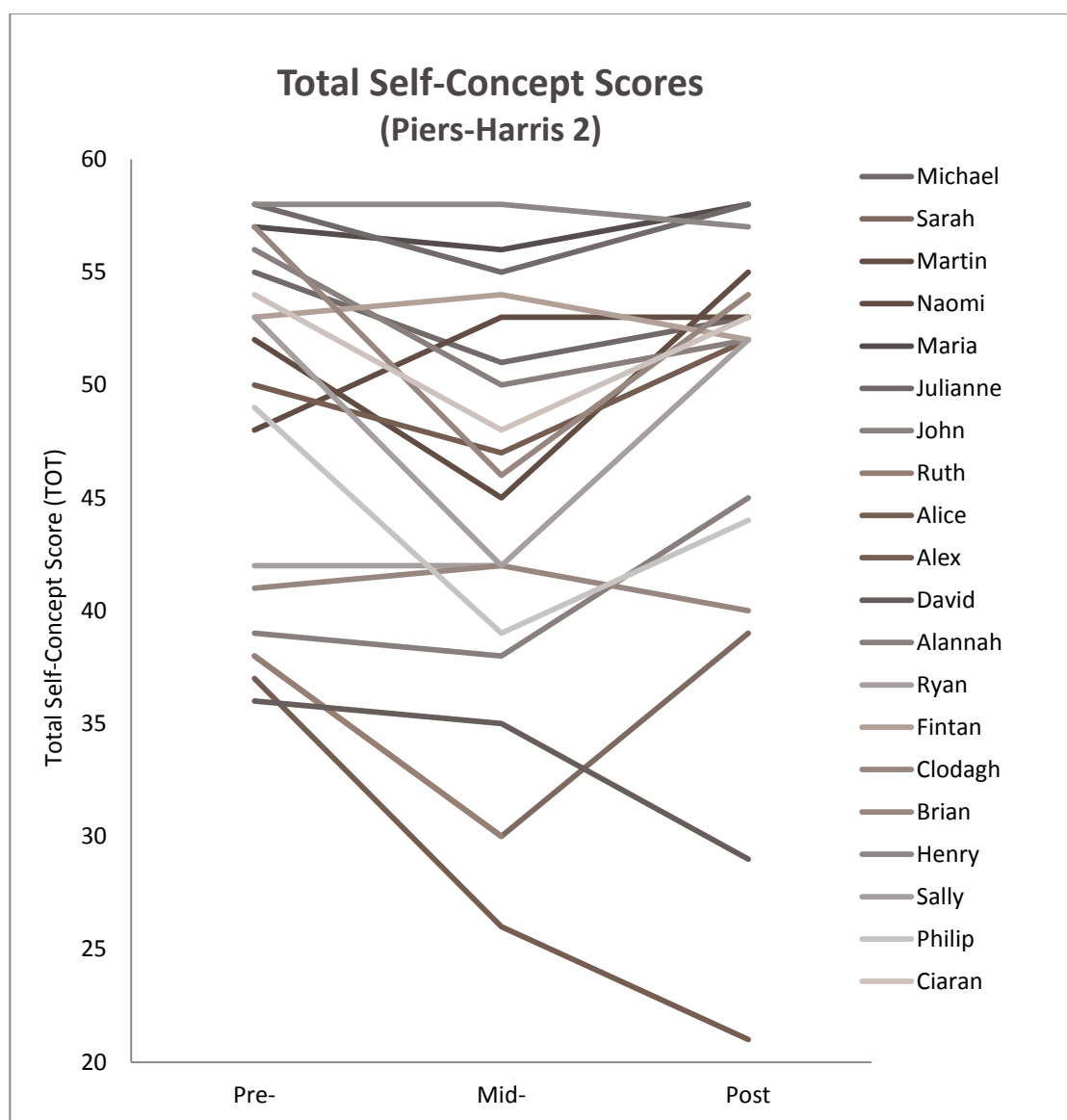


Figure 4.2 – TOT scores on the Piers-Harris 2 Self-Concept Scale

**Response Bias** refers to a respondent's propensity to answer items positively or negatively, regardless of the question. Piers-Harris 2 addresses *Response Bias* by including 25 positively phrased and 35 negatively phrased items in the scale. Respondents who score more than 40 or less than 18 on the *Response Bias Index* (RES) demonstrate a response bias, and their scores should not be interpreted further. Response Bias was not evidenced in the data collected.

**Random Responding** allows for inconsistent answering (in the form of direct contradictions) to be recognised. 15-pairs of questions combine to determine whether the items are being answered randomly, and are calculated on the *Inconsistent Responding Index* (INC). A raw score of 4 or above indicates that random responding occurred. All of the tests were found to be consistent. The highest INC score recorded was 2.

## INTERNAL CONSISTENCY

In tests where the items have dichotomous answers, Cronbach's Alpha returns the same value for internal consistency as Kuder-Richardson's coefficient (KR-20). To calculate the internal consistency coefficient, Yes responses were assigned a value of 1, and No responses assigned a value of 0. As missing items make the calculation of Cronbach's Alpha imprecise, missing items were replaced with the *mode* for that particular item. As the scale consists of 35 negatively phrased items (Piers, Harris, & Herzberg, 2008), adjustments were required to obtain a correct value for Cronbach's Alpha.

		Pre- Programme	Mid- Programme	Post- Programme	(Piers & Herzberg, 2002)
	# Items	Week 1	Week 6	Week 19	15-16 yrs
Total Score (TOT)	60	.79	.81	.86	.93
Behavioural Adjustment (BEH)	14	.64	.63	.49	.81
Intellectual and School Status (INT)	16	.65*	.72	.70	.82
Physical Appearance and Attributes (PHY)	11	.76	.73	.72	.73
Freedom from Anxiety (FRE)	14	.49	.72	.85	.84
Popularity (POP)	12	.55	.50	.65*	.78
Happiness and Satisfaction (HAP)	10	.52	.64	.37	.78

Table 4.6 – Internal Consistency Coefficient (Cronbach's Alpha) for the Piers-Harris 2

\* When rounded up, 0.65 equates to 0.7, which is within the acceptable range of internal consistency according to (George & Mallery, 2003).

The *Behavioural Adjustment (BEH)* and *Happiness and Satisfaction (HAP)* subscales show inconsistencies at all times of measurement. The *Popularity (POP)* subscale is narrowly acceptable at the post-programme point, and the *Freedom from Anxiety (FRE)* subscale may only be interpreted at the mid and latter stage of measurement. (These scores are opaque in Table 4.). The use of these subscale scores in later comparisons is compromised by these issues of internal consistency. All other scores (highlighted in bold) are above 0.7 (acceptable range according to George and Mallery (2003)) and are thus internally consistent. All of the alpha coefficients are below those quoted by for the standardised group of 15-16 year olds (Piers & Herzberg, 2002) as indicated in Table 4.6.

## PIERS HARRIS 2 RESULTS

Subscale	Pre ≠ Mid		Mid ≠ Post		Pre ≠ Post	
	p-value	w stat	p-value	w stat	p-value	w stat
	n = 20		n = 18		n = 18	
<b>Total Score (TOT)</b>	<b>.0005<sup>†</sup></b>	156	<b>.0153<sup>†</sup></b>	30.5	.353	97.5
<b>Behavioural Adjustment (BEH)</b>	.068	72	.077	15.5	1.000	23.5
<b>Intellectual and School Status (INT)</b>	<b>.0017<sup>†</sup></b>	122.5	<b>.0171<sup>†</sup></b>	12	.938	15
<b>Physical Appearance and Attributes (PHY)</b>	.009	71	.067	11.5	.938	12.5
<b>Freedom from Anxiety (FRE)</b>	<b>.0023<sup>†</sup></b>	84	.421	45	.191	65
<b>Popularity (POP)</b>	.168	66.5	.147	24	.569	47
<b>Happiness and Satisfaction (HAP)</b>	.009	71	1.000	23.5	.078	25.5

† - statistically significant 1-tailed test

Table 4.7 - Wilcoxon Signed Rank test on matched pairs of data from the Piers-Harris Self-Concept Scale

The Wilcoxon Signed Rank test was used to compare pairs of data. As before, the data was set up in three ways: Pre/Mid, Mid/Post and Pre/Post. The p-values were calculated and those found to be below 0.05 (95% confidence interval) in a two-tailed test or 0.025 in a one-tailed test, were found to be statistically significant. The tests that yielded statistically significant results are highlighted in mauve in

† - statistically significant 1-tailed test

Table

Statistically significant results were found when the Pre/Mid data sets on TOT, INT, and FRE subscales, and the Mid/Post data sets on the TOT and INT subscales were tested.

## DISCUSSION OF PIERS HARRIS 2 RESULTS

The *Total score (TOT)* appraises the overall or general self-concept. A high score implies a positive self-concept, and a low score equates to a negative or less positive self-concept. A low general self-concept suggests a deficient self-concept in specific domains or that the deficit exists across all areas. Statistically significant changes in the overall self-concept are evidenced. Pre-programme data was found to be significantly higher than at the mid-programme point. The mid-programme data was shown to be significantly lower than the post-programme data. (No significant difference was found between pre- and post- data sets on this subscale).

The *Intellectual and School Status (INT)* subscale looks at the individual's perception of their academic and intellectual abilities, examining areas such as school satisfaction and academic expectations. Like the TOT, the pre-programme results are shown to be significantly higher than those at the midway point, and the mid-programme data are found to be significantly lower than the post-programme data. Again, no significant difference was found between pre- and post- data sets on this subscale.

The *Freedom from Anxiety (FRE)* subscale measures the degree of angst experienced by respondents. It includes a number of emotions: worry, nervousness, shyness, sadness, fear and a general feeling of being left out. High scores on this subscale indicate greater freedom from such negative feelings. Analysis found that FRE was only significantly higher pre-programme than at the mid-programme point.

The interpretation of these results is facilitated by examining them collectively, as changes in TOT can be explained by a large change in one subscale or changes in a number of subscales. The decline toward the mid-point in Total self-concept (TOT) may be explained by the deterioration in the INT and FRE domains. The subsequent rise at the end of the programme can be explained by the changes in the INT domain.

Taking the statistically significant changes that occur in the overall self-concept (TOT), *Intellectual and School Status (INT)* and the *Freedom from Anxiety (FRE)* subscales, it helps to discuss them in terms of the mean values. For ease of assessment, the values are presented graphically in Figure 4.3.

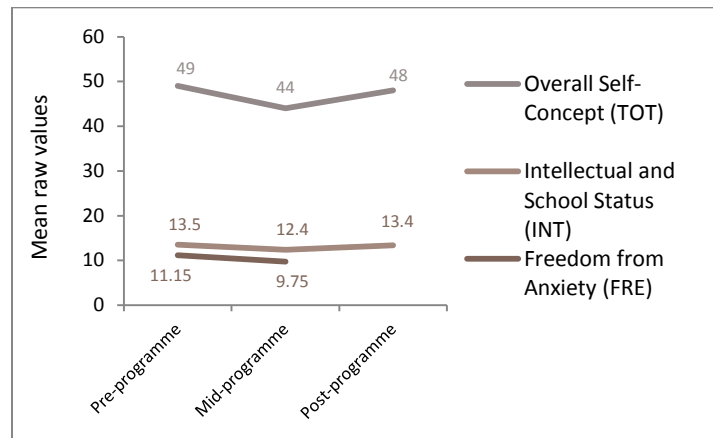


Figure 4.3 - Mean Raw Scores of statistically significant subscales on the Piers-Harris Self-Concept Scale

At a glance, it is clear that the scores do not change greatly between the pre- and post-programme points, consistent with the absence of statistically significant findings. Significant changes occur however on the TOT and INT subscales between the pre – mid, and mid – post data, and on the FRE subscale between the pre – mid data.

These changes may be explained by the students confidently arriving to the university having surpassed the other candidates in obtaining a place on the EUE programme. The emotional trauma experienced students as the programme progressed is evidenced in the changes in the *Freedom from Anxiety* subscale (FRE). The students grew unsure of their academic abilities (evidenced in the changes on the *Intellectual and School Status* subscale (INT) at the halfway point in the semester), becoming more anxious as deadlines for continuous assessment assignments and laboratory reports were approaching. These changes were seen to moderate by the end of the programme, returning to pre-programme ranges. It is proposed that the experience of success in their continuous assessments, thus knowing that they could *hold their own* in a higher educational environment, caused this change.



## School Attitude Assessment Survey – Revised

The School Attitude Assessment Survey by McCoach and Siegle (2003) assesses student opinions toward school and themselves as a learner in that environment. It is used in this thesis to assess if the Early Entrance programme affected how the participants attitudes toward school.

The scale contains five subscales: *academic self-perceptions, attitudes toward school, attitudes toward teachers, motivation and self-regulation, and goal valuation.*

		Pre- Programme	Mid- Programme	Post- Programme
		Week 1	Week 6	Week 19
# Items		n = 20	n = 20	n = 18
<b>Academic Self-Perception (ASP)</b>	7	0.75	0.86	0.99
<b>Attitude toward Teachers &amp; Classes (ATTC)</b>	7	0.91	0.95	0.97
<b>Attitudes toward School (ATS)</b>	5	0.95	0.94	0.99
<b>Goal Valuation (GV)</b>	6	0.93	0.96	0.99
<b>Motivation/Self-Regulation (M/SR)</b>	10	0.95	0.95	0.97

Table 4.8 - Internal Consistency Coefficients (Cronbach's Alpha) for the SAAS - Revised

The internal consistency coefficients, calculated for each phase of the test, are given in Table 4.8. The coefficients range from acceptable to excellent, and compare well to those reported by McCoach and Siegle (2003) (internal consistencies reported of at least .85) and those by Suldo, Shaffer and Shaunessy (2008) (values ranged from .88 (Academic Self-Perception) to .93 (Attitude toward School)).

The medians of matched pairs of data (the test distributed before, during and after the programme) were compared, again using the Wilcoxon Signed Rank test. The results of which may be found in Table 4.9. None of the comparisons showed statistical significance. This confirms that the students' attitudes toward the five subscales (*academic self-perception, attitude toward teachers and classes, attitude toward school, goal valuation and motivation/self-regulation*) remained constant throughout and beyond their participation. (A p-

v

alue of less than 0.05 would indicate a statistically significant difference).

Subscale	Pre ≠ Mid		Mid ≠ Post		Pre ≠ Post	
	p-value	w stat	p-value	w stat	p-value	w stat
	n = 20		n = 18		n = 18	
<b>Academic Self-Perception</b>	0.89	72.5	0.68	39	0.67	59
<b>Attitude toward Teachers &amp; Classes</b>	1.00	84.5	0.98	67	0.89	56.5
<b>Attitudes toward School</b>	0.17	118	0.49	60.5	0.64	69
<b>Goal Valuation</b>	0.95	47	1.00	51.5	0.78	61.5
<b>Motivation/Self-Regulation</b>	0.92	91.5	0.30	79	0.38	86.5

Table 4.9 – Wilcoxon Signed Rank test on matched pairs of data of the SAAS-R

## DISCUSSION OF SAAS-R RESULTS

The case study's emerging themes serve to enlighten these quantitative findings, and so each is considered in turn below.

*Academic self-perception* attests to a self-confidence that can be seen for example in a student undertaking higher levels of academic challenge, while a low value would point toward underachievement. Academic self-perception, over the course of the EUE experience, neither increases nor decreases, though an increase might have been expected. (Students would feel more confident about themselves at school, in the knowledge that they can hold their own in a university environment).

*Attitudes toward Teachers and Classes* examines the impact of these factors on student achievement. The unchanging scores indicate that the EUE programme neither negatively nor positively affected their perception of teachers and school to the extent that it would affect their performance.

*Attitude Toward School* have been shown to moderately correlate with achievement. Given that no changes were detected on this scale, and no formal measures of school achievement were considered, interpretation of this subscale is redundant.

Tasks that are considered important are more likely to motivate students. *Goal Valuation* looks at the investment of energy into the realisation of ambitions and aims, and thus is useful in the study of underachievement. The programme required students to consider seriously the

challenge it would mean. The application (for EUE) itself would have only attracted students willing to devote time and effort in the acquisition of a place. Those putting themselves forward and ultimately selected, thus had high goal valuation.

One student in particular neglected his academic obligations while at university. Careful examination of his scores sees a fall of 2-points between the pre- and post-programme tests (the largest decrease of all students). His attitude toward his academic commitments waned, and while his attendance at lectures remained faithful, his neglect of any individual work illustrated clearly his struggle with goal valuation, and potential for underachievement.

*Motivation/Self-Regulation* considers achievement as a two-part process. Motivation is an instinctive compulsion to achieve, while self-regulation is the planned focus, which realises the achievement. Perhaps had the students encountered an academic experience that excessively challenged their motivation (i.e. that the course material was considered too complicated) or one that greatly exceeded their ability to self-regulate, significant differences would have been detected however, this seems not to have been the case. The uniformity of the results would indicate that the transition year curriculum was pitched at an appropriate or expected level. Their participation in EUE did not affect how they experienced their school courses.

## Social Coping Questionnaire – Revised

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The Social Coping Questionnaire – Revised (Swiatek & Dorr, 1998) measures the coping strategies employed by gifted students in social situations. As the test is still under development, a number of different subscales are quoted by different authors (Cross & Swiatek, 2009; Moritz Rudasill, Clark Foust, & Callahan, 2007; Swiatek, 1995; Swiatek & Dorr, 1998; Swiatek & Cross, 2007) according to the factor analysis conducted on different groups. As this test was used with a very small sample, no factor analysis was conducted, but the results were examined according to the subscales reported by Swiatek (2001). These are *Denying Giftedness*, *Using Humour*, *Activity Level*, *Peer Acceptance*, *Conformity*, *Helping Others*, *Focus on Popularity*, as well as an overall or *Total Social Coping* score.

As with a number of the psychological measures used in this research, the Social Coping Questionnaire was administered pre-programme, mid-programme and post-programme. The Wilcoxon Signed Rank test was also used to compare pairs of data and check for statistical

significance. The data was first subjected to testing for internal consistency. Cronbach's Alpha was calculated on each set of results (Table 4.10).

		Pre- Programme	Mid- Programme	Post- Programme
		Week 1	Week 6	Week 19
# Items		n = 20	n = 20	n = 18
<b>Denying Giftedness</b>	7	<b>0.78</b>	<b>0.90</b>	<b>0.94</b>
<b>Using Humour</b>	4	-1.91*	-0.35*	0.62*
<b>Activity Level</b>	5	0.57*	-0.17*	<b>0.79</b>
<b>Peer Acceptance</b>	6	-0.94*	-0.69*	0.69*
<b>Conformity</b>	5	0.53*	0.60*	<b>0.90</b>
<b>Helping Others</b>	3	<b>0.71</b>	<b>0.71</b>	<b>0.90</b>
<b>Focus on Popularity</b>	4	0.60*	0.64*	<b>0.85</b>
<b>Social Coping (Total)</b>	34	<b>0.73</b>	<b>0.70</b>	<b>0.96</b>

\* unacceptable level of consistency

Table 4.10 – Internal Consistency Coefficients (Cronbach's Alpha) for the Social Coping Questionnaire

Many of the coefficients are below the acceptable range (0.70), and thus are inappropriate for interpretation. Conclusions may only be inferred from the *Denying Giftedness*, *Helping Others* subscales and *Total Social Coping*.

## SOCIAL COPING QUESTIONNAIRE RESULTS

The data sets at each time are compared and tested for statistical significance (see Table 4.11).

Subscale	Pre ≠ Mid		Mid ≠ Post		Pre ≠ Post	
	p-value	w stat	p-value	w stat	p-value	w stat
	n = 20		n = 18		n = 18	
<b>Denying Giftedness</b>	0.47	125.5	0.98	66.5	0.56	80.5
<b>Using Humour</b>	0.52	72	0.45	46	0.97	34
<b>Activity Level</b>	0.02	26	0.43	94	0.32	47.5
<b>Peer Acceptance</b>	0.47	84.5	0.96	78.5	0.30	46.5
<b>Conformity</b>	0.25	45	0.53	81	0.74	60.5
<b>Helping Others</b>	0.98	67.5	0.89	56.3	0.58	89.5
<b>Focus on Popularity</b>	0.14	39	0.17	85.5	1.00	51.5
<b>Social Coping (Total)</b>	0.12	48.5	0.33	98	0.38	56.5

Table 4.11 - Wilcoxon Signed Rank test on matched pairs of data from the Social Coping Questionnaire - Revised

For completeness, the results of the Wilcoxon Signed Rank test were included for the subscales that were found to be internally inconsistent. These however are not discussed.

No statistically significant differences were found in any of the subscales that were deemed consistent. It can therefore be deduced that social coping skills were not affected by participation in the EUE programme.

## Student Adaptation to College Questionnaire

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The Student Adaptation to College Questionnaire by Baker and Siryk (1984) examines adjustment to university. It yields a *Full-Scale Self-Concept* and four subscales: *Academic Adjustment*, *Social Adjustment*, *Personal-Emotional Adjustment* and *Attachment*.

Given the nature of the SACQ, it seemed reasonable to make comparisons between the early entrants and their older classmates. For this reason, the SACQ was administered to the early entrants as well as to the regular college students participating in the same modules. The total sample size for the SACQ was 127 valid questionnaires, out of 146 distributed, representing a response rate of 87%. The participant breakdown is outlined in Table 4.12. The first year students from the university were given the option to participate, meaning that this portion of the sample was random. The EUE students are the exception however as the total population was used.

Student Group	Valid Responses
EUE students	20
First Year EPL students	35
First Year AP students	24
First Year Eng students	48

Table 4.12 – SACQ Student Sample

It was decided to use nonparametric statistics to analyse the data from the SACQ, because two of the four groups had a sample size of less than 30, and thus were unlikely to have a normal distribution.

The Kruskal-Wallis test was used to compare the medians of each group on each of the subscales. This test sets out the null hypothesis ( $H_0$ ) as:  $k_{EUE} = k_{Phy} = k_{Eng} = k_{EPL}$ , i.e. the four medians are the same. The alternative hypothesis ( $H_a$ ) says that a difference exists,  $k_{EUE} \neq k_{Phy} \neq k_{Eng} \neq k_{EPL}$ . Where the p-value is less than  $\alpha$  (0.05), the null hypothesis can be rejected. The results of the Kruskal-Wallis test are given in Table 4.13, with significant results indicated.

Subscale	Subscale Cluster	Kruskal-Wallis	p-value
<b>Full Scale Self-Concept</b>		12.40	0.0061
<b>Social Adjustment</b>	General	1.19	0.7561
	Nostalgia	4.89	0.1801
	Other People	0.62	0.8919
	Social Environment	6.51	0.0893
	Total Social Adjustment	0.72	0.8687
<b>Personal-Emotional Adjustment</b>	Physical	7.72	0.0523
	Psychological	6.16	0.1042
	Total P-E Adjustment	4.73	0.1929
<b>Academic Adjustment</b>	Academic Environment	10.07	0.0180
	Application	15.22	0.0016
	Motivation	3.55	0.3141
	Performance	13.13	0.0044
	Total Academic Adjustment	12.71	0.0053
<b>Attachment</b>	General	5.69	0.1278
	This College	22.44	<0.0001
	Total Attachment	26.61	<0.0001

<sup>†</sup> 1- tailed test

<sup>\*</sup> 2-tailed test

<sup>‡</sup> Statistically significant at 99% confidence interval

**Table 4.13 - Kruskal-Wallis test for statistical significance of SACQ scores**

Those subscales and subscale clusters, which show a statistically significant probability (p-value) of rejecting the null hypothesis, have a 95% confidence interval. Thus, it was assumed that differences existed between the populations. The Kruskal-Wallis test however only indicates that a difference exists. It does not indicate where the differences are. To determine which populations were different, the Mann Whitney test (also called the *Rank Sum* and *Mann-Whitney U test*) was used (see Table 4.14).

Subscale	Cluster	Populations	MW Statistic	p-value
<b>Full Scale Self-Concept</b>		Eng ≠ EPL	834.5	0.9595*
		Eng ≠ Phy	609.0	0.6934*
		EUE > Eng	250.0	0.001† ‡
		EUE > Phy	115.0	0.0016† ‡
		EUE > EPL	177.5	0.0013† ‡
		Phy ≠ EPL	376.0	0.2486†
<b>Academic Adjustment</b>	Total Academic	Eng ≠ EPL	948.5	0.3170*
		Eng ≠ Phy	682.0	0.2053*
		EUE > Eng	229.5	0.0004† ‡
		EUE > Phy	132.0	0.0054† ‡
		EUE > EPL	205.5	0.0057† ‡
		Phy ≠ EPL	411.0	0.8895*
<b>Academic Adjustment</b>	Academic Environment	Eng < EPL	1068.0	0.0174† ‡
		Eng ≠ Phy	715.0	0.0963*
		EUE > Eng	272.0	0.0025† ‡
		EUE ≠ Phy	183.0	0.1783*
		EUE ≠ EPL	278.0	0.2070*
		Phy ≠ EPL	436.0	0.8047*
<b>Academic Adjustment</b>	Application	Eng ≠ EPL	893.5	0.6212*
		Eng ≠ Phy	608.0	0.7018*
		EUE > Eng	209.5	0.0001† ‡
		EUE > Phy	104.5	0.0007† ‡
		EUE > EPL	172.5	0.0009† ‡
		Phy ≠ EPL	425.0	0.9384*
<b>Academic Adjustment</b>	Performance	Eng ≠ EPL	820.0	0.8536*
		Eng ≠ Phy	628.5	0.5301*
		EUE > Eng	225.0	0.0003† ‡
		EUE > Phy	129.0	0.0044† ‡
		EUE > EPL	177.5	0.0013† ‡
		Phy ≠ EPL	381.0	0.5470*
<b>Attachment</b>	Total Attachment	Eng ≠ EPL	782	0.5926*
		Eng ≠ Phy	533.5	0.6115*
		EUE > Eng	134	<0.0001† ‡
		EUE > Phy	77	<0.0001† ‡
		EUE > EPL	90.5	<0.0001† ‡
		Phy ≠ EPL	360.5	0.3583*
<b>Attachment</b>	This College	Eng ≠ EPL	910.5	0.5134*
		Eng ≠ Phy	673.0	0.2443*
		EUE > Eng	153.5	<0.0001† ‡
		EUE > Phy	96.0	0.0003† ‡
		EUE > EPL	127.5	<0.0001† ‡
		Phy ≠ EPL	385.0	0.5857*

† 1- tailed test

\* 2-tailed test

‡ Statistically significant at 99% confidence interval

Table 4.14 – Mann-Whitney test for population differences

Although the early entrance students are of main interest here, the first year groups are compared against each other also.



## DISCUSSION OF THE SACQ

Early entrants were shown to have a significantly higher **Full Scale Self-Concept**, compared to each of the first year groups. Their **Total Academic Adjustment** was also found to be significantly higher than the first year cohort. Each of the clusters within this subscale, with the exception of *Motivation*, reported the early entrants as having statistically significant higher scores: *Application* toward college work and perceived *Performance*. (Their scores were significantly higher than first year, engineering students on the *Academic Adjustment: Academic Environment* subscale).

Though the early entrants were selected partly on their high motivation levels, this is only borne out in the way they apply themselves toward their college work, and not as having significantly different levels of motivation to the first years. The significance that indicates the early entrants apply themselves more to their studies is potentially an unrealistic one. While it may well be that the early entrants show better levels of course motivation, it is possible that the first year students simply had greater involvement in the social activities synonymous with beginning third level education that the early entrants were unable to access. Distracted from their academic obligations, they would show lower levels of application than the early entrants.

High *Academic Adjustment* is associated with high grades, greater command of learning and students who set realistic goals. The significantly different scores may result from the early entrants having to consider their aims for participation in Early University Entrance, more so than the first year students, who simply listed their preferences on the college admissions form. Though no differences in motivation were detected, the fact that these students opted for a programme such as this one, could indicate greater intrinsic motivation. Students who are more intrinsically motivated have improved academic performance at university (as well as quickly adapting socially and emotionally) (Conti, 2000). The same research showed that having well-reasoned, self-directed college goals, is associated with superior intrinsic motivation and thus higher academic performance during the first term, for all students, including those who are academically gifted. (The study also found that students who were singularly focused on academic achievement had greater problems adapting socially and emotionally (Conti, 2000)).

What is interesting here is that early entrants have a significantly higher perception of their performance. This cluster includes the efficiency of study strategies to bring about academic

success. As Beyers & Goossens (2002) pointed out, European students are less engaged in mid-semester assessment, and thereby have no formal way of knowing their progress until the exams at the end of the semester.

Finally, the early entrants were found to have a statistically higher level of **Total Attachment**. High scores on this subscale are associated with greater contentment with the university experience. Perhaps third level learning proved to be a better academic match for the early entrants, more than for the first year students, who were just moving to the next, chronological step in their education. The early entrants had significantly greater attachment to *This College* compared to all of the first year groups. The latter difference may be explained by the early entrants only having the choice of one institution.

What is interesting is that their perceived **Social Adjustment** and **Personal-Emotional Adjustment** were no different to the first year cohort. Given that much of the concern about early college entrance is rooted in the social and emotional impact, it is interesting that this was clearly not the case on this programme.

## End of Semester Exam Results

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The end of semester examination grades provide an important quantitative measure of the learning achieved by the young university participants. These results are no more insightful than when viewed alongside those of the ordinary university cohort. The exam results achieved by the early entrance students and those of their university classmates are presented in Table 154.15.

Examining the results collectively, the early entrants are shown to have outperformed their university-age classmates in seven out of fifteen semester examinations (shaded). (Note that the average first year grades were unavailable in five of these modules). The selected modules were considered to provide an appropriate or optimal match for participants. It is obvious however that problems exist with the Physics programme in year one.

Pilot Year	Degree	Module Title	Average EUE Grade	SD	Average First Year Grade	SD
1	Politics & Law	Moot Court	61.50	4.95	60.27	7.43
1	Politics & Law	American Political System	62.50	0.71	57.57	8.99
1	Politics & Law	Law of Contract	60.88	3.71	57.32	9.08
1	Engineering	Engineering Sciences	61.67	4.24	49.30	17.6
1	Engineering	Software Development for Engineers	68.67	19.14	46.50	16.7
1	Physics	Electricity & Magnetism	<35	-	49.19	16.21
1	Physics	Thermal Physics	<35	-	56.50	16.7
1	Physics	Laboratory Reports	64*	-	64.67	4.2
2	Politics & Law	Constitutional Law	51.00	5.94	Unavailable	
2	Politics & Law	Introduction to Politics	53.25	10.14	Unavailable	
2	Politics & Law	Irish Legal System	46.85	4.06	55	
2	Engineering	Fundamentals of Electronic & Mechanical Engineering	50.33	8.74	48.79	18.79
2	Physics	Modern Technology	61.00	3.16	Unavailable	
2	Physics	Physics for Science & Health	77.00	9.07	Unavailable	
2	Physics	Laboratory Sessions	64.00	0.00	64.67	4.2

Table 4.15 – End of Semester Exam Grades (as a percentage)

\* Group project – single grade awarded.

The Applied Physics students in the first pilot scored much lower than their first year counterparts did. It was concluded that there was too great a knowledge gap in the area of mathematics between the transition year, early entrants and the first year, university level modules. This was addressed in year two, with the selection of modules that had a lesser mathematical component. The physics students in year two performed much better as a result. It is necessary therefore that in the selection of university modules, appropriate attention is given to potential knowledge gaps, so that an optimal academic match is achieved.

## Conclusion

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This chapter composed the qualitative and quantitative findings of the study. In case study form, it portrayed the experience of the early entrants as they prepared, progressed through and reflected on the EUE programme. It attempted to recreate for the reader EUE in its entirety, from university, to school, to personal. The case study illustrated the difficulties overcome by the key stakeholders, the early entrants, as well as the pleasant surprises they found. It embraced the reactions and opinions from both contemporaries and seniors that were

encountered at university and at school. It incorporated the interests of teachers, parents, the researcher and university staff, so that the programme could be properly appreciated from all perspectives.

The quantitative element of the chapter presented the findings of the psychological measures utilised in the study. It examined their validity and reliability, before checking for significance difference between the three points of data collection. This part of the chapter provided important detail to the qualitative findings and enabled the reader to appreciate more fully the EUE phenomenon.

The next chapter draws together the purely qualitative and quantitative results where both consistencies and discrepancies are discussed in detail. Where the findings appeared to diverge with these two contrasting methods, deeper, more insightful questions were posed to lead further research.

# Chapter 5

## Discussion of Qualitative & Quantitative Findings

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This chapter draws together the findings of the qualitative and quantitative sections to bring about more comprehensive suppositions and conclusions. It will discuss the social and academic integration of the early entrants into the university, considering their interactions with faculty, first year students and each other. It will review their school experiences during the programme and attempt to explain their issues and obstacles. Finally, it will look at their reintegration back into school, following the programme's conclusion.

### Intellectual Will

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Though the early entrants expressed a strong desire to follow a university education, they had no real idea of what it would actually involve. Nonetheless, they held high expectations of the institution and of the achievements, it would allow them to achieve.

Negative academic school experiences and an innate desire for knowledge seem to have pushed the participants toward more stimulating and challenging educational experiences. At school, it seems, they are not permitted to see the full extent of their abilities, as lessons are often far below their level of ability. The novelty of this being a university-based programme had an *attractive* effect; they anticipated that the Early University Entrance programme would give them a better context within which to place themselves.

Not all gifted students opted to apply for the EUE programme. (The limited course options and programme location are believed to have affected application numbers). These participants however may be considered a motivated group, in that they sought out the programme. They are goal-driven, and see EUE as an opportunity to challenge themselves and achieve ever higher goals. They infer that school does not permit such goals to be set or even realised, something they see the prospect of in the Early University Entrance programme at DCU.

This group exhibit a strong will to mature academically and personally. They believe school not only constrains their academic abilities, but also inhibits their personal development. Academic

talent is regarded a significant component of their personality, but one that is frequently hidden while in school, somewhat denying their true selves. EUE was seen as an opportunity to escape the constraints of school opinions (teachers and otherwise).

## Integration with the University

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The early entrants were found to have a significantly greater attachment to the university compared to their first year classmates (SACQ). As entry to the EUE programme was quite competitive, the accelerants had to devote much time to their applications, unlike the first year students who simply listed their preferred courses on the college entry application. Outlining why they wanted to participate in a particular degree programme, what they believed university learning would be like and how they would cope with it, perhaps meant an appreciably greater investment in the university experience prior to entry compared to regular college entrants.

It would appear that the accelerants enjoyed a very positive relationship with the institution. Many perceived the university as a very academic institution, and they were pleasantly surprised to find it was a much more relaxed, autonomous environment, compared to school. The level of integration into the university on a personal level appears to have been a positive.

### TEACHING & LEARNING CHANGES

On a formal academic level, they experienced a very different approach to teaching and learning. Their relationships with lecturers, the teaching style and manner of dealing with students were very different to their previous school experiences. It would appear that they were surprised by how friendly and accessible they were. Their expectations of their lecturers are not clear from the study, though it might be argued that they were likely shaped by their experience of schoolteachers.

### ACADEMIC UPHEAVAL

As with all gifted students, the early entrants have the potential for high academic performance at school. The programme however, placed them in a position where they were unlikely to score top marks, and this they found a little disconcerting. Unsurprisingly, all students struggled somewhat in adapting to university coursework, occurring for most in the initial weeks of the

semester. They experienced a marked difference in style of learning (compared to school), as greater ownership and self-regulation was required. They encountered difficulties in independent learning, now without a teacher to create and direct learning tasks. The coursework was less defined, particularly the essay-based assignments, where self-directed learning was required. They experienced instances where the lecturer would continue without them even if they did not understand, something that would rarely happen at school. As evidenced in the findings on the *Verbal* subscale (SDQ II), coping with advanced scientific language was also significantly challenging. The decline in self-concept at the midpoint of the programme (Pier-Harris 2) was due to decreases in the *Intellectual and School Status* and *Freedom from Anxiety* subscales. Like was evidenced in the qualitative data, the accelerants experienced a period of intellectual uncertainty.

These experiences meant they had to become functioning university students. They had to learn how much time to dedicate to their personal study in addition to the lecture hours. They learned much about structure, referencing and appropriate writing style through writing lab reports and assignments. In spite of these challenges, they demonstrated their resilience and personal and academic maturity. They confidently addressed knowledge gaps, choosing to identify the source of their problems. Throughout, they remained confident in their abilities. At no point did they regard their difficulties as an indicator of failure, though they may have had a *fear of failure*.

“I think what is evident is a fear of failure. It is perfectly understandable, but I think there is something in this. It’s as though the bar has been raised even higher (than the typical range of CTYI classes) and they’re finding it more difficult to reach. Early entrance seems to be pushing them to greater heights, and it seems as though this is a bit of an issue for some.”

(Annotation – Week 5 researcher diary)

Their difficulties were rectified as greater academic integration and success came about.

This mature attitude toward teaching and learning where the onus is placed squarely on the individual was a new experience but one that clearly suited them.

One might have expected that their adaptation to the changing educational landscape would be facilitated by prior experience of advanced level learning at specialised programmes for gifted students. This was the case for some (e.g. Michael and Martin were generally untroubled by the

Software Development for Engineers coursework as they had previously taken a computer applications course on a summer enrichment programme, whereas Naomi had to work hard to keep up).

Previous experience (of gifted programmes) may also have helped some early entrants to understand better, themselves as learners. This however cannot be taken as read, as three students had qualified (and were therefore talented), but never taken part in a gifted programme. Similarly, a previous summer programme participant was found to underperform at EUE. (Motivational issues however were deemed the cause). In this case, it may be that the previous non-attendees were buoyed up by the past-participants however, it is more likely that they were simply highly, intrinsically motivated.

#### ***TYPICAL ACADEMIC ADJUSTMENT***

Whether the academic realignment experienced by the accelerants was a phenomenon particular to them, is the next obvious question. Thus, it is necessary to consider the results from the *Academic Adjustment* (SACQ), which includes effectiveness of study strategies to cause academic success. The early entrants were found to have a significantly higher perception of their performance compared to the first year students. They also had a statistically higher level of satisfaction with the university experience (*Total Attachment* - SACQ).

This may be explained by the early entrants conscientiously applying themselves to their studies, and in the absence of any formal performance indicators, could see that they were more in tune with the course material than their first year classmates were. This subjective comparison is likely to have served to elevate their perception of their performance. That the early entrants were simply more diligent and motivated students, who had less distraction than the average new college student, may be concluded. Given these quantitative findings, it may be concluded that the issues experienced by the early entrants around academic integration expounded in the qualitative data, were not all that different to those experienced by the ordinary first year cohort, though further research would be required to examine this claim.



## Social, Emotional and Personal Integration

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The social, emotional and personal integration of the early entrants into the university environment was critical if the academic integration was to stand any hope of success. As they seem to have functioned well in the academic area, this points to an equally encouraging non-academic adaptation to university.

Recruiting a sufficiently large peer group of students to participate in the programme was an important part in assuring satisfactory social and emotional wellbeing. Sharing the experience with a group of age and intellectual equals meant for greater personal stability and security. The groups in each cycle were made sufficiently large that they could form relationships based on shared interests, and not on need. Overall, they appear to have interacted well with each other.

### INTEGRATION WITH FIRST YEAR STUDENTS

Of course, the greater issue was their integration with their new, older classmates. Their interactions with the first year students was somewhat varied. The ease with which the early entrants anticipated making friends amongst an older, opposite sex group of first year students, was found to be significantly lower prior to the programme than at any other point but this appears to moderate(SDQ-II findings). It is thus supposed that the young students were pleasantly surprised and quickly became accustomed to their first year classmates.

The first year students, on the same degree courses, received no formal introduction to their new classmates. As each programme began at a different point in the academic year, the reaction of the first year groups seemed to differ slightly. Though largely positive, slight differences are perceptible. In year one when the programme took place during semester two, Engineering-A, and Physics-A were warmly welcomed and supported, while the EPL-A found it more difficult to break into the social circle (although by the end of the programme they felt themselves firmly established). During year two, when the programme happened during semester one, reactions were quite different. EPL-B found their classmates welcoming and friendly, allowing the students to integrate very quickly, though it was believed that the first year students found this large, cohesive group intimidating. Engineering-B too received a positive, convivial welcome from their first year classmates. Physics-B however struggled to

establish any form of relationship with their first year counterparts. They found themselves in different class groups for each course module and had few opportunities to get to know them.

Despite the varied relationships with the first year students, the early entrants experienced great generosity of spirit from their older classmates. That they felt readily accepted into the social and academic groups, and experienced no unfriendliness or isolation from the first years, is interesting. One might have been expected this to be the case in instances where grades were at stake (e.g. on group projects), but the early entrants seemed to be genuinely respected as academic peers.

It would seem that the very welcoming first years in year one took on a more pastoral role with their younger classmates. Seemingly better settled into university themselves by this stage in the year, they took it upon themselves to immediately take the early entrants *under their wing*. In year two, the reaction was more that of a social and academic equal. Though they too warmly received the younger students, it was a slightly slower integration and the accelerants were less nurtured than in the previous year.

The early entrants too had generally positive opinions of the first year students, though some remarked on the academic immaturity of some, this was not significant in the overall scheme. Equally, they did not feel intimidated academically by them, which would suggest that they were well matched intellectually.

That the students enjoyed spending time in a nearby children's playground is curious. It was as though they somehow regressed, needing time away from university, where greater academic and social demands were made of them. Interestingly, the students intuitively deduce this, and take steps to address it by themselves. In this way, they could be seen to regulate this need to *grow up quickly*. The disquiet around acceleration (of *growing up too soon*) is thus tempered by the large peer group.

## Part-Time School

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On a school level, the early entrants encountered a variety of issues on both social and academic levels. While initially the response to them achieving a place on the programme was positive, this soon altered.

Some candidates avoided publicising their application for Early University Entrance (until they achieved a place), unsure of the reaction of schoolteachers and acquaintances. Upon sharing their achievement however, they felt confident as the programme, at least in their minds, was a significant academic accomplishment. The students perceived a considerable shift in the attitudes of schools toward high academic ability, with the advent of Early University Entrance. Upon obtaining a place on this “prestigious programme”, they felt their high intellectual ability was at last being recognised. Giftedness for some, it would seem, requires external evidence for school recognition.

### EUE WITHIN THE SCHOOL TIMETABLE

Fitting the Early University Entrance programme as a part-time component of transition year was not without difficulties. Teachers in particular expressed their dissatisfaction with the timetabling of university lectures. That the programme had no control over how the lectures were scheduled, and that the timetables emerged primarily from decisions of module suitability and only secondly upon their timetabling seemed to get *lost in translation*. Perhaps for the schools who expected the EUE programme to be an extra-curricular activity to their established transition year programmes, it would be more practical to run EUE as a full-time programme.

Though the Early University Entrance programme was developed to fit within the transition year programme, a degree of competition arose between the two. A level of resentment toward the EUE programme was observed, particularly from those who were less convinced of the programme’s value in the first place. A number of contributing factors can be identified.

There appeared to be an undertone that the school transition year programmes appropriately served *all* abilities. While this may very well be true, the fact that a student would seek something outside of the norm should at least raise some questions that this is in fact the case.

It is not the case that the Early University Entrance programme was meant to compete with a school's TY curriculum, but was rather a programme that was tailor-made for these very students. Many school personnel agreed with the programme's aims and objectives, and fully supported their student's enthusiasm to participate. Others were more sceptical, and seemed to regard it as an affront to the school's endeavours. In the same way, the more supportive schools were more accommodating and gave their students time and space, trusting that they would make the most of their participation. The less supportive schools seemed to make greater demands and showed little flexibility.

A further challenge was that several participants used EUE to excuse themselves from schoolwork, to remove themselves from school as much as possible, or who chose transition year only as a means to participate in the programme, only further compounded the issues with schools. These attitudes, however unintentional, served only to undermine the relationship between the schools and the university programme. It gave credence to negative opinions about specialised programming for gifted students.

### ACADEMIC DEMANDS AT SCHOOL

Balancing the EUE programme and the transition year programme appeared to pressure some participants more than others. The more conscientious were very concerned with keeping up with schoolwork, and keeping their teachers satisfied. Others took a more *laissez-faire* attitude to schoolwork, preferring to focus their attentions on their university endeavour. (There seemed to be just one extreme example, where the student placed herself under immense pressure to maintain prohibitive standards in both learning environments. All involved agreed that such anxiety was unnecessary).

While one might have expected a change in *Academic Self-Perception* (SAAS-R) at school level, given their success at university level and the changes identified on the Piers-Harris 2 scale, there was no such change. No change however may indicate that the real academic difficulties the students confronted at university offset the anticipated 'illusions of supremacy' at school.

No change was reported in *Attitudes toward Teachers and Classes* (SAAS-R), though one might have been expected. The qualitative data found that changes did occur however, these do not relate to factors that affect student achievement, which the subscale composes. As born out in

the case study chapter, the students' attitudes were seen to modify, though not to the extent that it affected their school performance.

The *Goal Valuation* subscale (SAAS-R) also provides an interesting insight into how the early entrants actually regarded their school commitments. The findings showed no change over the entire semester, which is surprising. One might have expected that the view of students toward school tasks would have altered as they became more involved in the demands of the EUE programme. If one takes the opinions elicited from some school personnel in the qualitative data, one would question these quantitative findings. Thus, either the measure lacks sensitivity, or what was perceived and what actually occurred were very different.

### **SOCIAL CHALLENGES AT SCHOOL**

Although this Early University Entrance programme was a part-time endeavour, the long absences from school brought about both positive and negative outcomes on the social experiences of its participants at school level.

Though the accelerants did not seem to mind their absences from school to pursue something of greater academic value, it came at a social cost. That they experienced a degree of social isolation at school, given their long absences is unsurprising. They felt greater separation from their school friends as the semester continued, and less interest being shown toward their university endeavours. Similarly, missing school events and trips meant they further experienced detachment from the social elements.

While a disappointing effect of the EUE programme, the break from the vicissitudes of teenage life was also considered beneficial. The early feelings of dejection however were short-lived as the early entrants experienced greater satisfaction with the university-based programme.

### **OTHER SCHOOL CHALLENGES**

The EUE programme benefitted from greater contact with schools regarding the attendance of students at the university. In each cycle, the TY coordinator received their student's university timetable. In year two, a detailed account of each early entrant's university attendance was emailed to the TY coordinator each week. This small change in practice greatly improved the school-programme relationship.

It would seem that specialised provision for gifted students is regarded by some educators as best served at school level, while others believe their needs are better served elsewhere.

## REINTEGRATION INTO SCHOOL FOLLOWING EUE

On one hand, this research was concerned with how well the early entrants would fit into the university learning environment, but it was equally concerned with how they would reintegrate into school upon its conclusion.

Though Early University Entrance caused them to question and compare their learning experiences at school and at university, it also afforded them an opportunity to draw some positive conclusions. Early observations of the teaching methods and behaviours of university lecturers brought about comparisons and negative suppositions regarding schoolteachers. The attraction toward the university-based programme thus increased, further separating the two institutions. However, as the semester progressed and greater perspective was gained, these strongly negative opinions diminished. The accelerants began to understand the different functions of the two institutions, and how the behaviour and teaching methodologies employed in each had to be different. These matured opinions helped them to appreciate their position in each (institution) and how they might use this to better their experience upon returning to school.

It is clear that the students in year two anticipated with much greater apprehension the prospect of returning to school, while those in year one seemed more positive and philosophical. With this in mind, it is likely that the prospect of returning to what seems like an academically lacking, final months of Transition Year, compared to a busy, focused 5<sup>th</sup> year (i.e. year one of the Leaving Certificate cycle), makes for a very different outlook. Though the data is relatively thin, it would seem that parents and schools struggled with this also in year two, as there was a palpable restlessness amongst many of the students, with one even requesting to transfer directly into 5<sup>th</sup> year.

## Personal Development

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The academic, social and emotional upheaval that participation in the Early University Entrance programme brought about caused many changes that were observable to parents, teachers,

researcher (author) and to the students themselves. The participants were seen to mature as young people through their interactions with older college classmates and lecturers, and in themselves having to self-regulate their learning, contend with physically getting to and from the campus each day, and managing their health and wellbeing (i.e. eat correctly, get adequate sleep, manage their downtime, etc.). In their recommendations to future early entrants, it was clear that many lessons had been learned and coping strategies had been figured out.

## Conclusion

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This discussion brings together the findings of the qualitative and quantitative data collection effort, to form a comprehensive reflection on the Early University Entrance programme. It charts the impact of the programme on its participants. Academically, they adapted to a very different landscape, learning quickly that on all fronts university level education was very different to school. For the first time, the *fear of failure* was real and they had to develop coping skills very quickly. Socially, they grappled with losing touch with old friends whilst making new ones. In a challenging academic environment, their usual support system (i.e. school pals) was replaced by new university friends who could identify with the problems they faced. At school, the varying degrees of support and encouragement meant that the early entrants had contrasting transition year experiences. Their perceived, changing attitudes toward transition year caused major issues for some.

In light of this discussion, the next chapter now will present recommendations based on the findings.

# Chapter 6

## Recommendations

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The advantages and challenges of this dual enrolment programme have been presented and discussed in detail in the preceding two chapters. As a consequence, a number of programme changes can be identified, and will compose the thrust of this chapter, so that that should the programme be instated on a permanent basis, they might be attended to. The recommendations proposed here are programmatic changes that attend to both school and university.

### IMPORTANCE OF SUPPORT

Given that self-concept was found to dip at the mid-point of the programme, it is recommended that the provision of formal and informal support structures be prioritised during the first six to eight weeks of the programme. This will ensure that early entrants are less likely to underachieve or drop out of the programme altogether.

### WEEKLY MEETINGS

Although the weekly focus groups were for the purposes of the research study, it is recommended that they be incorporated into any future programmes. They facilitate group bonding and ultimately create a stronger, cohesive peer group, which helps participants feel more secure.

### GROUP SIZE

A reflection on the two phases of the programme allows for some reflection on the optimal number of students to place in each programme group. The PL groups provide a good example. Two participants in PL-A meant that the absence of one student, left the other somewhat unsupported. Five participants in PL-B however, provided greater self-sufficiency but likely hampered the development of relationships with the first year students. Three to four students per degree group seem optimal.



## ADVANCED PREPARATION FOR EUE

To enjoy the full social (i.e. being part of one class) and academic benefits of the science degree programmes and to cope with the knowledge gaps that present in following certain modules, it is recommended that future early entrants take part in remedial maths tutorials ahead of the semester start.

## SEMESTER

The question of semester is not easily answered in light of the data stemming from this evaluation. From the point of view of secondary schools, in locations where the transition year programme is optional, the student group splinters into those who participate in transition year and those who opt to move directly into 5<sup>th</sup> year. The early months of the academic year can often see vast changes in social circles as students readjust to a smaller, altered student year group. Thus, having the students take part in a full-time programme in semester one will obviously affect this social readjustment.

Returning to an academically lacking end of transition year, or into a challenging 5th year, caused the early entrants in each cycle to have different outlooks about their return to school.

From a university standpoint, experience of the programme in two different semesters also highlighted differences. The accelerants who joined university in semester two were “taken under the wing” of the first year students, while those in semester one seemed to “fly under the radar” for much of the term. It is recommended that as these students are younger, and in this more intellectually and personally challenging environment, require significant support.

It is recommended that Early University Entrance take place during semester two, thus allowing for changes in school class groupings to stabilise, for students to move directly into a more academically demanding term, and when first year classmates are more likely to provide informal help and encouragement.

Having the programme running in semester two places however limits on the modules that can be selected as many are follow-on modules from semester one. This is one instance where there is no simple solution to the choice of semester however; it is argued that the social and emotional benefits of a semester two programme outweigh these academic concessions.

## FULL OR PART-TIME

A number of students asked about the potential for EUE to be made a full-time course to ease the struggles experienced at school. It is beyond the realm of this thesis to provide a recommendation either way however. This thesis suggests that early entrants continue to preserve social and academic relationships with their schools during the period of university immersion.

## TIMETABLING

To cope with the scheduling issues of a part-time programme, it is recommended that at the very least a detailed discussion about how the programme can be reasonably be fitted into the school timetable occur if the programme is to continue into the future. It is believed that this will bring about greater *buy-in* from the schools and less ambiguity about its demands.

## MAINTAIN GREATER LINKS WITH SCHOOLS

In accordance with its success during the second cycle in maintaining school relationships, it is suggested that a university attendance record should be returned to TY coordinators at regular intervals. This provides a platform for the development of a greater relationship with each school, meaning greater familiarity between the transition year coordinator and the researcher, so that arising issues can be dealt with quickly.

## SCHOOL SUPPORT FOR EUE

Given the variety of (participant) attitudes toward school during transition year, suggests the need for more concrete arrangement to be made in relation to fitting EUE into each student's individual TY programme. This should remove any potential misunderstandings with the cooperating schools, and ensure their full support.

## DETERMINING STUDENT SUITABILITY

To ensure that the students selected for participation have the necessary maturity and resolve to cope with the challenges of university life and learning, it is recommended that questions with regard to the mental health issues, including current or previous referral to a psychologist

or psychiatrist, be included on the application form. It is also recommended that following interview, applicants be required to complete a battery of psychological tests, similar to those used in this research. (It is important that such measures are methodologically sound and address issues of reliability such as response bias).

These recommendations are small but significant. As for recommending that this dual enrolment programme be instituted into transition year and university, is not for the author to presume, but rather a matter for the reader to decide.

# Chapter 7

## Conclusion

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“Let me propose to you an experimental study.

Let us take a child of average intellectual ability, and when he is 5 years old, let us place him in a class of children with severe intellectual disabilities, children whose IQs are at least four standard deviations lower than his. The child will stay with this group for the duration of his schooling and he will undertake the curriculum designed for the class, at the level and pace of the class.

We will carefully observe and assess at regular intervals his educational progress, his feelings about school, his social relationships with classmates, and his self-esteem. We will also observe the child’s parents and their interactions with the child’s teacher, school, and school system. They will, of course, have had no say in the child’s class or grade placement.

As one cannot generalize from a sample of one, the study will be replicated with 60 children in cities, towns, and rural and remote areas across the nation.

If this proposal appalls you, rest easy. Such a study will never be undertaken. No education system would countenance it. No ethics committee would approve it.”

(Gross, 2006, p. 404)

This Early University Entrance programme at Dublin City University has been shown to cause noteworthy, positive changes in its participants. The students experienced a level of academic and sometimes social challenge that helped them to mature both as individuals and as learners. Adapting to the advanced academic environment, they quickly developed independent learning and coping skills. Their writing and study skills were cultivated. Given their equalled success in the semester-end exams, and their greater contentment with the overall university learning experience, it may be concluded that the dual enrolment experience as provided in this programme may not be beyond their reach, and is in fact an optimal match for gifted, transition year students.

Equally, they developed as individuals, maturing into reasoned young people. Their attitudes too matured with the perspective that the programme afforded.

For all its successes, the programme was not without its difficulties. At a school level, it proved to be blessing for some and a bother for others. The two cycles illustrate that there is no one-size-fits-all solution to the problems encountered, but there are ways in which the programme can be adapted to provide a better fit.

At a university level, it proved successful too, as the early entrants frequently demonstrated their high intellectual ability, drive and passion for learning. They seamlessly integrated into course modules alongside the regular university cohort, on both a social and academic level.

The findings of this study add to the literature on concurrent enrolment and early entrance to university programmes. Like in countless other studies, it finds that such programmes provide an academically optimal match for gifted students. It also finds that careful planning in course selection and the incorporation of formal support structures are critical features, if any academic success is to come about: factors seen in the vast majority of studies. The placement of students alongside a group of their own peers within this environment was also a feature of this study, and numerous others in the literature. The findings of this study however are unique to Ireland and any analytic generalisations that are made must be with this in mind.

Notwithstanding the cultural context, the programme itself has a number of novel elements that make it quite different to concurrent enrolment models available elsewhere. It is available only during a specific year, and for a specific period, unlike other programmes, which are available throughout high school. There is no formal arrangement with regard to the transferability of credits earned. Participants therefore take part for perceived benefits; access to higher learning, a chance to mature, a break from school, etc.

It is the author's profound hope that this thesis has served to help the reader see that academic giftedness, talent, and exceptional ability brings about a host of educational, emotional and social challenges. That the experience of the gifted child in mainstream education for part if not all of the school day can be an intense struggle. That as Miraca Gross described in her experimental proposal at the opening, no one would keenly subject a child to such an experience, but that we, as educators, very often do. It is hoped that this study highlighted the feats achievable by academically able students when placed in challenging, nurturing environments, and that specialised interventions are not to be regarded as a luxury but a

necessity in assisting these students to reach their potential. This is the same goal that we, as an educational community, aspire to for all learners.

## Limitations

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This study is limited by a number of factors, which are considered important. Firstly, the study was small scale, with just 20 participants. Though it provides a deep insight into the experience of the early entrants, it provides only a snapshot of the experience of teachers, parents and the university personnel associated with it. It is also limited by the fact that the programme only selected students from a cohort of students previously identified as having high academic ability. In terms of the programme itself, there were limitations. The numbers of places available, that they were from only three degree programmes and the location of the university (i.e. may not have been convenient for all potential participants) placed further limitations. The findings of this thesis therefore should be interpreted in the context of the study and mindful of these constraints.

## Future Research

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The findings of this piece of research bring forth deeper questions about this concurrent enrolment programme model, and suggest ways in which it might be altered. A number of future research endeavours that are apparent to the author are thus put forward. Follow-up studies on former early entrants would make for interesting reading. How they feel the EUE programme benefited them, what lessons they learned from the experience, and what courses they ultimately studied at university might be explored. It would also be interesting to study the impact of EUE on the Transition Year programme from the school's perspective. Similarly, a qualitative study comparing academically, the early entrants to regular first year students, taken from the perspective of university lecturers, would make for interesting research. Other areas that would provide interesting research studies include the perspectives of parents, the university (in terms of viability and as an educational direction). Adapting the programme into a

yearlong endeavour as a full-time or part-time undertaking during Transition Year is also an obvious change with the potential for follow-up studies.

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# Appendices

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- A. Student's *Early University Entrance at DCU* Brochure
- B. School's *Early University Entrance at DCU* Brochure
- C. Application Form
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## Appendix A

# Student's Early University Entrance at DCU Brochure

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Please contact the author at [Catriona.ledwith@dcu.ie](mailto:Catriona.ledwith@dcu.ie) for a copy.



## Appendix B

# School's Early University Entrance at DCU Brochure

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Please contact the author at [Catriona.ledwith@dcu.ie](mailto:Catriona.ledwith@dcu.ie) for a copy.

# Appendix C

## Application Form

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# Application Form

## Early University Entrance

Attach  
photograph  
here

### PERSONAL INFORMATION

Name

First Name

Last Name

Middle Initial

Birth date      /      /      Age      Gender

dd   mm   yyyy

Home Address

Home Phone (   )      Mobile (   )

Email

This should be an account you check regularly

### FAMILY INFORMATION

**Parent / Guardian 1**

**Parent / Guardian 2**

Name \_\_\_\_\_ -

Name

First

Last

First

Last

Relationship to you \_\_\_\_\_ -

Relationship to you

Address, if different to yours:

Address, if different to yours:

\_\_\_\_\_ -

\_\_\_\_\_ -

\_\_\_\_\_ -

Home Phone ( )

Mobile ( )

Email

Place of EmploymentOccupation

Work Phone ( )

Parents'/Guardians' marital status: ☐ Married ☐ Divorced ☐ Separated ☐ Never Married  
☐ Widowed

With whom do you make your permanent home?

☐ Parent/Guardian 1      ☐ Parent/Guardian 2      ☐ Both

☐ Other Relation/Friend; please specify \_\_\_\_\_

## Siblings

Name	Age	School Class/University Year

## ACADEMIC QUALIFICATIONS

Eligibility for participation in the Early University Entrance Programme is based on SAT or PSAT test scores. Students deemed eligible for CTYI based on the report of a psychologist, may also apply.

I took the SAT / PSAT in \_\_\_\_\_, when I was in my \_\_\_\_\_ year of secondary school.  
Month Year

At what age did you take the SAT or PSAT?

- ☐ Up to 13yrs 6mths      ☐ 13yrs 6mths to 14yrs 0mths      ☐ 14yrs 0mths to 14yrs 6mths  
☐ 14yrs 6mths to 15yrs 0mths      ☐ 15yrs 0mths to 15yrs 6mths      ☐ 15yrs 6mths to 16yrs 0mths  
☐ 16yrs 0mths to 16yrs 6mths

Scores

---

Verbal

Math

Critical Writing (PSAT only)

*If you took the PSAT or SAT on a second occasion, please complete the next section.*

I took the SAT / PSAT in \_\_\_\_\_, when I was in my \_\_\_\_\_ year of secondary school.  
Month Year

At what age did you take the SAT or PSAT?

- ☐ Up to 13yrs 6mths      ☐ 13yrs 6mths to 14yrs 0mths      ☐ 14yrs 0mths to 14yrs 6mths  
☐ 14yrs 6mths to 15yrs 0mths      ☐ 15yrs 0mths to 15yrs 6mths      ☐ 15yrs 6mths to 16yrs 0mths  
☐ 16yrs 0mths to 16yrs 6mths

Scores

---

Verbal

Math

Critical Writing (PSAT only)

In the case of a psychological report, please indicate the date of assessment: \_\_\_\_\_

You must enclose a copy of your results/psychologist's report with your application.

## ACADEMIC INFORMATION

School you attend now

School Address

Principal \_\_\_\_\_ School Phone Number ( )

Transition Year Coordinator

Is this the only secondary school you ever attended?    ☐ Yes    ☐ No

If no, what school(s) did you attend previously? (Please include the school address)

Name	Address	Years of attendance
------	---------	---------------------

Name	Address	Years of attendance
------	---------	---------------------

Have you ever been suspended, expelled, or required to withdraw from any of the schools you attended?

☐ Yes    ☐ No

Do you have any special educational needs? (Please note this will not affect your application)

☐ Yes    ☐ No    If yes, please indicate \_\_\_\_\_

## AWARDS & ACTIVITIES INFORMATION

### Academic Honours

Briefly describe any academic honours or distinctions you have won since the beginning of first year. If necessary, please attach additional information on a separate sheet.

## CTYI Programmes

Please list the courses you have previously taken with CTYI (Young or Older student programmes)

Course	Young/Older Student	Year & Term
--------	---------------------	-------------

## DEGREE PROGRAMME PREFERENCE

Please refer to the Student Pack for information on each of the degree programmes available.

Please indicate your degree programme preference in order of 1,2,3 etc., where 1 indicates your first preference.

_____	B.Eng. Common Entry into Engineering
_____	B.Sc. in Applied Physics
_____	B.A. in Economics, Politics & Law

## COMMUTE TO DUBLIN CITY UNIVERSITY

How many miles away from Dublin City University do you live? \_\_\_\_\_

How do you expect to commute to and from DCU?

☐ by bus      ☐ walk      ☐ cycle      ☐ by car with parent/family friend      ☐ Unsure

If you live outside of a commutable distance, please outline the arrangements could you make to attend (live with relatives etc.)

## **APPLICATION CHECKLIST**

PLEASE ENSURE THAT YOUR APPLICATION INCLUDES THE FOLLOWING INFORMATION.

- † Completed Application Form
- † Passport size photograph
- † Letter of Motivation
- † SAT or PSAT scores (or psychologist's report)

**THE CLOSING DATE FOR RECEIPT OF APPLICATIONS IS FRIDAY MAY 15<sup>TH</sup>, 2009**



## Letter of Motivation

## Early University Entrance

Please explain your motivations in applying for a place on the Early University Entrance Programme. You may wish to consider the following questions in your response: Why do you think you would be a suitable candidate? What would a place on the Programme mean to you? How would a place on this Programme help you to achieve your academic and personal goals?

(If you require additional space, please attach a separate page)

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

# Appendix D

## Letter of Recommendation form

---

The Early University Entrance Programme at Dublin City University is designed to give academically talented students an opportunity to study degree level course work as part of their Transition Year programme. The programme is selective because there are a limited number of places on degree programmes at DCU available.

The student at your school who approached you for a recommendation is keen to participate in this pilot programme which would allow them to become a part-time university student during Semester I of the 2009-2010 academic year. Please complete the recommendation form and return to *Catriona Fitzgerald, Early University Entrance Programme, Irish Centre for Talented Youth, Dublin City University, Dublin 9.*

Applicants Name

Name of Referee \_\_\_\_\_ Title

Name of Secondary School

School Address

School Phone (    ) \_\_\_\_\_ Mobile Phone (    )

Email

How long and in what capacity have you known the applicant?

---

What subjects have you taught the applicant?

Subject	Level	Subject	Level
---------	-------	---------	-------

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In your experience as a teacher of \_\_\_\_\_ years, please rate the applicant's abilities.

Academic Ability	<input type="radio"/> top 1%	<input type="radio"/> top 5%	<input type="radio"/> top 10%	<input type="radio"/> top 25%	<input type="radio"/> top 50%	<input type="radio"/> below 50%
Personal Motivation	<input type="radio"/> top 1%	<input type="radio"/> top 5%	<input type="radio"/> top 10%	<input type="radio"/> top 25%	<input type="radio"/> top 50%	<input type="radio"/> below 50%
Work Habits	<input type="radio"/> top 1%	<input type="radio"/> top 5%	<input type="radio"/> top 10%	<input type="radio"/> top 25%	<input type="radio"/> top 50%	<input type="radio"/> below 50%
Personal Characteristics	<input type="radio"/> top 1%	<input type="radio"/> top 5%	<input type="radio"/> top 10%	<input type="radio"/> top 25%	<input type="radio"/> top 50%	<input type="radio"/> below 50%

List three characteristics that you feel best describe the applicant.

1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_

How would you rate the applicant's attendance record?

☐ Excellent      ☐ Very Good      ☐ Good      ☐ Fair      ☐ Poor

1 Please describe the applicant's intellectual abilities and talents. Please refer to their academic performance in your response.

2 Please assess the applicant's social maturity and peer relations.

3 In your view is the applicant ready to engage in university coursework and the independent learning it requires? Please qualify your answer.

4 Has the applicant any social, academic or personal habits that require further development in order for them to succeed at university at this early age?

5 Is there any other information that you feel is relevant to their application?

6 If there is any other information that you feel the Centre/university should be aware of, please indicate so here and it will be followed up on with a phone call.

☐ Yes, I have information that I feel is relevant.      ☐ No, I have no further information to add.

7 I recommend this applicant for admission to the Early University Entrance Programme at DCU...

☐ Without reservation      ☐ With slight reservation      ☐ With strong reservation



---

Signature of Referee

Date

# Appendix E

## Consent Form

---

### STUDENT & PARENT/GUARDIAN SIGNATURES

- **THIS STATEMENT MUST BE READ CAREFULLY. IT MUST BE SIGNED AND DATED BY THE APPLICANT.**

I have read the materials describing the 2009 Early University Entrance Programme at Dublin City University. I understand that I must notify my local school of my intended educational programme. I fully understand that my eligibility for the Programme is based on SAT/PSAT scores and my success at interview.

If accepted, I will follow the guidelines and rules established for all aspects of the Programme. I realise that if I do not, I may be required to leave the Programme, and furthermore, that this will affect my relationship with CTYI in the future.

I will complete all tests, surveys and interviews that CTYI deems necessary in evaluating the effectiveness of this programme.

I understand that I will be unsupervised for long periods while participating on the Early Entrance Programme.

I give the researcher access to my academic records at Dublin City University. I am happy to share my Junior Certificate results with the researcher.

I understand that this Programme is arranged by the Irish Centre for Talented Youth and therefore my relationship is with them, and not with Dublin City University.

---

Signature

---

Date

- **THIS STATEMENT MUST BE READ CAREFULLY. IT MUST BE SIGNED AND DATED BY THE APPLICANT'S PARENTS OR LEGAL GUARDIANS.**

I have read the materials describing the 2009 Early University Entrance Programme at Dublin City University, including the preceding statement signed by my son/daughter, and I approve my child's application for admission. I understand that I am responsible for any loss, damage or injury sustained by third parties as a result of the wilful activities or negligence of my son/daughter. I understand that I will be responsible for the cost of repairing or replacing any property that my child damages on the university campus.

I understand that I must have the necessary medical and health forms properly completed and returned to CTYI no later than August 30<sup>th</sup>, 2009. I understand that my child will not be admitted to the Programme if these forms are not returned.

I understand that although CTYI can assist my son/daughter in planning his or her future education, I will be fully responsible for mediating between my son/daughter and his/her school in order to gain credit and/or placement on the Early University Entrance Programme.

I give permission for my child to be videotaped, photographed, interviewed, and/or have a sample of his/her work published. I understand that CTYI will exercise discretion regarding media content.

I agree to permit my child to complete all tests, surveys and interviews that CTYI deems necessary in evaluating the effectiveness of this programme.

I agree to allow transcripts/notes from any conversations/correspondence to be used as research data in evaluating this programme. I understand that this information will be treated sensitively and professionally and that confidentiality is assured.

I will endeavour to participate in any follow up research (questionnaires, interviews, focus groups etc.).

I understand that this Programme is arranged by the Irish Centre for Talented Youth and therefore my relationship is with them, and not with Dublin City University.

I designate the person named below to act on my behalf and to receive my child if I cannot be contacted in case of expulsion. I understand that this person WILL be contacted should an emergency arise and/or in the case of a breach of rules or expulsion if I cannot be contacted.

I understand that my son/daughter is not entitled to participate in end of semester examinations if they are expelled before the end of the semester.

I give the researcher access to my son/daughter's academic records at The Irish Centre for Talented Youth. I am happy for the researcher to have details of my son/daughter's Junior Certificate results.

I understand that my son/daughter will be unsupervised for long periods during their participation on the Early Entrance Programme.

I understand that I am liable for the entry fee of €900 should my son/daughter be successful.

\_\_\_\_\_  
Signature of Parent or Legal Guardian

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Parent or Legal Guardian

\_\_\_\_\_  
Date

**Designated Person to be contacted in the case of emergency**

\_\_\_\_\_  
Name of Designated Person

\_\_\_\_\_  
Relationship to Student

\_\_\_\_\_  
Home Number                      Mobile Number                      Work Number

# Appendix F

## Interview Questions

---

### *SCHOOL*

How have your school friends reacted to your application for this?

Have your teachers and parents been encouraging?

What's school like for you? (academically and socially)

Can you tell me about a time when something (academic) didn't work out for you? How did you react to it? What did you learn?

What are your motivations for applying for this course?

### *EARLY ENTRANCE*

This is a new programme for not only CTYI but for DCU and the country itself, so we're all a little unsure of what is ahead. What sort of issues do you envisage yourself having to face and how do you think you will overcome them?

What are you looking forward to most in this experience?

How do you think the regular DCU first years will react to the early entrants?

How will you feel if you don't get a place on the programme?

If you do secure a place, do you think it will be difficult for you to settle back into school in 5<sup>th</sup> year?



# Appendix G

## Expectations (pre-programme questionnaire)

---

What do you expect classes and schoolwork to be like at university?<sup>‡</sup>

In general, what do you expect university life to be like?<sup>‡</sup>

What do you think university social life will be like?<sup>‡</sup>

What aspects of university are you looking forward to?<sup>§</sup>

What kinds of things are you fearful or apprehensive about in attending university?<sup>§</sup>

How do you think your sense of who you are or what kind of person you are will change while you are at university?<sup>§</sup>

How do you feel about school?

Describe your feelings toward university, in general? (not in terms of Early Entrance)

Describe what you are like as a school student? (academically, socially, etc.)

---

<sup>‡</sup> Jackson, L.M., Pancer, S.M., Pratt, M.W. & Hunsberger, B.E. (2000). Great Expectations: The Relation Between Expectancies and Adjustment During the Transition to University. *Journal of Applied Social Psychology*, Vol. 30, No. 10, p. 2100-2125.

<sup>§</sup> Pancer, S.M., Hunsberger, B.E., Pratt, M.W. & Alisat, S. (2000). Cognitive Complexity of Expectations and Adjustment to University in the First Year. *Journal of Adolescent Research*, Vol. 15, p.38-57.

# Appendix H

## My Experience of Early University Entrance (post-programme questionnaire)

---

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

AGE: \_\_\_\_\_

PROGRAMME OF STUDY:	<input type="checkbox"/>	APPLIED PHYSICS
	<input type="checkbox"/>	COMMON ENTRY ENGINEERING
	<input type="checkbox"/>	ECONOMICS, POLITICS & LAW

### University Experience

What aspects of university did you most enjoy?

What were lectures and college work like at university?

What aspects of university did you struggle with (academic and non-academic)?

In your opinion, how well did you keep up with the pace and demands of university?

What was your social (non-academic) life like at university?

How did the first years treat you over the semester?

Did you engage with your university subject beyond your set college work? (e.g. own reading, tv documentaries etc.).

What results are you striving for? (exam or otherwise)

In general, did college meet your expectations?

Describe your thoughts/beliefs now toward university, in general? (not in terms of Early Entrance)

## **School**

How do you feel about school?

What outside distractions affected your study at DCU? (you can mention personal and school stuff here!)

## **General**

Describe the type of student that you see yourself as.

Did you change as a person, do you think, by going to university at this age? If so, in what ways?

What do you hope to study when you do eventually return to university?

What advice would you give to incoming students on dealing with the academic demands of university?

Which universities will you be considering in your CAO/CAS application?

TCD † UCD † DCU † NUI Galway † NUI Maynooth

NCAD † UCC † UL † Queens † One of the Its

Other† Don't know

How would you describe yourself? As an:

☐ Achiever

☐ Underachiever

☐ Overachiever

☐ None of the above

☐ Other \_\_\_\_\_

### **FOCUS GROUP QUESTIONS**

What was your approach to your learning/study at DCU?

Was this different from the first year students in your course?

What did you want to *get out of Early University Entrance*, and did you get what you hoped you would?

How did school and university compare for you?

How are you feeling right now about the exams?

How do you envisage returning to school at this point in time?

# Appendix I

## Parent Questionnaire

---

In reference to the participation of \_\_\_\_\_ in the Early University Entrance programme at Dublin City University, during semester II: 2008-09 academic year.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

What was your initial reaction when you heard about your son/daughter's desire to apply for Early University Entrance? (Honestly!)

How do you feel they have *changed* over the semester?

- ☐ More mature      ☐ Less mature      ☐ Greater self-confidence
- ☐ Less self-confidence    ☐ More independent    ☐ Less independent    ☐ More focused
- ☐ Less focused    ☐ Other \_\_\_\_\_

Did you notice any positive changes in their attitude/behaviour?

Did you notice any negative changes?

Have you any comments in relation to these changes?

Do you think they have learned/improved any of the following learning skills as a result of their participation in Early University Entrance? (Please tick all that applies)

- |   |  |  |   |
|---|--|--|---|
| <input type="checkbox"/> Independent learning | <input type="checkbox"/> Writing           | <input type="checkbox"/> Researching     | <input type="checkbox"/> Study skills       |
| <input type="checkbox"/> Working in groups    | <input type="checkbox"/> Managing time     | <input type="checkbox"/> Goal setting    | <input type="checkbox"/> Self-motivation    |
| <input type="checkbox"/> Managing stress      | <input type="checkbox"/> Prioritising      | <input type="checkbox"/> Self discipline | <input type="checkbox"/> Project management |
| <input type="checkbox"/> Public Speaking      | <input type="checkbox"/> Critical thinking | <input type="checkbox"/> Problem Solving | <input type="checkbox"/> Can't say          |
| <input type="checkbox"/> Other _____          |  |  |   |

What are your thoughts on the social/emotional impact of Early University Entrance?

What aspects of the programme were you satisfied with?

What aspects of the programme that you were dissatisfied with?

What changes to the programme would you recommend?

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Better contact between DCU and the school | <input type="checkbox"/> Better contact with parents              |   |
| <input type="checkbox"/> More organised student social activities  | <input type="checkbox"/> Greater academic assistance for students |   |
| <input type="checkbox"/> Less course modules                       | <input type="checkbox"/> More course modules                      | <input type="checkbox"/> Make EUE a full-time, 12-week course |
| <input type="checkbox"/> Improve timetabling                       | <input type="checkbox"/> Greater course options                   | <input type="checkbox"/> Take in more students                |
| <input type="checkbox"/> Broaden the entry criteria                | <input type="checkbox"/> Other _____                              |   |

Do you think that Early University Entrance is academically valuable? ☐ Yes ☐ No

Why?

Would you recommend Early University Entrance to other Transition Year students?

☐ Yes      ☐ No

Why?

How much of Transition Year was missed as a result of their participation in Early University Entrance?

☐      ☐      ☐      ☐      ☐      ☐      ☐

None      No Opinion      A lot

Was this a problem for you?

☐ Yes      ☐ No      ☐ Don't Know

How do you feel about their return to full-time schooling in September?

What would ease their reintegration into full-time schooling?

☐ Debriefing session      ☐ Follow up meetings with Early Entrance Coordinator

☐ Continued access to DCU programmes      ☐ Close monitoring by the school/teachers

☐ Researcher correspondence with school      ☐ Other \_\_\_\_\_

If you would be happy to participate in a follow up phone call, please leave your name and a contact number below.

Name:

Contact #:

*Thank you very much for your time and opinions.*

# Appendix J

## Teacher Questionnaire

---

In reference to the participation of \_\_\_\_\_ in the Early University Entrance programme at Dublin City University, during semester II: 2008-09 academic year.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

What was your initial reaction when you heard about this student's desire to apply for Early University Entrance? (Honestly!)

How do you feel this student has *changed* over the semester?

- |   |   |  |   |
|---|---|--|---|
| <input type="checkbox"/> More mature      | <input type="checkbox"/> Less mature      | <input type="checkbox"/> Greater self-confidence | <input type="checkbox"/> Less self-confidence |
| <input type="checkbox"/> More independent | <input type="checkbox"/> Less independent | <input type="checkbox"/> More focused            | <input type="checkbox"/> Less focused         |
| <input type="checkbox"/> Other _____      |   |  |   |

Did you notice any positive changes in the attitude/behaviour of the participating student?

Did you notice any negative changes?

Have you any comments in relation to these changes?



Do you think they have learned/improved any of the following learning skills as a result of their participation in Early University Entrance? (Please tick all that applies)

- |   |  |  |   |
|---|--|--|---|
| <input type="checkbox"/> Independent learning | <input type="checkbox"/> Writing           | <input type="checkbox"/> Researching     | <input type="checkbox"/> Study skills       |
| <input type="checkbox"/> Working in groups    | <input type="checkbox"/> Managing time     | <input type="checkbox"/> Goal setting    | <input type="checkbox"/> Self-motivation    |
| <input type="checkbox"/> Managing stress      | <input type="checkbox"/> Prioritising      | <input type="checkbox"/> Self discipline | <input type="checkbox"/> Project management |
| <input type="checkbox"/> Public Speaking      | <input type="checkbox"/> Critical thinking | <input type="checkbox"/> Problem Solving | <input type="checkbox"/> Can't say          |
| <input type="checkbox"/> Other _____          |  |  |   |

Do you think that Early University Entrance is academically valuable? ☐ Yes ☐ No

Why?

Would you recommend Early University Entrance to any of your future Transition Year students?

☐ Yes ☐ No

Why?

What are your thoughts on the social/emotional impact of Early University Entrance?

How do you feel about their return to full-time schooling in September?

What would ease their reintegration into full-time schooling?

- |  |   |
|--|---|
| <input type="checkbox"/> Debriefing session                    | <input type="checkbox"/> Follow up meetings with Early Entrance Coordinator |
| <input type="checkbox"/> Continued access to DCU programmes    | <input type="checkbox"/> Close monitoring by the school/teachers            |
| <input type="checkbox"/> Researcher correspondence with school | <input type="checkbox"/> Other _____  |

What aspects of the programme were you satisfied with?

What aspects of the programme that you were dissatisfied with?

What changes to the programme would you recommend?

- |  |   |
|--|---|
| <input type="checkbox"/> Better contact between DCU and the school | <input type="checkbox"/> Better contact with parents              |
| <input type="checkbox"/> More organised student social activities  | <input type="checkbox"/> Greater academic assistance for students |
| <input type="checkbox"/> Less course modules                       | <input type="checkbox"/> More course modules                      |
| <input type="checkbox"/> Make EUE a full-time, 12-week course      | <input type="checkbox"/> Improve timetabling                      |
| <input type="checkbox"/> Greater course options                    | <input type="checkbox"/> Take in more students                    |
| <input type="checkbox"/> Broaden the entry criteria                | <input type="checkbox"/> Other _____                              |

How much of Transition Year was missed by the student as a result of their participation in Early University Entrance?

- |                          |                          |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| None                     |                          | No Opinion               |                          |                          |                          | A lot                    |

Was this a problem for you?

- ☐ Yes      ☐ No      ☐ Don't Know

If you would be happy to participate in a follow up phone call, please leave your name and a contact number below.

Name:

Contact #:

*Thank you very much for your time and opinions.*

# Appendix K

## Descriptive Statistics for Quantitative Measures

Test/Subtest	# Items	Week 1 n = 20		Week 6 n = 20		Week 19 n = 18	
		Median	SD	Median	SD	Median	SD
<b>SDQ II</b>							
Total Self-Concept	102	500	47	488	57	513	127
Physical Abilities	8	34	8	30	8	34	11
Physical Appearance	8	37	5	35	7	37	11
Opp. Sex Relations	8	41	5	40	8	40	12
Same Sex Relations	10	51	7	52	10	52	15
Parent Relations	8	36	6	35	7	37	10
Honesty-Trustworthiness	10	48	7	50	7	49	13
Emotional Stability	10	43	10	40	9	43	14
Math	10	56	11	55	9	53	15
Verbal	10	58	6	53	7	54	14
General School	11	62	7	59	6	60	15
General Self	10	53	7	52	7	54	14
<b>Piers-Harris 2</b>							
Total Self-Concept	60	51	8	46	9	52	10
Behavioural Adjust.	15	13	2	13	2	13	2
Intell. & School Status	16	14	2	13	3	14	3
Physical Appearance & Attributes	11	10	2	9	2	10	2
Freedom from Anxiety	14	12	2	11	3	13	4
Popularity	12	10	3	8	3	9	3
Happiness & Satisfaction	10	10	2	10	2	9	2
<b>SAAS-R</b>							

Academic Self-Perception	7	6.29	0.66	6.5	0.74	6.57	0.75
Attitude toward Teachers & Classes	7	4.57	1.33	4.57	1.56	4.79	1.51
Attitude toward School	5	5.3	1.58	5.2	1.75	5.7	1.7
Goal Valuation	6	6.17	1.44	6.08	1.49	6.58	1.42
Motivation/Self-Regulation	10	4.85	1.47	4.65	1.44	4.9	1.46
<b>SCQ</b>							
Total Self-Concept	34	3.91	0.53	4.1	0.51	3.94	0.57
Denying Giftedness	7	4.5	1.08	4.5	1.41	4.29	1.39
Using Humour	4	3.75	0.47	3.75	0.7	3.75	0.67
Activity Level	5	3.7	1.06	4.2	0.65	4.0	1.06
Peer Acceptance	6	3.67	0.55	4.00	0.63	3.92	0.6
Conformity	5	4.7	1.0	4.9	0.91	4.8	1.04
Helping Others	3	2.83	1.19	2.5	1.01	2.33	1.12
Focus on Popularity	4	3.63	1.1	4.25	1.18	3.63	1.32
<b>SACQ *week 8 only</b>							
Full Scale Score		526	58.48				
Academic Adjustment (Total)		106	28.89				
AA - Academic Environment		36	6.47				
AA – Application		28	4.76				
AA – Motivation		46	9.07				
AA – Performance		56	13.91				
Attachment (Total)		124.5	23.11				
Att – General		27	2.81				
Att – This College		65	23.82				
Personal –Emotional Adjustment (Total)		101	18.61				
PE – Physical		39.5	8.93				
PE – Psychological		65	12.01				
Social Adjustment (Total)		120.5	22.86				
SA – General		42.5	9.86				
SA – Nostalgia		23.5	4.03				

SA – Other People		38	9.52				
SA – Social Environment		13	4.84				

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<sup>i</sup> The Leaving Certificate is the state examination that takes place at the end of the final two-year cycle, in secondary school. Leaving Certificate grades determine third level college places.