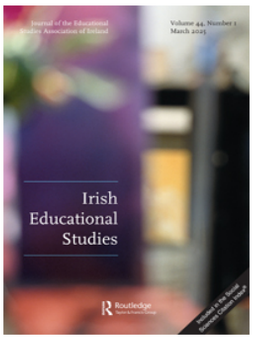

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Student learning outcomes in the Irish context: mixing curriculum paradigms, cultures, and design models

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ABSTRACT

Learning outcomes rather than syllabus content have become a key feature of curriculum design across many jurisdictions. The authors' intentions are to provide a theoretical framework for their planned study of this changing approach to curriculum design in the Republic of Ireland. These changes are situated in the broad context of educational paradigms, curriculum cultures, and models of curriculum design. The introduction of teleological learning outcomes is placed in the historical context of the Learning Outcomes Movement. Drawing on a desk-based study, the key characteristics of these outcomes are identified. Involving elements of both Anglo-American and Didaktik curriculum cultures, the emerging picture is one of hybridisation. While fully recognising the importance of curriculum aims and pedagogical intentions, the authors raise significant concerns regarding the 'canonisation' of pre-determined learning outcomes, that, being teleological rather than emergent (Stoller, 2015) in nature, are expressed in behavioural language. Philosophical and ideological aspects of this emerging hybridisation are discussed, along with associated curriculum implementation matters. Key issues and conundrums are identified which provide valuable reference points for engagement with actors at the macro, meso, and nano levels during subsequent phases of the proposed study.

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Education paradigms; curriculum design; teleological student learning outcomes; curriculum culture; hybridisation

Introduction

The introduction of subject specifications, characterised by learning outcomes, in place of syllabus documents represents a noteworthy departure from previous approaches to curriculum design in the Republic of Ireland. This shift reflects the influence of globalisation at all levels of our education system (Zajda 2018) in the form of the Learning Outcomes Movement (LOM) and the 'learnification' of education (Biesta 2009). As noted by Stoller (2015, 317) the LOM, characterised by pre-determined outcomes, 'shares the philosophical infrastructure of principles of scientific management [which is] antithetical to the

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development of deep learning and democratic forms of education' (see also, Au 2011; Mølstad and Karseth 2016). The European Credit Transfer System (ECTS) represents a relatively recent example of this globalisation (Gleeson, Lynch, and McCormack 2021). The current paper locates the adoption of LOM in the context of an Irish education system that was, for many years, characterised by a blatant disregard for aims and objectives (Mulcahy 1981), one where *the* curriculum was reified, and where syllabus documents prioritised subject content.

Recent Irish curriculum reforms are broadly indicative of a shift from an Anglo-American curriculum culture in the direction of a Didaktik culture (Gleeson 2022) and from a 'technical' to an emancipatory education paradigm (Carr and Kemmis 1986). Insofar as curriculum objectives were included in syllabus documents (cf. Department of Education 1986/87) they were written with *teachers* in mind and served as preambles to long lists of subject content. New subject specifications however place *student learning* at the centre and include comparatively large numbers of learning outcomes. As stated in the original Framework for Junior Cycle (DES 2012, 18) the intention was to that 'help students demonstrate their learning achievements over time and in a range of learning contexts which the current examination regime cannot capture'. However, while learning outcomes remain firmly in place, that examinations regime has also survived due to the unwillingness of teachers to play any part in the assessment of their own students for national certification purposes (Travers 2015).

Notwithstanding this significant volte-face, there is much to admire about the revised Framework (DES 2015). The authors, however, regard the heavy dependency on pre-determined learning outcomes as its 'Achilles heel'. Such behaviouristic discourse (Davis 1976), epitomised in the inclusion of a Glossary of appropriate action verbs in each subject specification, is indicative of an approach where curriculum and instruction have to do with measurable products rather than the experiential process of learning (Pinar 2014; Stenhouse 1975; Stoller 2015). As Priestley (2016, 4) remarks, the current obsession with learning outcomes 'manifests a desire to provide preset definitions of what an educated person might know or do as a result of being educated'. Breaking knowledge and skills down into units of learning to be assessed compromises the complexity of subjects with their particular concepts and skills. Notwithstanding the reality that students learn in many diverse and sometimes unintended ways, the LOM has created a situation where pre-determined outcomes are stated in terms of what 'students should be *able to*' – a red flag indicating behaviourism – while eschewing the rich potential of emergent and unintended learning outcomes.

The authors' medium-term goal is to conduct an empirical study of the rationale for the introduction of pre-determined learning outcomes and their enactment in Irish post-primary schools. Their intention is to establish stakeholders' perspectives and understandings of learning outcomes at the macro and meso sites of national curriculum design and at the micro and nano school-based sites (Priestley et al. 2021) where these reforms are being enacted. The main purpose of the current paper is to provide a conceptual framework for the intended study through:

- Consideration of relevant education paradigms, curriculum cultures, and models of curriculum design, including the origins and significance of the LOM.
- Explication of relevant aspects of the Irish context including the introduction of curriculum frameworks at primary and junior cycle levels, of subject specifications at all

levels, and the use of pre-determined learning outcomes in place of curriculum objectives.
– A desk-based analysis of current Junior Cycle and Leaving Certificate Established (LCE) learning outcomes including consideration of their learner-centred nature, shelf-life, 'glossaries' of action verbs', and their relationship with assessment.
– Critical discussion of associated ideological and political influences on changing approaches to curriculum design in Ireland, of relevant philosophical issues, and of emerging concerns regarding the implementation of these reforms.
– Arriving at the conclusion that hybridisation is a key feature of current approaches to curriculum design in Ireland and identifying related issues for investigation with key curriculum and assessment policy makers and school-based practitioners.

Contrasting education paradigms and curriculum cultures

The Greek concept of *techne* is concerned with the quality of educational products that are external to the producer. Education is treated in isolation from 'its cultural and socio-cultural contexts' (Cornbleth 1990, 17), and curriculum, seen in terms of document, is apolitical and value-free. Technocratic conceptions of curriculum and its construction

> perpetuate myths of curriculum neutrality and benevolence [at the expense of] questions about the nature of knowledge [and its treatment as] an object that can be reproduced and given to students [and whose] possession is indicated by reproducing, recognising, or applying the appropriate knowledge on a pencil and paper test. (18–20)

This engineering mentality corresponds with what Habermas (Kemmis and Smith 2008) calls the 'technical interest' where the focus is on the measurement of outcomes.

In sharp contrast, the concept of *phronesis* is primarily concerned with 'the realisation of human well-being [and] the practical human competence to make decisions in situations that do not have predetermined best outcomes' (Stanley 2011, 213). Its moral purpose, and that of its associated action, *praxis*, is the self-development of each individual learner in his/her own interests and those of the common good. Habermas's critical, emancipatory, and practical interests, what the Greeks called *phronesis* and *praxis*, encourage students to

> reflect on the conduct, character and consequences of their thinking, their actions, and their ways of relating to others [and] to be philosophical about what they think and say, what they do, and how they relate to others (Kemmis 2008, 289). The focus is on understanding, interpretation and meaning making in an environment where education 'cannot be viewed as means-ends systems, with clear and definite ends and alternative means (techniques) to achieve them. (Carr and Kemmis 1986, 36)

whereas teachers from the *techne* tradition see themselves as purveyors of information, technicians who use the 'tricks of the trade' and follow the manual, those who choose *phronesis* and *praxis* are reflective facilitators of learning who depend on their professional judgement to interpret the curriculum as text, while 'denying the authority of the syllabus to impose its own meaning' (Grundy 1987, 69).

Meanwhile, the Anglo-Saxon/American curriculum culture, in the tradition of *techne,* is closely associated with the behavioural objectives' movement (Gleeson 2022). Best known for his work on the behaviour of animals, Edward Thorndike, Professor of

Educational Psychology at Columbia University (1904–1940), using a quantitative approach to social science research, sought to develop a more scientifically grounded and efficient type of schooling (Trowbridge and Casson 1932). Contemporaneously, in the context of the post-Industrial Revolution America, Frederick Taylor was conducting a pioneering study focused on the elimination of wasteful and inefficient workplace practices. With governments attempting to bring educational opportunities to a wider audience, 'the success of [Taylorism] … encouraged classroom teachers … to investigate the possibility of using it in education' (Davis 1976, 46).

Arising out of his work on the design of diagnostic tests for the recognition of individual differences, Ralph Tyler (1949) published his highly influential, landmark, book on curriculum and instruction. As Wraga (2016, 100) reminds us, Tyler believed that teachers' lesson plans, which included both behavioural and non-behavioural objectives, should address students' needs and place their experiences at the centre. Indeed, Wraga (101) concludes that 'the Tyler rationale is better understood … as a manifestation of American pragmatism in education', beginning with an outline of objectives, followed by content, sequence, assessment and evaluation. Over time, however, associated understandings of learning and progression became narrow, instrumental, and linear, and Tyler's work on testing and evaluation would motivate Benjamin Bloom (1956) to develop his taxonomy for the classification of cognitive education objectives. With certain modifications, this taxonomy remains in use up to the present day e.g. the Irish State Examinations Commission, (SEC n.d., 49) *Manual for Drafters, Setters, and Assistant Setters* advises them to 'to reflect Bloom's taxonomy to the greatest extent possible'. Building on the work of Tyler (1949) and Taba (1962), Robert Mager, published a short but extremely influential book specifically for teachers (Mager 1962), valorising performance-based learning objectives using measurable action verbs 'that best succeed in communicating your intent to others'.

Such pre-determined objectives included four characteristics: who is to perform the desired behaviour; the specific terminal behaviour that the learner is to perform; the conditions under which the behaviour is to be performed e.g. time, materials; the standard used to evaluate the success of the product/performance. The LOM has its roots in Taylorism with its focus on the completion of tasks and the production of products. Stoller (2015, 328) argues that 'like Taylor's view of industry, the LOM is deeply teleological' insofar as learning outcomes are 'defined and articulated *prior to and apart from* any actual instance of learning and *against which* a learning process is ultimately evaluated' (320).

With his philosophy of pragmatism (Menand 2001), Dewey was diametrically opposed to Thorndike's behaviourism. Believing that aims can only be written for learning situations that permit the end results to be identified beforehand, he was happy with the notion of an end-in-view insofar as this emphasised the process rather than the end. For him, to act with an end-in-view is to act 'intelligently, but only if an aim is relevant, flexible, and freeing rather than imposed, fixed, and constricting' (Davis 1976, 109). In sharp contrast with the behaviourists Dewey eschewed teleological objectives on the grounds that

> articulating fixed ends prior to an actual experience of inquiry is antithetical to and actually inhibits a process of deep learning. [He believed that] ends [are] experimental and emerge

> from within the context of a course of inquiry. They are emergent rather than teleological. (Stoller 2015, 322)

It is noteworthy that Dewey (1938) was influenced by the culture of Bildung (Garrison 2007) where, rather like *phronesis*, the task of the teacher is 'to enable students to 'come to form' in terms of their individual and social potential' (Stanley 2011, 214). As Stanley observes, since the required educational experiences cannot be determined precisely in advance, the end-means distinction so favoured by behaviourists 'proves to be an illusion … and [the Bildung] conception of the means/end relationship is consistent with Dewey's 'end-in-view' approach'.[1]

Dewey's pragmatic, formational, approach to curriculum is certainly reflected in the progressive German and Scandinavian Didaktik where the child is regarded as a natural learner. While there are 'innumerable variations [of Didaktik] available' (Hopmann 2007, 114), they all share a strong commitment to Bildung, a belief in the educative difference of matter and meaning, and a strong conviction that teaching and learning are autonomous activities. This means that Didaktik is incompatible with teleological, pre-determined learning outcomes, insofar as things 'can always turn out completely differently from what was intended' (Hopmann 2007, 117). However, as Sugrue (2008, 51) remarks in his discussion of the 'paradigm wars', '[when] the titans Thorndike and Dewey squared off … it is generally accepted that the former 'won' (and) progressive education was consigned to the 'outside', a minority pursuit'.

Broadly speaking then, the Greek paradigm of *techne* corresponds with Anglo-American curriculum culture and Habermas's technical interest, while *phronesis* and *praxis* are reflective of Habermas's critical, emancipatory, and practical interests, and a Didaktik curriculum culture. The moral purposes of *phronesis* are the development of the individual and promotion of the common good. This represents epistemic knowledge (Winch 2013), what Kemmis (2008, 289) calls 'teaching students to be philosophical about what they think and say, what they do, and how they relate to others.' On the other hand, within the *techne* tradition, which is associated with measurable, behavioural, objectives, teachers are seen as purveyors of propositional and procedural knowledge rather than professionals who interpret the curriculum while 'denying the authority of the syllabus to impose its own meaning' (Grundy 1987, 69). Some observations regarding the relevance of these contrasting positions on knowledge to curriculum design in Ireland are included later in the paper.

From curriculum objectives to learning outcomes

The now familiar concept of learning outcomes can be traced to Gagne (1970) and Gagne and Briggs (1974). With his stimulus-response mindset, Gagne saw knowledge as a product and objectives in terms of the products of learning, and the expected current outcomes (Hussey and Smith 2008). As evidenced by Bloom's (1956) and Krathwohl, Bloom, and Masia's (1964) taxonomies of educational objectives, the nomination of appropriate action verbs was a key feature of the LOM. Verbs such as 'understand' and 'appreciate' were deemed inappropriate because they did not fit the 'clarity' criterion required by behaviourists for measurement (Davis 1976).

The associated learning outcomes movement would provide the basis for competency-based vocational education and training, internationally transferable academic credits, and,

more recently, national curriculum frameworks. The European Credit Transfer System (ECTS) (Gleeson 2013) was instituted in 1989 as a way of ensuring that academic credits earned during Erasmus placements abroad would count when students returned to their home institutions. Some ten years later this culminated in the signing of the Bologna Declaration by 29 countries with a view to harmonising higher education systems and the creation of the European Higher Education Area (Davies 2008). Users of the ECTS are required to establish cognitive, affective, and psychomotor learning outcomes, stated in terms of what students will be able to do at the end of the module or programme. This is 'commonly referred to as an outcome-based approach' (Kennedy 2007, 16). The European qualifications framework (EQF), the European credit system for vocational education and training (ECVET), and national qualifications frameworks (NQF) would follow.

The European Centre for the Development of Vocational Training (CEDEFOP) defines learning outcomes in terms of 'statements of what a learner knows, understands and is able to do after completion of learning' (2009, 9). This clearly illustrates the shift towards framing education in terms of learners, rather than content and skills to be taught. Similar thinking is reflected in EU (2004) and OECD (2018; 2021) competence frameworks/publications. This shift to learning outcomes is deemed important because it:

- shifts the focus from providers of education and training to users who can see what is offered in a particular course:
- increases transparency of qualifications and strengthens accountability in the interests of both learners and employers:
- introduces a common language that, in an era of lifelong learning, breaks down the barriers between different education and training sectors and systems:
- facilitates 'boundary crossing' and international cooperation.

However, although learning outcomes are characterised by 'a desire to provide preset definitions of what an educated person might know or do as a result of being educated', we are left with 'a field characterised by multiple understandings of terms such as competence' (Priestley 2016, 1–2).[2] Before considering this assertion further, we need to consider Irish approaches to curriculum design, with particular reference to post-primary education.

Post-primary curriculum design in the republic of Ireland: from content to learning outcomes

Notwithstanding the discontinuation of discourse such as 'delivery on in-service training' and 'performance indicators', Irish education discourse includes many examples of technicist discourse, including *delivery* of *the* curriculum, content *coverage*, *having* an education, teacher *training*', *terminal* assessment, the *points race*. The constant references to 'covering the course' are particularly illuminating since, apart from its regenerative meaning in equine affairs, coverage, in the sense of hiding or screening, is the antithesis of exploration, discovery, and creativity.[3] When Taoiseach De Valera instructed the Minister for Education in 1937 to reintroduce prescribed texts this gave full control of subject syllabuses and state examinations to Department Inspectors, with some input from the

university sector at Leaving Certificate level. Notwithstanding the raising of the school-leaving age in 1967 (Gleeson 2018), this situation would remain unchanged for fifty years. Reflecting the dominance of Classical Humanist curriculum ideology (OECD 1991) both Intermediate and Leaving Certificate syllabuses (DoE 1986/87) placed a premium on content, eschewing aims and objectives. While Mulcahy (1981, 51) bemoaned the Irish 'disregard for curriculum aims', his call for 'sustained assessment and critical analysis [of] the overall purposes and programmes of post-primary education' (1) went largely unheeded. As Hannan (1987, 164) observed, this 'neglect of philosophical and value questions' meant that the main objectives of Irish education have been 'technical knowledge and skill acquisition or socialisation … with priority attached to cognitive development'. One of the consequences was that 'the general aims of secondary education seem to be so taken for granted, or its values so deeply institutionalised, as not to require articulation or justification' (Hannan and Shortall 1991, 16). And all of this in an anti-intellectual environment where education research was neglected for many years (Gleeson 2010, Chapter 1).

As may be seen from its impressive array of discussion papers and reports, the representative[4] Interim Curriculum and Examinations Board (CEB), established in 1983, was instrumental in highlighting these and many other fundamental curriculum issues, dilemmas and alternatives.[5] Recognising that there is more to curriculum than content, the Board contributed significantly to curriculum design in its final report, *In Our Schools* (CEB 1986) where it presents a framework for curriculum and assessment characterised by 'two essential and complementary perspectives: areas of experience and elements of learning' (20). Whereas the former had to do with curriculum breadth and balance, the latter was concerned with the 'knowledge, concepts, skills and attitudes inherent in each area of experience' (22).

Following a change of government, and at a time of national economic difficulties, the CEB was reconstituted on a non-statutory, representational, basis in 1987, becoming the National Council for Curriculum and Assessment (NCCA). Starved of resources, this new body eschewed macro curriculum issues and debates, jumping straight into the revision of individual junior cycle subject syllabuses.[6] Development of the Junior Certificate Programme (NCCA 1989), which replaced the Intermediate and Day Vocational Group Certificate programmes, was under-resourced, rushed, and *ad hoc* (Hyland 1988; Gleeson 2010).

Junior Certificate syllabuses, which were developed by Course Committees controlled by the main education partners, included curriculum aims, and, in many cases, objectives. While generally expressed in terms of the CEB's elements of learning, the nature of these syllabus objectives would inevitably vary across subjects. A non-behavioural approach was adopted in some subjects e.g. Business Studies, Wood Technology and English. While the latter syllabus sought to foster student confidence and encourage critical consciousness and creativity, it was not well received by teachers who were unaccustomed to such freedom and responsibility. On the other hand, behavioural objectives were used in other subjects including Technology, Languages, Business, and Music, while some other subjects were devoid of objectives. While learning outcomes were not a feature of most Junior Certificate subject syllabuses, the revised Science syllabus of 2003 included both non-behavioural objectives and some 188 learning outcomes stated in clearly behaviourist language. Course content featured prominently in Junior

Certificate syllabuses, and many included assessment objectives.[7] Syllabuses for non-examined subjects (e.g. PE and SPHE) included broad general objectives followed by detailed statements of learning outcomes.

Until very recently the focus of Leaving Certificate Established[8] (LCE) subject syllabus documents was very clearly on prescribed content. While limited numbers of behavioural objectives were included in some twenty syllabuses, up to this day seven LCE syllabuses do not include any objectives.[9] However, the neglect of curriculum objectives has rarely been an issue for Irish teachers, their representatives, or insofar as one can tell, the State Examination Commission (SEC). Given the enormous influence that LCE grades play in the lives of young people, it is quite remarkable that only six syllabus documents included assessment criteria. Meanwhile, fourteen of them do not include any useful information regarding assessment, while others have generalities such as 'the syllabus will be assessed in relation to the syllabus objectives', with the Biology, Chemistry and Geography documents simply specifying the number and weighting of examination questions.

As our influential 'cultural strangers' (O'Sullivan 1992), the OECD Examiners (1991, 68), would observe, the basic goals and values of Irish post-primary education have 'tended to be *tacit* rather than *explicit* [and our] curriculum, assessment and examination changes have been continual but piecemeal'. Meanwhile, Ireland was largely devoid of school-based curriculum development, were it not for the progressive Transition from School to Work projects (Gleeson 2010) sponsored by the European Union. While curriculum *per se* hardly featured at the consultative 1993 National Education Convention, the ensuing Education Act (Government of Ireland 1998) conferred statutory status on the NCCA. This gave the Council a broader remit and increased funding, albeit from a low base, enabling the NCCA to engage in empirical and school-based action research and to conduct wide-ranging consultation with stakeholders using discussion papers, surveys, focus groups, and regional seminars. As well as being more evidence-informed, this newly established, statutory, NCCA would broaden the nature and scope of curriculum decision-making beyond the nominated members of its representational Council and Course Development Groups.

More recently however there have been significant developments in respect of curriculum design in Ireland. Primary and junior cycle curricula now have their own Framework documents (DES 2015a; DoE, 2023a), together with associated subject specifications, all of which include large numbers of learning outcomes. Whereas the Primary Curriculum framework (2023a) includes key competencies, the Framework for Junior Cycle (FJC) (2015) employs the discourse of key skills, while both documents include a strong focus on wellbeing/being well. The FJC (DES 2015, 14) stipulates that 'the key skills will be embedded in the learning outcomes of every junior cycle subject and short course'. While no such overarching Framework has been developed for the LCE, a common Key Skills Framework (NCCA, n.d.) is included in all new Leaving Certificate Established (LCE) subject specifications. Furthermore, the NCCA (2024) has recently published its 'Key Competencies for Senior Cycle'.

In summary then, for sixty-five years post-Independence, up until the introduction of the Junior Certificate in 1989, curriculum design in Ireland focused primarily on subject content and eschewed curriculum objectives for teachers. Learning outcomes would feature for the first time in Ireland in the Revised Primary Curriculum, 'a national framework that defines [appropriate] learning outcomes' (DES 1999, 26). The timeline at

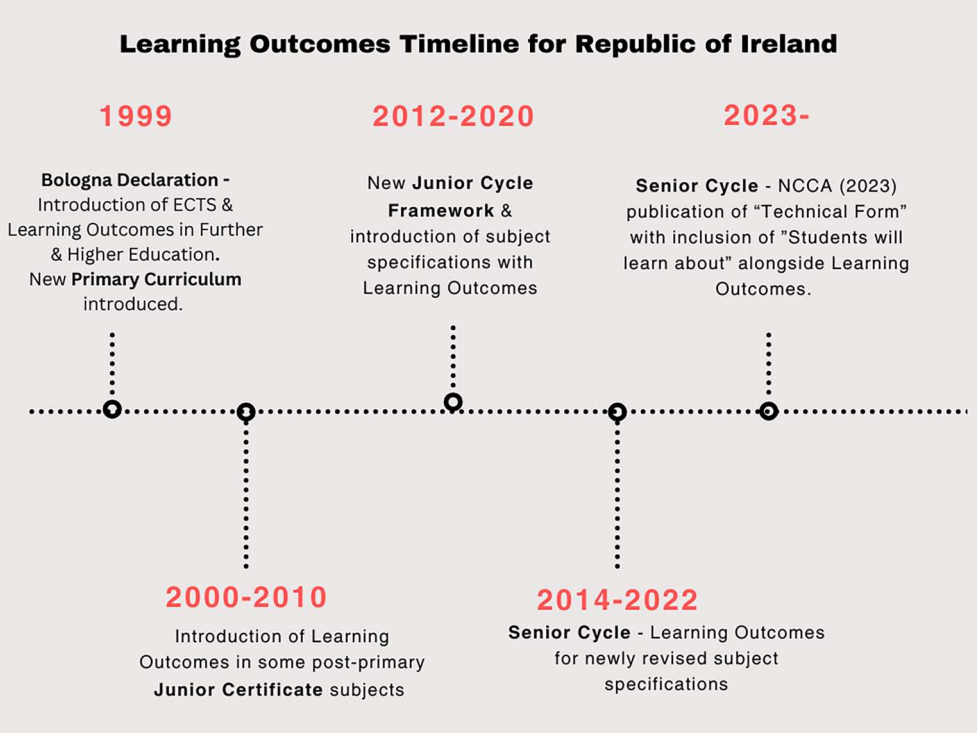

Figure 1. Learning outcomes timeline for Republic of Ireland.

Figure 1 maps the move to Learning Outcomes in the Republic of Ireland, beginning with the introduction of the ECTS in Higher Education programmes (O'Brien and Brancaleone 2011) and the rebalancing of the Junior Certificate Science syllabus (DES, n.d.a). They would become a key feature of the FCJ and its subject specifications. At Senior Cycle, they were first used in the new LCE Politics and Society subject and have been a key aspect of all subsequent specifications. While retaining that status in the 'Technical Form' (NCCA 2023), what 'students should be able to' will now be explicated in a related column that sets out what 'students will learn about'.

Learning outcomes in Ireland

Pre-determined learning outcomes, stated in terms of what students 'should be able to', now occupy a central role in Irish curriculum design at all levels. It is noteworthy that they were introduced at a time when New Public Management, with its associated performance indicators, were key features of the Irish education policy landscape. The recent shift towards Public Value (Gleeson 2023) coincides with a growing recognition of the need for a more holistic and integrated approach to curriculum design, as illustrated by the inclusion of Statements of Learning and key skills in the FJC and key skills/competencies in LCE specifications.

The PISA tests were a key driver of globalisation in education and the publication of the 2009 results created 'the perfect storm' (Cosgrove and Cartwright 2014) insofar as Irish

participants' reading and mathematics scores had declined significantly since 2000 (OECD 2010a; 2010b). By way of response, Ireland's National Strategy: Literacy and Numeracy for Learning and Life (DES 2011, 45) included an explicit policy commitment that 'a 'learning outcomes' approach [is] to be incorporated into all curriculum statements at primary level and in all new syllabuses at post-primary levels as they come on stream. Curricula should state clearly the skills and competencies expected of learners'.

While the 1999 Primary Curriculum had already employed the discourse of 'students should be *enabled* to', the most recent primary curriculum uses 'children should be able to', preceded by the stem, 'through appropriately playful and engaging learning experiences'.[10] The FJC defines learning outcomes as 'statements [that] describe the knowledge, understanding, skills and values students should be able to demonstrate after a period of learning' (DES 2015, 10). Individual learning outcomes are associated with the 'elements' of the main 'strands' e.g. Science has five strands, each including four elements, giving a total of 46 learning outcomes.

The FJC encourages the organic and holistic growth of the student through its 8 Principles, 8 Key Skills and 24 Statements of Learning. It portrays the 'teacher's role as a leader and facilitator of learning in the classroom' (DES 2015, 29), what Dempsey, Doyle, and Looney (2021) call curriculum makers. They define curriculum making for the teacher as a 'process of drawing on their own personal knowledge, linked to the concept of reconstructing the past and the projective intentions for the future within the cultural, structural and material of the present' (202). The FJC (36) encourages teachers to 'use the learning outcomes … as a starting point for planning a unit of learning … develop[ing] learning intentions and success criteria to be shared and discussed with their students'. Furthermore, it goes on to state that 'assessment will be aligned with the learning outcomes of each subject' (37). According to McGarr et al. (2024), 'teachers of some subjects see LOs (learning outcomes) as supporting flexibility and teacher agency while others are less supportive of this view'.

While these features are indicative of a Didaktik curriculum culture, they also raise certain conundrums. How can epistemic knowledge be assessed in external examinations, particularly when the stakes are high?[11] To what extent is it possible for teachers who are beginning from a behaviourist curriculum discourse characterised by teleological pre-determined learning outcomes to engage in curriculum making? Is it realistic to expect teachers to deal with the epistemological mismatch between the purpose of learning outcomes as suggested in the FJC, and their expression in terms of discrete silos of knowledge and skills?

It is our contention that the current dependency on pre-determined learning outcomes flies in the face of the curriculum making vision contained within the FJC. The impact of this obvious epistemological contradiction between the behaviourist language of learning outcomes and the constructivist intention regarding their use in making curriculum emerges in our subsequent discussion of curriculum implementation. This issue is particularly acute when the construction of student knowledge is not rewarded by assessment grades.

As the development of new senior cycle subject specifications progressed, the NCCA set out to define the structure of these specifications and 'how they should be organised for teaching (the realpolitik of form)' (2023, 32). The resulting report is replete with references to the 'scaffolding' of learning outcomes with inevitable technical, Anglo-American overtones. Three scaffolding options were considered and 'a clear preference emerged

from [development] groups for … adding more detail to the 'students learn about' column in specifications' (6). This hybrid approach (Luke, Woods, and Weir 2013) is reminiscent of previous approaches to curriculum design where the focus was on subject matter rather than learning outcomes. It has been used at senior cycle since 2018 and represents a response to teacher unease with the Junior Cycle approach. It is salutary however to note Priestley's (2016) concerns regarding what Wolf (1995) called a spiral of specification which leads to a growth of bureaucracy as schools develop methods to assess, record and report against outcomes.

In order to identify their key characteristics, the authors undertook a desk-based analysis of learning outcomes across subject specifications across all levels.

Some key aspects of learning outcomes

Pre-determined learning outcomes, stated in behavioural language, are now an ever-present feature of subject specifications at all levels. All members of NCCA Subject Development Groups are introduced to the writing of precise learning outcomes using appropriate action verbs. Learning Outcomes appear under 'Student Expectations'[12] in Junior Cycle subject specifications.[13] Going beyond the issues identified earlier, some interesting themes are discernible across primary and post-primary learning outcomes: the focus on children as learners; the nature of learning outcomes at different age levels; the use of glossaries of appropriate action verbs and their relationship with external assessment at secondary level.

Children as learners

Since the focus of DES Statements of Strategy began to shift away from New Public Management to public value (Gleeson 2023), learning has been identified as one such value and students are increasingly referred to as learners. This conversion to child-centredness is very evident in both the primary and junior cycle frameworks[14], while 'learners' are located at the epicentre of the introductory graphic in all LCE subject specifications. In her foreword the Minister for Education mentions learning seven times more often than teaching, stating that the FJC 'places the student at the centre of the learning process' (DES 2015, 2). Meanwhile, the Director of Oide[15] suggests that 'the shift to a learning-outcomes-based specification is perhaps one of the most significant changes at classroom level' (Kirk (2018/2019, 26).

This new direction is remarkably counter-cultural in the light of the research evidence that Irish post-primary teachers focus primarily on knowledge transmission and coaching for exams (Baird, Caro, and Hopfenbeck 2016; Burns et al. 2018; Gilleece et al. 2009). Underpinning principles of the FJC include 'learning to learn', student participation and engagement, continuity of progression, and student wellbeing. These principles are complemented by eight key skills (e.g. being literate, numerate, creative, reflective, curious and a critical thinker) and 24 innovative Statements of Learning. These various FJC features, expressed in non-behavioural terms, provide valuable opportunities for learners to develop propositional, procedural and epistemic knowledge, with all subjects contributing to a holistic, learner-centred, and coherent learning experiences catering for both *techne* and *phronesis*. Insofar as teachers are cast in the new role of curriculum makers

(Dempsey, Doyle, and Looney 2021), this emphasis on teacher agency has major implications for their professional development. It is encouraging to find McGarr et al. (2024, 109) reporting that

> teachers reported that core aspects of the FJC as represented in the Statements of Learning and Key Skills were regularly incorporated in daily teaching. Teacher Survey data also indicated that teachers supported students in their development of each Key Skill.

Longitudinal nature of learning outcomes

At Primary and Junior Cycle there is no expectation that particular learning outcomes should be achieved within restricted time limits. For example, the latest primary Maths outcomes 'describe the expected mathematical learning and development for all learners *at the end of a two-year stage*, when due account is taken of individual abilities and varying circumstances' (DES 2023b, 19). Junior cycle subject specifications state that learning outcomes are '*for three years'*, meaning that 'outcomes focused on at a point in time will not have been 'completed' but will continue to support students' learning up to the end of junior cycle' (DES n.d.b., 13).[16]

However, at the level of LCE, subject differences are more pronounced. For example, the specification for Economics states that, although 'the learning outcomes associated with each strand are set out separately … students' engagement and learning are optimised by a fully integrated experience of all five strands' (DES n.d.c., 12–13). The Agricultural Science specification on the other hand states that 'each of the four strands is presented in the form of … statements of what the learner should be able to do having completed the strand of study'. Meanwhile, the Computer Science specification states that 'the learning outcomes from all strands are interwoven' as students complete their applied learning tasks, and the Portuguese specification notes that the numbering of units in the Modern Languages strand 'does not imply a hierarchy of approach [and] that in order to acquire language proficiency, one needs to develop communicative competence, plurilingual and pluricultural competence in an integrated way'.

External assessment

All assessment for state certification is conducted externally by the SEC whose brief is 'to measure the extent to which each candidate has fulfilled the objectives[17] of the relevant syllabus [and] to provide a certified record of the candidate's level of achievement' (SEC 2019). All Junior Cycle and LCE subject specifications include information regarding subject assessment modes. There is a strong focus on formative assessment in the FJC and in the associated subject specifications, while attention to external assessment criteria is minimal.

The Framework (DES 2015, 37) states that 'assessment will be aligned with the learning outcomes of each subject' and that Classroom-Based Assessments (CBAs) are associated with learning outcomes to be specified by the NCCA. It is noteworthy that the fundamentals of that Framework were put in place in an environment where then Minister for Education. Ruairi Quinn, had announced the discontinuation state examinations at the end of junior cycle. Following strong teacher resistance (Travers 2015), a dual approach to assessment was adopted whereby 10% of the marks for external assessment

are allocated to the Assessment Task and the remainder to externally assessed, state-certified examinations. While the FJC has a great deal to say regarding formative assessment including CBAs and Subject Learning and Assessment Review meetings, its treatment of the external examinations is purely technical in nature.

The context in which the NCCA operates is characterised by the representational partnership (Gleeson 2010). This affords the main education partners, particularly the teacher unions, a very powerful voice in curriculum policymaking and development. Much of the underlying principles of the FJC had been developed before teacher union unwillingness to engage in school-based assessment at Junior Cycle became a major stumbling block. Education Minister Ruairí Quinn's radical response, announced in October 2012, was to replace the state examinations with the school-based Junior Cycle Student Award.[18] Continued teacher union opposition resulted in industrial action and school closures. The net result is that 90% of the credit for state accreditation of Junior Cycle is allocated to external examinations. As noted by McGarr et al. (2024), this makes the alignment of learning outcomes and assessment enormously difficult. While we will never know the extent to which Minister Quinn's proposal would have facilitated alignment between learning outcomes and assessment, it seems reasonable to suggest that it would have been an improvement on the current system. However, teachers would still be left with the dilemma of how to reconcile a constructivist approach with pre-determined learning outcomes.

In the case of new LCE subject specifications, assessment for national certification is based on the aim, objectives and learning outcomes of the relevant specification, with key skills, which are 'embedded within the learning outcomes of the specification [being] assessed in the context of the assessment of learning outcomes' (see for example DES n.d.b. 11). All subject specifications involve an externally assessed coursework component where candidates are expected to show evidence of particular sub-sets of learning outcomes.[19] Subject content standards for the external assessments are developed collaboratively by NCCA and SEC. This whole process is guided by Anderson and Krathwohl's (2001) modified versions of Bloom's taxonomy of educational objectives.[20] However, the task of developing meaningful LCE performance standards for specifications that can include more than 100 learning outcomes appears daunting to say the least.

The inclusion in all LCE subject specifications of general assessment criteria for high, moderate, and low levels of achievement in externally examined course work and written examinations is a significant innovation. This may be indicative of a tentative move in the direction of criterion-based referencing, which would appear to be the only valid approach to the assessment of learning outcomes (Lok, McNaught, and Young 2016). It is unlikely however that these criteria will have any impact on the current practice where the meaning of LCE grades is understood in terms of norm-referencing and CAO points.

Glossaries of action verbs

Most subject specifications include a glossary of action verbs to 'support the exploration of the learning outcomes by teachers, parents, and students' (DES n.d.c., 15).[21]

These verbs, specified by the NCCA in terms of what students 'should be able to', serve as 'command terms' for LCE assessment purposes (SEC n.d., 21).[22] Drafters and setters of

external examination papers are advised to 'to reflect Bloom's taxonomy to the greatest extent possible' (SEC n.d.). While many 'approved' verbs clearly have the potential to support epistemic as well as propositional and procedural learning outcomes, the extent to which that potential is being realised is extremely difficult to establish. This is indicative of tensions between behaviourist and constructivist understandings of knowledge and the lack of transparency, openness, and research evidence with respect to the State examinations grading process (Gleeson 2024; O'Leary and Lysaght 2024).

While the majority of the suggested action verbs across subject specifications are behavioural and demonstrable, most glossaries include verbs that do not fit the measurability requirements of behavioural objectives e.g. 'appreciate', 'discuss', 'reflect', 'understand', 'consider'. Some of the associated definitions are remarkably vague e,g, 'discuss' means to offer a considered, balanced review that includes a range of arguments, factors or hypotheses; opinions or conclusions should be presented clearly and supported by appropriate evidence'. How measurable is that? While word limits do not permit detailed consideration of between-subject differences, it is noteworthy that the revised Junior Certificate Science syllabus of 2003 and both the Junior Certificate and Junior Cycle English syllabus/specifications include both behavioural *and* non-behavioural objectives/outcomes. The case of Junior Cycle English is particularly interesting insofar as it is the only specification where the learning outcomes on which the final assessment will be based are identified.

To conclude this section, the central role afforded pre-determined, teleological, behaviouristic learning outcomes in curriculum design and external assessment generally, and the inclusion of glossaries of action verbs, are indicative of Anglo-American curriculum culture at a time when much of the discourse of recent developments at primary and Junior Cycle points in a different direction.

Discussion

The central place of learning outcomes in recent Irish curriculum design raises important philosophical, ideological/political, and implementation issues.

Philosophical perspectives on curriculum design

The objectives model of curriculum design follows a rational Tylerian progression that begins with aims, goals and objectives before proceeding to organisation and structuring of learning experiences and culminates in evaluation. Stenhouse (1975), however, contended that 'it is possible to design curricula rationally by specifying content and principles of procedure rather than by pre-specifying the anticipated outcomes in terms of objectives' (Taylor and Richards 1985, 72).

The use of pre-determined learning outcomes is predicated on a belief that students are receivers rather than makers of meaning (Postman and Weingartner 1971). This means that complex learning processes are reduced to precise statements that serve to atomise knowledge while pretentiously and undemocratically predicting learners' outcomes. In this environment students become 'entrapped' within a web of consistency characterised by pre-determined objectives (Biggs 1999; Holmes 2019), Biesta's (2009,

43) concern is that 'we end up valuing what is measured, rather than measuring what we value'.

However, when it comes to classroom curriculum planning (Taylor and Richards, 1985), psychology trumps logic insofar as practising teachers are generally more concerned about classroom activities and content rather than logically establishing objectives/learning outcomes. As Eisner (1967, 258–259) put it, 'curriculum theory as it pertains to educational objectives … has not distinguished between the logical requirement of relating means to ends in the curriculum as a product and the psychological conditions useful for constructing curriculum'.

Bruner (1960) saw curriculum in terms of an ever-expanding spiral of understanding, not in linear terms. As Stenhouse (1975) would subsequently remark, the goals of Bruner's MACOS[23] centre around 'the process of learning rather than the product'. This principle underpinned Stenhouse's own belief that 'the power and possibilities of the curriculum cannot be contained within objectives because it is founded on the belief that knowledge must be speculative and thus indeterminate as to student outcomes if it is to be worthwhile' (92). However, while the process model is 'more appropriate than the objectives model in [curriculum] areas which centre on knowledge and understanding [he argues that] the objectives model appears more suitable in areas which emphasise information and skills' (Stenhouse 1975, 97). For him, the induction of students into the intrinsically problematic and contestable structures of worthwhile knowledge casts the teacher in the role of *an authority* rather than someone who is *in authority*. These perspectives serve as a stark reminder of the need for curriculum debate regarding the differences between, and significance of, propositional, procedural, and epistemic knowledge.

Support for the process model of curriculum design is found in assessment-for-learning strategies (Black et al. 1998) where the learner is brought inside the discipline of knowledge. However, while this provides opportunities for deep learning and unintended outcomes, teachers who embrace it while working in a performative environment are open to accusations of lack of direction, neglect of examination focus, and alienation of students. Dependency on behavioural outcomes is strongest in the later years of Irish secondary schooling. Meanwhile, the replacement of LCE subject syllabuses with subject specifications is ongoing. Approximately ten new subject specifications have been developed to date and others are in preparation. In sharp contrast, however, the remaining 31 subjects remain in syllabus form with a strong focus on content knowledge.

As well as being blind to teacher psychology, the adoption of pre-determined learning outcomes fails to recognise the pedagogical significance of unintended learning outcomes and teachable moments. Whereas rational curriculum planning (RCP) maps an 'elegant pathway from goals, to objectives, delivery, reception and so on … creativity, innovation and flexibility depend on there being slack, spaces or spare capacity in a system' (Knight 2001, 374). As Stenhouse (1975, 77) remarked, the RCP curriculum planner 'is offered a model which fixes his eyes so firmly on his destination that he doesn't notice the pond in his path until he is waist deep in it'. After all, it is commonplace to hear politicians, businesspeople, hurling managers, horse trainers, etc. identify 'important learnings' as they reflect on recent successes and disappointments. Such 'learnings' might be characterised as unintended outcomes. Given his professional engagement in creative/aesthetic education, Eisner (1967) sought to recognise the significance of *unintended* learning outcomes by distinguishing between *instructional objectives* dealing with knowledge and

skill acquisition, and *expressive objectives* that do not specify what students are to learn from classroom encounters, situations, problem solving.

Ideological and political influences

The introduction of curriculum frameworks to lower secondary education in the Republic of Ireland, and the replacement of curriculum objectives (ends-means) with learning outcomes and key skills/competencies (means-ends) is indicative of a shift away from the Anglo-American curriculum culture that has characterised Irish curriculum thinking (Gleeson 2022) in the direction of a Didaktik curriculum culture (Hopmann 2007). It may also herald the beginnings of a paradigm shift from curriculum as product or 'techne' to curriculum as process or 'phronesis and praxis'. Examples of this include the 24 FJC Statements of Learning, the strong focus on student learning and student agency, the increased focus on student wellbeing (Nohilly and Tynan 2022), changing approaches to external assessment, the emphasis on teachers as curriculum makers (Priestley et al. 2021) and the promotion of reflective practice and teacher collaboration (Moynihan and O'Donovan 2022; Scanlon and Connolly 2021).

Arguably, much of this cultural shift can be attributed to international influences (NCCA 2019) and trends, as noted by Biesta (2021, 36ff) who sees the shift to student learning outcomes, what he terms 'learnification', in terms of a 'transformation of an educational vocabulary into a language of learning [indicative of] the dominance of the frameworks promoted by the global education measurement industry'. Other Irish examples of this phenomenon include the DES (2022, 26ff) Quality Framework for Post-Primary Schools (DES 2022, 26–29) where the domains of '*learner* outcomes' – as opposed to '*learning* outcomes' – and '*learner* experiences' are prioritised, and the increased emphasis on learning as a public good in recent DES Statements of Strategy (Gleeson 2023). The recent publication of seven key senior cycle competencies (NCCA 2024) represents another example of external influences. This latest innovation draws on the OECD's (2018) Learning Compass 2030 framework which highlights the importance of transformative competences, knowledge, skills, attitudes and values that students will need to thrive in 2030 and beyond (OECD 2021).

While primary and junior cycle education have well-developed curriculum framework documents, there is no corresponding document for senior cycle students. In addition to the original key skills, three 'new' competencies have been introduced: being creative, cultivating wellbeing, and 'participating in society'. While these competencies are stated in the same behaviourist discourse as subject specifications, NCCA (2024, 11) acknowledges that the associated 'learning outcomes may be broad and global in nature … or may present learning that is more specific to the individual subject or module as seen in subject and module specifications'. Meanwhile, the 'attributes' associated with these competencies are stated in non-behavioural, process-type, discourse e.g. thinking critically and solving problems, being creative, working with others, wellbeing, understanding, thinking critically, exploring, open-mindedness, speculating, etc. As well as reflecting global influences, the inclusion of such attributes side-by-side with behavioural learning outcomes offers further evidence of our hybrid approach to curriculum design.

Prior to these developments, learning outcomes were a fundamental part of the European Credit Transfer System (ECTS) at a time when higher education (HE) was under increasing pressure to contribute more directly to economic development. This

development was underpinned by a commitment to provide 'opportunities to study abroad and [was] considered to be fundamental to graduate employability' (Robson 2011, 622), and the establishment of the European Qualifications Framework enabled European HE 'to become 'transparent' [and] governable' (Lawn 2011, 263). Well before becoming *de rigueur* at post-primary level, pre-determined ECTS learning outcomes, stated in clearly behavioural terms[24], were mandatory at HE. This innovation had more to do with administrative and regulatory imperatives than with models of curriculum design (Hussey and Smith 2003). Based on their study of Irish teacher educators' attitudes to ECTS, Gleeson, Lynch, and McCormack (2021, 378) would conclude that 'under the influence of internationalisation, globalisation and market values, respondents saw the ECTS primarily in terms of administrative convenience rather than student-centred curriculum, teaching and learning'.

While the inclusion of Statements of Learning in the FJC is indicative of a changing curriculum culture'[25] there are counter forces in evidence as well. Teacher unwillingness to assess their own students for purposes of state certification is the most obvious example (Gleeson, Klenowski, and Looney 2020). So is the decision, in response to public and political pressure, to reinstate History to the mandatory junior cycle core notwithstanding the immediate relevance of at least four Statements of Learning to that subject.[26]

Curriculum implementation issues

One of the perceived strengths of 'learning outcomes' is their student-centric focus (Starkey 2017). However, what exactly is our understanding of student-centred? Ought not genuinely student-centred teaching be constructivist in nature? Might Dewey's ends-in view be more appropriate than pre-determined outcomes? If so, then learners, as active makers of meaning, rather than being presented with pre-determined outcomes, should be confronted with 'real life problems in a collaborative and social environment [where they] apply their skills and experience to solve the problems and construct the knowledge' (Schreurs and Dumbraveanu 2014, 37). In that scenario, curriculum designers would begin from 'predefined competences' (e.g. key skills/senior cycle competencies, FJC Statements of Learning), where the role of the teacher as curriculum maker (Dempsey, Doyle, and Looney 2021) is to 'create a context where the learner is motivated to learn [using] content and resources and … constructivist learning activities' (38). The evidence (McGarr et al. 2024) would suggest that the junior cycle CBAs are proving effective in this respect.

Priestley (2016) suggests that, when curriculum is framed purely in terms of outcomes/outputs, other curriculum components including statements of content, processes of learning, organisation of learning are neglected. Based on survey responses from 2,981 teachers, the Association of Secondary Teachers of Ireland (ASTI 2022, 13–14) identified

> profound and universal concern among teachers about the capacity of the junior cycle subject specifications [on the grounds that] learning outcomes … are too broad, too vague and are lacking in guidance [in relation to] what students are expected to be able to do in order to show that they have achieved each learning outcome.

This reaction is certainly indicative of the *techne* and Anglo-Saxon/American mindsets that have characterised Irish educational thinking.

Drawing on international comparisons, NCCA (2023, 90) observes that 'the detail provided to scaffold learning outcomes tends to be tailored to the subject in question and is often influenced by whether or not the learning will be assessed internally or externally'. This resonates with the findings of Hudson et al. (2023, 129) that 'science teachers understand powerful knowledge differently' than teachers of Social Sciences, Mathematics, and Language'. Irish post-primary teachers' reactions to the new FJC and LCE specifications are redolent of an Anglo-American curriculum culture where syllabuses are content-laden. For example, the Irish Science Teachers' Association (ISTA 2019) expressed concerns regarding the FJC Science specification because it lacks the depth of treatment (Hyland and Kennedy 2023) and provides an unsuitable template for the LCE. Similar concerns have been expressed by the Agricultural Science Teachers' Association and by teachers of Irish with respect to their subject specifications. Hyland and Kennedy (2023, 199) call for the development of 'a new syllabus template for all syllabi at Junior Cycle and Leaving Cert level [that] must contain more detailed information about the depth of treatment of subjects and should explicitly link learning outcomes, teaching and learning activities, and assessment'. Their call for constructive alignment reflects the NCCA's (2023, 194) position that the purpose of learning outcomes is 'to contribute to curricular coherence; ensuring that the various elements of the curriculum are aligned with each other'. It is also consistent with McGarr et al.'s (2024) longitudinal FJC study findings that 'changes to the original reforms [have] led to a lack of coherence between the curriculum outcomes, its mode of delivery, and most importantly, its modes of assessment … In essence, curriculum goals, instructional practices and assessment do not align'. The harsh reality is that such alignment would require significant changes to the assessment of state examination candidates, changes that do not have the support of the post-primary teacher unions (Doyle 2019).

Hyland and Kennedy (2023, 199) have called for a scripted curriculum with 'detailed guidelines for teachers and students … sample exam papers and marking schemes'. Similar sentiments were expressed by the ISTA representative at the Joint Committee on Education, Further and Higher Education, Research, Innovation and Science (2023). However, this would simply mean 'putting new wine into old wineskins', clinging to an Anglo-American curriculum culture that is characterised by a focus on propositional knowledge, one that the NCCA is attempting to replace or ameliorate (Gleeson 2022). As Priestley (2016, 4) remarks, it would result in 'atomised and fragmented provision, which loses sight of the wider aims of education and reduces schooling to the digestion of 'bite-sized' chunks of content and the dominance of the metaphor 'delivery' to describe educational practice'. Andreas Schleicher, Director for Education and Skills at the Organisation for OECD, in an interview with Carl O'Brien (Irish Times, May 25, 2024), also expressed serious concerns about such an approach:

> We teach you for 12 years, pile up a lot of content, and then one day, we will call you back and ask you to tell us everything that you've ever learned in your whole life in a very contrived, artificial setting. We call that an exam – and that has produced the shallowness of teaching and learning.

Drawing on the experience of recent curriculum reforms in Scotland and Wales (Priestley and Humes 2010), Priestley (2016, 6) suggests that 'the use of very specific objectives/

learning outcomes is likely to result in 'bureaucratic standards for [a box-ticking approach to] assessment'. He suggests that the alternative is to settle for broad and generic learning outcomes

> setting out the purposes of school education … in terms of the skills, capacities and dispositions that one might expect young people to have developed by the end of each stage of education … . [accompanied by] a limited set of complementary generic outcomes for each subject domain. (6)

Hybridisation: an agenda for further research

The current paper has mapped the historical origins of learning outcomes and the contrasting education paradigms and curriculum cultures that are at play in the Republic of Ireland. Over time, each of the main models of curriculum design – content, objectives and process (Kelly 2004) – has been adopted in Ireland. While the focus on content has been consistently strong, the usage of curriculum objectives was rather hit and miss prior to the arrival of learning outcomes. Elements of the process model are found at primary level, in the FJC Principles and Statements of Learning, Leaving Certificate Applied (LCA) (Gleeson and Granville 1996), and Transition Year (TY) (Jeffers 2008). While the recent incorporation of key skills and competences in our Primary and Junior Cycle curriculum frameworks has the potential to facilitate a greater balance between propositional, procedural, and epistemic knowledge, this issue deserves much more attention from researchers.

Recognising that this complex jigsaw is continually evolving we have attempted to map out its main current features in Figure 2.[27]

Figure 2 highlights a noticeable shift from an Anglo-American curriculum culture in the direction of Didaktik. This change is particularly evident in the case of Junior Cycle, arguably the single most significant curriculum reform in the history of the Irish state. Cultural change is a notoriously slow process however, and both Junior Cycle and new LCE specifications reveal an ambivalence in approach to curriculum design as represented by the lighter shades of green and blue. This is reflected in the pre-determined, behavioural, nature of the learning outcomes, the glossaries of action verbs, the lack of clarity regarding the learning outcomes/external assessment nexus, the absence of an overall LCE Framework, the renewed focus on content (what students will learn) in recent LCE subject specifications, and the dominant role of external assessments and examinations. Due to the relative recency of new LCE specifications, the jury is out in the case of the uncoloured Figure 2 columns. Notwithstanding the innovative and progressive nature of Junior Cycle reforms, it is anomalous that LCE research projects contribute four times more to students' final grades than the Junior Cycle Assessment Task. While fully recognising the importance of learning intentions, the authors have serious concerns regarding the use of pre-determined, teleological learning outcomes.

As Irish curriculum culture evolves, the various hues of green and blue in Figure 2 are indicative of hybridisation. The NCCA (2023, 94) acknowledged as much when stating that LCE subject specifications 'reflect many curriculum models [such as] learning outcomes based, traditional content based, generic skills based, process-based/

Intermediate (1923-91)/ Junior (1992-2015) Certs; Leaving Cert (1923-)	**Junior Cycle (2015-**	**Leaving Certificate Established (2016-**
Syllabus documents	Framework and Subject specifications	Subject specifications
Syllabuses mostly consisting of lists of **content** to be covered	Specifications focus on **learning outcomes** rather than subject content	**Learning outcomes** 'Students learn about' also included in specifications since 2020
Focus on product, curriculum delivery	Focus on process of learning e.g. underpinning Principles, Key Skills, Statements of Learning	Key Skills; recent introduction of competencies
Teachers 'instruct' and 'deliver' the curriculum, working in silos	Teacher collaboration is encouraged. Teachers as curriculum makers	Recent development - high stakes nature of Leaving Certificate may inhibit progressive approaches
Students as passive receivers	Student as active learners	Recent development - high stakes nature of Leaving Certificate may inhibit progressive approaches.
Anthology of subjects; attention to citizenship and SPHE in later years	Student wellbeing a key principle	Revised SPHE programme
Mixture of behavioural and non-behavioural **objectives**, with many syllabuses having no objectives whatsoever.	Large numbers of **pre-determined learning outcomes**, written in behavioural terms of what 'students should be able to'; glossaries of action verbs in most specifications	Large numbers of **pre-determined learning outcomes**, written in behavioural terms of what 'students should be able to'; many include glossaries of action verbs
No references to formative assessment	Strong focus on formative assessment, e.g. Classroom-Based Assessments.	Little/scant reference to formative assessment in main documents
External assessment based on traditional examinations with provision for course work in some subjects more recently	External assessment where examinations are linked with learning outcomes. 10% of credit for Assessment Task.	External assessment (traditional examinations) with 40% of credit for project work/ research studies linked to learning outcomes
Anglo-American Culture	**Hybrid culture with many Didaktik elements**	**Hybrid culture with some Didaktik elements**

Figure 2. Hybridisation of Irish curriculum culture.

developmental, and critical theory based'. Recognising that 'many modern curricula conflate such models', Priestley (2016, 4) sounds a serious warning when he argues that hybridisation is 'highly problematic [insofar as] the models are not mix-and-

match approaches but in fact represent different starting points for curriculum planning [that] have clear implications for … emerging practices … as schools develop the curriculum'. In the case of Ireland, the use of both Statements of Learning and pre-determined learning outcomes in the FJC represents a classic example of such conflation, while the same may be said regarding proposals to integrate aspects of the LCA with the LCE.

Traditional subject syllabus documents are being replaced by subject specifications containing large numbers of pre-determined, teleological, learning outcomes. This development, reminiscent of the Learning Outcomes Movement, raises many associated conundrums and questions. What is the rationale for, and perceived effectiveness of, this approach, as against Dewey's ends-in-view? Will it lead to more bureaucracy (Priestley 2016)? What uses are practitioners making of learning outcomes? Is balance being achieved between propositional, procedural, and epistemic knowledge? To what extent are learning outcomes aligned with assessment for national certification? What is the significance of subject- and age-level differences e.g. the renewed focus on content in recent senior cycle specifications? Can some of the apparent contradictions in this hybrid approach to curriculum design be reconciled e.g. increased teacher agency vs pre-determined learning outcomes? The authors intend to investigate these issues with education policymakers, key stakeholders, and school-based practitioners.

Notes

1. He rarely mentions curriculum objectives.
2. He evidences national academic qualifications frameworks developed during the 1990s in Scotland, New Zealand, South Africa (Kelly 2004; Biesta and Priestley 2013)
3. Public references to innovative programmes of a developmental nature such as Transition Year and LCA as 'doss' programmes (Lynch 1989, 59ff; Jeffers 2008) are indicative of a similarly technicist mentality.
4. Meaning that Board members were invited by the Minister, as against the subsequent representational NCCA where stakeholders nominated their own representatives.
5. at a time when the notion of curriculum as a selection from the culture (Lawton) was gaining traction
6. See *A Guide to the Junior Certificate* (NCCA 1989),
7. They were included in English, History, Geography, Business, Technical Graphics, and Wood Technology but not in Languages, Science, Technology, Metalwork and Music (where content and examination were treated as one).
8. With the introduction of the Leaving Certificate Applied (LCA) and the Leaving Certificate Vocational Programme (LCVP) in the 1990s, the original Leaving Certificate was designated the Leaving Certificate Established (LCE). In the interests of word count the authors have focused on the long standing and celebrated LCE. For the more progressive, student centred, LCA culture, see Author, 1996.
9. e.g. Ancient Greek, Applied Mathematics, Construction Studies, Engineering, Hebrew Studies, Latin,Physics and Chemistry.
10. There are no glossaries of action verbs in Primary level subject specifications
11. In the case of the LCE, learning outcomes are associated with 'topics' that fall under the broader heading of 'strands' e.g. Agricultural Science has 4 strands, 23 topics and 104 learning outcomes.
12. Both English and Science have Student Expectations/Learning Outcomes.
13. Junior Cycle curriculum specifications tend to have fewer LOs e.g. English (39), Business Studies (31), Applied Technology (32), History (38),

14. For example, the aim of the primary curriculum framework, which includes five times more references to 'learning' than 'teaching', is to develop active, agentic and digital learners.
15. Teacher professional support services.
16. In some cases (e.g. English), a sub-set of first year student learning outcomes that articulate well with content objectives for primary 5th and 6th classes have been identified to support the transition from primary school.
17. One assumes that this includes learning outcomes
18. 40 per cent credit would be awarded for school-based assignments with 60 per cent going for written examinations to be administered and marked by students' own teachers (Walshe 2014).
19. For example, the Politics & Society specification states that 'the learning outcomes in strand 2 set out the specific skills that the citizenship project addresses' (DES 2019, 39). The Computer Science specification states that learning outcomes achieved through practical exercises and the applied learning tasks will be assessed both by the coursework project assessment and by the end-of-course examination.
20. This consists of six levels of cognitive outcomes – remember; understand; apply; analyse; evaluate; create, with the latter three levels classified as higher-order thinking.
21. e.g Junior Cycle Science, Wood Tech, Geography, History etc. include such Glossaries while English, Modern Languages don't. LCE specifications in Art, Classical Studies, Computer Studies, Economics include them but PE, Applied Math, Politics and Society, Portuguese do not.
22. Also called 'power verbs' in the United States because they specify a terminal, observable, and successful performance as opposed to passive verbs that are not observable
23. Man: A Course of Study
24. 'will be able to'
25. Stated in non-behavioural terms, these statements constitute a very appropriate curriculum in themselves.
26. The original proposal was that there would be three mandatory subjects – Gaeilge, English, Mathematics.
27. While the left-hand column clearly covers all post-primary education over a relatively long period of time by comparison with the other two columns, the main focus of the paper, learning outcomes, did not come to the forefront of Irish curriculum design until 2015. Prior to that, Irish education was rooted in an Anglo-American curriculum culture, with the exceptions of Junior Certificate English and Science, and the introduction of Key Skills in the LCE.

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References

Anderson, L. W., and D. R. Krathwohl. 2001. *A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Complete Edition. New York: Longman.

ASTI. 2022. *CEC Sub-Committee Report on Teachers' Experience of the Implementation of the Framework for Junior Cycle*. Dublin: Author.

Au, W. 2011. "Teaching Under the new Taylorism: High-Stakes Testing and the Standardization of the 21st Century Curriculum." *Journal of Curriculum Studies* 43 (1): 25–45. https://doi.org/10.1080/00220272.2010.521261.

Baird, J.-A., D. H. Caro, and T. N. Hopfenbeck. 2016. "Student Perceptions of Predictability of Examination Requirements and Relationship with Outcomes in High-Stakes Tests in Ireland." *Irish Educational Studies* 35 (4): 361–379. https://doi.org/10.1080/03323315.2016.1227719.

Biesta, G. 2009. "Good Education in an age of Measurement: On the Need to Reconnect with the Question of Purpose in Education." *Journal of Educational Assessment, Evaluation and Accountability* 21 (1): 33–46. https://doi.org/10.1007/s11092-008-9064-9.

Biesta, G. 2021. "The Three Gifts of Teaching: Towards an-Ecological Future for Moral Education." *Journal of Moral Education* 50 (1): 39–54. https://doi.org/10.1080/03057240.2020.1763279.

Biesta, G. J. J., and M. Priestley. 2013. ""Capacities and the Curriculum." In *Reinventing the Curriculum: New Trends in Curriculum Policy and Practice*, edited by M. Priestley and G. J. J. Biesta. London: Bloomsbury.

Biggs, J. 1999. *Teaching for Quality Learning at University: What the Student Does*. 1st ed. Philadelphia: Society for Research into Higher Education: Open University Press.
Black, P., D. Wiliam, C. Harrison, C. Lee, and B. Marshall. 1998. *Inside the Black Box. Raising Standards Through Classroom Assessment*. London: School of Education, King's College.
Bloom, B. 1956. *Taxonomy of Educational Objectives. Handbook 1: Cognitive Domain*. New York: McKay.
Bruner, J. 1960. *The Process of Education*. Cambridge, MA: Harvard University Press.
Burns, D., A. Devitt, G. McNamara, J. O'Hara, and M. Brown. 2018. "Is it all Memory Recall? An Empirical Investigation of Intellectual Skill Requirements in Leaving Certificate Examination Papers in Ireland." *Irish Educational Studies* 37 (3): 351–372. https://doi.org/10.1080/03323315.2018.1484300.
Carr, W., and S. Kemmis. 1986. *Becoming Critical, Education, Knowledge and Action Research*. London: Falmer.
CEDEFOP. 2009. *The Shift to Learning Outcomes: Policies and Practices in Europe*. Luxembourg: Office for Official Publications of the European Communities.
Cornbleth, C. 1990. *Curriculum in Context*. London: Falmer.
Cosgrove, J., and F. Cartwright. 2014. "Changes in Achievement on PISA: The Case of Ireland and Implications for International Assessment Practice." *Large-scale Assessment Education* 2 (1), https://doi.org/10.1186/2196-0739-2-2.
Curriculum and Examinations Board. 1986. *In Our Schools, a Framework for Curriculum and Assessment*. Dublin: author.
Davies, R. 2008. "The Bologna Process: The Quiet Revolution in Nursing Higher Education." *Nurse Education Today* 28 (8): 935–942. https://doi.org/10.1016/j.nedt.2008.05.008
Davis, I. K. 1976. *Objectives in Curriculum Design*. London/New York: McGraw Hill.
Dempsey, M., Doyle, A. & Looney, A. 2021. "The Craft of Curriculum Making in Lower Secondary Education in Ireland." In *Curriculum Making in Europe: Policy and Practice Within and Across Diverse Contexts*. Edited M. Priestley, D. Alvunger, S. Philippou, and T. Soini, 199–222. Bingley: Emerald Publishing.
Department of Education. 2012. *A Framework for Junior Cycle*. Dublin: Author.
Department of Education & Skills. 2015. *Framework for Junior Cycle*. Dublin: Author.
Department of Education & Skills. 2019. *Leaving Certificate Higher and Ordinary Level: Politics & Society Specification*. Dublin: Author.
Department of Education & Skills. 2022. *Looking at our School, A Quality Framework for Post-Primary Schools*. Dublin: Inspectorate. Author.
Department of Education & Science. n.d.a. *Junior Certificate Science*. Dublin: Author.
Department of Education & Skills. n.d.b. *Junior Cycle Geography*. Dublin: Author.
Department of Education & Skills. n.d.c. *Economics Curriculum Specification*. Dublin: Author.
Department of Education. 1986/87. *Rules and Programmes for Secondary Schools*. Dublin: Stationery Office. Author.
DES [Department of Education & Science]. 1999. *Primary School Curriculum*. Dublin: Stationery Office. Author.
DES [Department of Education & Skills]. 2011. *National Strategy: Literacy and Numeracy for Learning and Life 2011–2020*. Dublin: Author.
Dewey, J. 1938. *Experience and Education*. New York: Collier Books, Macmillan Publishing Co.
DoE (Department of Education). 2023b. *Primary Mathematics Curriculum for Primary and Special Schools*. Dublin: Author.
DoE [Department of Education]. 2023a. *Primary Curriculum Framework*. Dublin: Author.
Doyle, A. 2019. *Curriculum Becoming in the Assemblage of Lower Secondary Education in Ireland*. PhD thesis, National University of Ireland Maynooth.
Eisner, E. 1967. "Educational Objectives: Help of Hindrance." *The School Review* 75:250–260.
European Union. 2004. *New indicators on education and training*. http://europa.eu.int/comm/education/policies/2010/doc/indicators_en.pdf.
Gagne, R. M. 1970. *The Conditions of Learning*. 2nd ed. New York: Holt, Rinehart & Winston.

Gagne, R. M., and L. J. Briggs. 1974. *Principles of Instructional Design*. New York: Holt, Rinehart, Winstein.
Garrison, J. 2007. "Identifying Traces of Bildung in Dewey's Philosophical System." Paper presented at the 34th Annual Conference of the Society for the Advancement of American Philosophy, Columbia, South Carolina.
Gilleece, L., G. Shiel, R. Perkins, and M. Proctor. 2009. *Teaching and Learning International Survey 2008. National Report for Ireland*. Dublin: Educational Research Centre.
Gleeson, J. 2010. *Curriculum in Context: Partnership, Power and Praxis in Ireland*. Oxford: Peter Lang.
Gleeson, J. 2013. "The European Credit Transfer System and Curriculum Design: Product Before Process?" *Studies in Higher Education* 38 (6): 921–938. https://doi.org/10.1080/03075079.2011.610101.
Gleeson, J. 2018. ""The Curriculum Response to 'Free Education' and the Raising of the School-Leaving Age"." In *Education for All?*, edited by J. Harford, 171–202. Oxford: Peter Lang.
Gleeson, J. 2022. "Evolution of Irish Curriculum Culture: Understandings, Policy, Reform and Change." *Irish Educational Studies* 41 (4): 713–733. https://doi.org/10.1080/03323315.2021.1899028.
Gleeson, J. 2023. "From New Public Management to Public Value: Irish Education Policy Through the Lens of Statements of Strategy." *Irish Educational Studies* 43 (2): 237–261. https://doi.org/10.1080/03323315.2023.2258118.
Gleeson, J. 2024. "Heads or Tails: The Relationship Between Curriculum and Assessment in Irish Post-Primary Education." *Irish Educational Studies* 43 (2): 237–261. https://doi.org/10.1080/03323315.2022.2061564.
Gleeson, J., and G. Granville. 1996. "The Case of the Leaving Certificate Applied." *Irish Educational Studies* 15 (1): 113–132. https://doi.org/10.1080/0332331960150111
Gleeson, J., V. Klenowski, and A. Looney. 2020. "Curriculum Change in Australia and Ireland: A Comparative Study of Recent Reforms." *Journal of Curriculum Studies* 52 (4): 478–497. https://doi.org/10.1080/00220272.2019.1704064.
Gleeson, J., R. Lynch, and O. McCormack. 2021. "The European Credit Transfer System (ECTS) from the Perspective of Irish Teacher Educators." *European Educational Research Journal* 20 (3): 365–389. https://doi.org/10.1177/1474904120987101.
Government of Ireland. 1998. *Education Act*. Dublin: Stationery Office.
Grundy, S. 1987. *Curriculum: Product or Praxis*. London: Falmer.
Hannan, D. 1987. *Schooling Decisions: The Origins and Consequences of Selection and Streaming in Irish Post-Primary Schools*. Dublin: Economic & Social Research Institute.
Hannan, D., and S. Shortall. 1991. *The Quality of Their Education, School Leavers' Views of Educational Objectives and Outcomes*. Dublin: ESRI.
Holmes, A. G. 2019. "Learning Outcomes: A Good Idea, Yet with Problems and Lost Opportunities." *Educational Process International Journal* 8 (3): 159–169. https://doi.org/10.22521/edupij.2019.83.1.
Hopmann, S. 2007. "Restrained Teaching: The Common Core of Didaktik." *European Educational Research Journal* 6 (2): 109–124. https://doi.org/10.2304/eerj.2007.6.2.109.
Hudson, B., N. Gericke, C. Olin-Scheller, and M. Stolare. 2023. "Trajectories of Powerful Knowledge and Epistemic Quality: Analysing the Transformations from Disciplines Across School Subjects." *Journal of Curriculum Studies* 55 (2): 119–137. https://doi.org/10.1080/00220272.2023.2182164.
Hussey, T., and P. Smith. 2003. "The Uses of Learning Outcomes." *Teaching in Higher Education* 8 (3): 357–368. https://doi.org/10.1080/13562510309399.
Hussey, T., and P. Smith. 2008. "Learning Outcomes: A Conceptual Analysis." *Teaching in Higher Education*. 13 (1): 107–115. https://doi.org/10.1080/13562510701794159.
Hyland, A. 1988. "The Junior Cycle Curriculum: For all or some?" *Compass* 17 (2).
Hyland, A., and D. Kennedy. 2023. "Designing Junior Cycle and Leaving Certificate Syllabi The Need for a new Template." In *Ireland's Education Yearbook*, edited by B. Mooney, 196–200. Dublin.

ISTA [Irish Science Teachers' Association]. 2019. *Listening to the voice of science teachers. The Response from Science Teachers in the light of their experience of teaching the new Junior Cycle Science curriculum*. www.ista.ie/wp-content/ uploads/2019/05/Preliminary-Report-on-FJC-Science-2019.pdf.

Jeffers, G. 2008. "Innovation and Resistance in Irish Schooling: The Case of Transition Year", Unpublished PhD thesis submitted to University of Limerick.

Joint Oireachtas Committee. 2023. *The Joint Committee on Education, Further & Higher Education, Research, Innovation & Science has published its report on The Future of Science, Technology, Engineering and Maths (STEM)*. Dublin: Houses of the Oireachtas. www.oireachtas.ie/en/press-centre/press-releases/20230713-the-joint-committee-on-education-further-higher-education-research-innovation-science-has-published-its-report-on-the-future-of-science-technology-engineering-and-maths-stem/.

Kelly, A. V. 2004. *The Curriculum: Theory and Practice*. 5th ed. London: Sage.

Kemmis, S. 2008. "Epilogue: A Radical Proposal." In *Enabling Praxis: Challenges for Education*, edited by S. Kemmis, and T. Smith, 287–296. Rotterdam: Sense Publishers.

Kemmis, S., and T. S. Smith. 2008. "Personal Praxis." In *Enabling Praxis: Challenges for Education*, edited by S. Kemmis, and T. Smith, 215–235. Rotterdam: Sense Publishers.

Kennedy, D. 2007. *Writing and Using Learning Outcomes: A Practical Guide*. Cork: Quality Promotion Unit, UCC.

Kirk, P. 2018/9. "Junior Cycle Reform Five Years In, Where Are We Now?" *Ireland's Yearbook of Education* 26–29.

Knight, P. 2001. "Complexity and Curriculum: A Process Approach to Curriculum-Making." *Teaching in Higher Education* 6 (3): 369–381. https://doi.org/10.1080/13562510120061223.

Krathwohl, D., B. Bloom, and B. Masia. 1964. *Taxonomy of Educational Objectives. Handbook II: Affective Domain*. New York: McKay.

Lawn, M. 2011. "Standardizing the European Education Policy Space." *European Educational Research Journal* 10 (2): 259–272. https://doi.org/10.2304/eerj.2011.10.2.259

Lok, B., C. McNaught, and K. Young. 2016. "Criterion-referenced and Norm-Referenced Assessments: Compatibility and Complementarity." *Assessment & Evaluation in Higher Education* 41: 450–465. https://doi.org/10.1080/02602938.2015.1022136.

Lynch, K. 1989. *The Hidden Curriculum: Reproduction in Education. An Appraisal*. London: Falmer.

Luke, A., A. Woods, and K. Weir. 2013. *Curriculum Syllabus Design and Equity: A Primer and Model*. New York: Routledge.

Mager, R. 1962. *Preparing Objectives for Programmed Instruction*. San Francisco: Fearon.

McGarr, O., J. O'Reilly, O. McCormack, R. Lynch, A. Dempsey, J. Power, J. McMahon, et al. 2024. *Exploring the Introduction of the Framework for Junior Cycle – A Longitudinal Study: Interim Report no. 3*. Limerick: University of Limerick.

Menand, L. 2001. *The Metaphysical Club: A Story of Ideas in America*. New York: Farra, Straus, and Giroux.

Moynihan, A., and M. O'Donovan. 2022. Learning and Teaching: The Extent to Which School Principals in Irish Voluntary Secondary . Schools Enable Collaborative Practice." *Irish Educational Studies* 41 (4): 613–630. https://doi.org/10.1080/03323315.2021.1899019.

Mølstad, C. E., and B. Karseth. 2016. "National Curricula in Norway and Finland: The Role of Learning Outcomes." *European Educational Research Journal* 15 (3): 329–344. https://doi.org/10.1177/1474904116639311

Mulcahy, D. 1981. *Curriculum and Policy in Irish Post-Primary Education*. Dublin: Institute of Public Administration.

NCCA. 1989. *Junior Certificate*. Dublin: Author.

NCCA. 2019. *Learning Outcomes: An International Perspective*. Dublin: Author.

NCCA. 2023. *Technical Form of Curriculum Specifications in a Redeveloped Senior Cycle*. Dublin: Author.

NCCA. 2024. *Key Competencies in Senior Cycle*. Dublin: Author.

NCCA. n.d. *Draft Leaving Certificate Biology Specification*. Dublin: Author.

Nohilly, M., and F. Tynan. 2022. "The Evolution of Wellbeing in Educational Policy in Ireland: Towards an Interdisciplinary Approach." *International Journal of Wellbeing* 12 (1): 42–53. https://doi.org/10.5502/ijw.v12i1.1663.
O'Leary, M., and Z. Lysaght. 2024. "Considering Reform at Senior Cycle: Teachers' Feelings and Beliefs About High-Stakes Assessment Following the Onset of COVID-19." *Irish Journal of Education* 48:1–29.
O'Brien, S., and D. Brancaleone. 2011. "Evaluating Learning Outcomes: In Search of Lost Knowledge." *Irish Educational Studies* 30 (1): 5–21. https://doi.org/10.1080/03323315.2011.535972.
OECD. 1991. *Reviews of National Policies for Education: Ireland*. Paris: Author.
OECD. 2010a. *PISA 2009 Results: What Students Know and Can do – Student Performance in Reading, Mathematics and Science (Volume I)*. Paris: Author.
OECD. 2010b. *PISA 2009 Results: Learning Trends – Changes in Student Performance Since 2000 (Volume V)*. Paris: Author.
OECD. 2018. *The Future of Education and Skills Education 2030*. Paris: Author.
OECD. 2021. *OECD Skills Outlook 2021. Learning for Life*. Paris: Author.
O'Sullivan, D. 1992. "Cultural Strangers and Educational Change: The OECD Report Investment in Education and Irish Educational Policy." *Journal of Education Policy* 7 (5): 445–469. https://doi.org/10.1080/0268093920070502.
Pinar, W. 2014. *International Handbook of Curriculum Research*. 2nd ed. Oxfordshire: Routledge.
Postman, N., and C. Weingartner. 1971. *Teaching as a Subversive Activity*. Hammondsworth: Penguin.
Priestley, M. 2016. *A Perspective on Learning Outcomes in Curriculum and Assessment*. Dublin: NCCA.
Priestley, M., D. Alvunger, S. Philippou, and T. Soini. 2021. *Curriculum Making in Europe: Policy and Practice Within and Across Diverse Contexts*. Leeds: Emerald Press.
Priestley, M., and W. Humes. 2010. "The Development of Scotland's Curriculum for Excellence: Amnesia and Déjà vu." *Oxford Review of Education* 36 (3): 345–361. https://doi.org/10.1080/03054980903518951.
Robson, S. 2011. "Internationalisation: A Transformative Agenda for Higher Education?" *Teachers and Teaching* 17 (6): 619–630. https://doi.org/10.1080/13540602.2011.625116
Scanlon, D., and C. Connolly. 2021. "Teacher Agency and Learner Agency in Teaching and Learning a new School Subject, Leaving Certificate Computer Science, in Ireland: Considerations for Teacher Education." *Computers & Education* 174. https://doi.org/10.1016/j.compedu.2021.104291.
Schreurs, J., and R. Dumbraveanu. 2014. "A Shift from Teacher Centered to Learner Centered Approach." *International Journal of Engineering Pedagogy* 4 (3): 36–41. https://doi.org/10.3991/ijep.v4i3.3395
Stanley, W. B. 2011. "Education, Philosophy, and the Cultivation of Humanity." *Counterpoints* 352:209–217. http://www.jstor.org/stable/42980819.
Starkey, L. 2017. "Three Dimensions of Student-Centred Education: A Framework for Policy and Practice." *Critical Studies in Education* 60 (3): 375–390. https://doi.org/10.1080/17508487.2017.1281829.
State Examinations Commission. 2019. *The Preparation of Test Items – Principles and Protocol*. Athlone: Author.
State Examinations Commission. n.d. *A Manual for Drafters, Setters, and Assistant Setters*. Athlone: Author.
Stenhouse, L. 1975. *An Introduction to Curriculum Research and Development*. London: Heinemann.
Stoller, A. 2015. "Taylorism and the Logic of Learning Outcomes." *Journal of Curriculum Studies* 47 (3): 317–333. https://doi.org/10.1080/00220272.2015.1018328.
Sugrue, C. 2008. ""The Plate Tectonics of Educational Change in Ireland." In *The Future of Educational Change". International Perspectives*, edited by C. Sugrue, 48–72. London and New York: Routledge.

Taba, H. 1962. *Curriculum Development. Theory and Practice*. New York: Harcourt, Brace and World.
Taylor, P. H., and C. M. Richards. 1985. *An Introduction to Curriculum Studies*. London: Routledge.
Travers, Pauric. 2015. *Junior Cycle Reform: A Way Forward*. Dublin: Department of Education.
Trowbridge, M., and H. Casson. 1932. "An Experimental Study of Thorndike's Theory of Learning." *The Journal of General Psychology* 7 (2): 245ff. https://doi.org/10.1080/00221309.1932.9918465
Tyler, R. 1949. *Basic Principles of Curriculum and Instruction*. Chicago: University of Chicago Press.
Winch, C. 2013. "Curriculum Design and Epistemic Ascent." *Journal of Philosophy of Education* 47 (1): 128–146.
Wolf, A. 1995. *Competence-Based Assessment*. Buckingham: Open University Press.
Wraga, W. G. 2016. "Arresting the Decline in Integrity of Curriculum Studies in the United States." *Counterpoints* 491:99–110.
Zajda, J. 2018. *Handbook of Globalisation, Ideology and Politics of Education Reforms*. Dordrecht: Springer.