Dublin City University

Analysis of the DCAD Survey: Highest and Lowest Ranking Areas of Interest for Professional Development

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Analysis of the DCAD survey

1.1 Introduction

The following sections below is a detailed analysis of the questionnaire data collected between December 2010 and February 2011 from the lecturing staff across eight member institutions of the Dublin Region Higher Education Alliance (DRHEA). The study has been conducted on behalf of the Dublin Centre for Academic Development (DCAD) and has its principal aim to identify the professional development interests of lecturing staff across DRHEA member institutions. These include the following: Dublin City University (DCU), Trinity College Dublin (TCD), University College Dublin (UCD), National University of Ireland Maynooth (NUIM), Dun Laoghaire Institute of Art, Design and Technology (IADT), Dublin Institute of Technology (DIT), Institute of Technology Blanchardstown (ITB) and Institute of Technology Tallaght (ITT). The data reported were analysed with regard to higher education institutions (four universities and Institutes of technology), the respondents' level of current position of responsibility, discipline taught and the level of engagement with professional development.

The questionnaire consisted of 20 items, which in total included 55 questions distributed across five parts: 1) role within the academic institution, 2) issues around changing nature of teaching, 3) the extent of participation in recent professional development activities, 4) perceptions of professional development activities which could be provided by DCAD and, 5) views and experiences in relation to support within the higher education institutions for professional development. When developing a questionnaire and writing questions and statements the intention was to cover a broad range of issues to have the scope to capture most of the aspects about the professional development needs of the respondents.

Most of the questions required the answer on a seven point continuous Likert type scale from "strongly disagree" to "strongly agree" and on a four point ordinal scale indicating the extent of interest from "no interest" to "great interest". The ordinal scale also included the answer option "neutral" for those respondents who wished to opt out from stating their opinion. The questions which required yes/no type of answers were also included. A small number of open-ended questions through the option of 'other' were also included to enable participants to respond in the way they thought appropriate to express their point of view. Factual information such as respondents' current position in the higher education institution, the length of employment in higher education institution, number of years spend working in higher education in general, primary academic discipline and main area of teaching was also collected. Each questionnaire was accompanied with the brief statement on the reassurance of the anonymity of responses and that all information arising from the survey would be used for the research purposes only.

While the general aim of the survey was to gain an insight into innovative professional development experiences and to gather the information on attitudes towards current professional development provision to date, the section below provides a descriptive overview of the results in relation to the highest and lowest ranking areas of interest for professional development which could be provided by DCAD in the future. These areas are:

1) planning and design,
2) delivery and practice
3) feedback on teaching
4) peer to peer opportunities
5) scholarship and research
6) personal and professional development and leadership

The discussion to follow will start with the description of the characteristics of the respondents. Then the section goes on to provide an insight into highest and lowest ranking areas of interest for professional development which could be provided through DCAD. For comparative purposes, the views from the respondents in universities are contrasted with those from IoTs. The analyses were also carried out for the comparison of the respondents' views with regard to their extent of the engagement with professional development, primary academic discipline and the occupied post of responsibility.

The data which is discussed below is from a self-selected sample. The data on this study sample was compared against a baseline data from the Higher Education Authority, which provided useful reference points in regard to the total number of teaching and research staff employed across higher education institutions in Ireland. The survey was administered online on the   and in total 806 questionnaire responses were available for analysis, which constituted a response rate of around   %. The empirical results of this study could not be compared with some propositions of earlier research in the area of professional development needs of staff in higher education institution in Ireland, as there is no pre-existing data to date to provide a baseline. For that reasons it is not possible to state how typical or atypical the participants' responses might be, collected within the context of this study.

1.2 Profile of questionnaire respondents

The majority of those who completed the questionnaire described themselves as 'female' 55.8% (n=387) and 44.2% (n=306) as 'male'.

In relation to the type of higher education institution, the distribution of responses is quite uneven with 70.7% of respondents coming from four universities, while 28.3% from four IoTs. 'Other' responses accounted to 1% (n=7) and included *Teaching Hospital*, *Griffith College Dublin* and *Institute of Technology* type of answers. The majority of the respondents reported as being employed in TCD (24.1%, n=168), while 22.5% in UCD (n=157), followed by 18.2% (n=127) in DIT and 13.1% (n=91) in DCU. Further 11% (n=77) reported as being employed in NUIM, followed by 5.5% (n=38) in ITT. A small percentage of respondents indicated being working in IADT (2.6%, n=18) and ITB (2%, n=14).

The survey participants were asked to indicate the level of their current position with an option to choose from a preset number of responses. The distribution can be seen in Table 1 below.

Table 1 The level of respondents' current position

	N	%
Professor	37	5.4
Associate Professor	31	4.5
Senior lecturer	116	16.8
Lecturer	363	52.5
Junior/Associate Lecturer	48	6.9
Researcher	53	7.7
Other	43	6.2
Total	691	100

As can be seen from the Table 1, the smallest proportion of the respondents fell in 'Professor/Associate Professor' category, a sizable proportion of respondents choosing the 'Senior lecturer' and the largest grouping however, indicated being employed as a 'Lecturer' (52%).

In relation to the primary academic discipline Table 2 shows that the majority of respondents are based in the area of Social Sciences and Humanities (46.4%) with a slightly smaller proportion - in Science and Technology (39.4%). As can also be seen from the Table 2 a small percentage of the respondents 14.2% (n=97) identified working in the area of Medical and Health Sciences.

Table 2 Primary academic discipline of respondents

		N	%
Social Sciences and Humanities	Education/Teacher Training	33	4.8
	Humanities/Arts	118	17.3
	Social and Behavioural sciences	79	11.6
	Business and Administration, Economics	76	11.1
	Law	11	1.6
Science and Technology	Life Sciences	62	9.1
	Physical Sciences	74	10.8
	Computer Sciences	55	8.1
	Engineering, Manufacturing and Construction, Architecture	69	10.1

Medical and Health Sciences	Agriculture	9	1.3
	Medical Sciences, Health Sciences	97	14.2
Total		683	100

The data regarding main area of teaching in higher education institutions were available for 674 respondents. There were slightly more lecturing staff across eight member institutions of DRHEA who were teaching undergraduate courses (41.7%), than those who were involved in combination of undergraduate and postgraduate teaching (39.8%). A very small proportion indicated being involved in continuing education (2.2%). Regarding postgraduate courses and research, just 12.2% noted lecturing on taught postgraduate courses and just under 5% noted being only involved in research supervision (see Table 3).

Table 3 Main area of teaching

		N	%
Undergraduate	Undergraduate	281	41.7
Taught postgraduate and research supervision	Taught post-graduate	82	12.2
	Research supervision	28	4.2
Combination of undergrad. and postgraduate	Combination of undergraduate and postgraduate	268	39.8
	Continuing education	15	2.2
	Total	674	100

Respondents attitudes towards their current work interests were explored through the analysis of the data collected in response to Q9 in part one of the questionnaire. The results presented as percentages in Table 4 below. As can be seen from the table, 53% of the respondents described their current work interests as being primarily in teaching, with a slightly smaller proportion of respondents identified their interests as being primarily in research (47%).

Table 4 Current work interests

		N	%
Focus on Teaching	Primarily in teaching	106	15.5
	Teaching and research with a focus on teaching	257	37.5
Focus on Research	Primarily in research	66	9.5
	Research and teaching with a focus on research	257	37.5

	Total	686	100

In relation to participation in a structured professional development over the past three years, the majority of respondents indicated participating occasionally (40.2%, n=265), and a further 26.7% participating regularly. While only 9% indicated participating in sessions relevant specifically to their academic discipline, a significant proportion of 24.1% declared not participating in any professional development over the past three years.

1.3 Highest and lowest areas of interest for professional development

In Part 3 of the questionnaire survey participants were presented with a series of statements aimed to explore the kind of professional development activities they would have found useful or interesting if they were provided through the Dublin Centre for Academic Development. More specifically, the attitudes towards a variety of activities were explored through the analysis of data collected in response to the statements of Q14 – Q19. The respondents were offered to indicate their levels of interest towards each of the activity by using a four point scale of interest (0 - no interest, 2- little interest, 3 – moderate interest, 4 – great interest). The response option 'neutral' was also presented for those who participants who are neither interested nor not interested in availing of these types of professional development activities. The percentages of the respondents agreeing with the statements were calculated with the results presented in Table 5 below.

Planning and design

Section 'Planning and Design' contained four statements which were specifically designed to capture individual views of the lecturing staff in regard to the professional development activities focusing on enhancing the practice around students' teaching and learning. The distribution of the responses can be seen in Table 5 below.

Table 5 Responses (%) to the statements from questions 14 which reflected the extent of participants' interest to professional development activities around planning and design.

	N	Neutral	No interest	Little interest	Moderate interest	Great interest
Curriculum design	640	13.8	8.4	9.5	39.8	28.4
Writing learning outcomes	635	21.9	14.5	15.4	33.9	14.3
Aligning assessment and learning outcomes	637	14.4	10.2	10	38.5	26.8
Integrating research into undergraduate curriculum	638	13	7.1	6.4	36.5	37

As can be seen from the table most of the responses for all four statements clustered around categories 'moderate interest' and 'great interest'. Nevertheless, according to the percentages of responses falling into these two categories on the responses scale, the activities around 'integrating research into undergraduate curriculum' were given the highest number of responses (73.5%). This was followed by the curriculum design which recorded 68.2% of responses in categories 'moderate interest' and 'great interest' on the response scale. More equal response was given to the statements about professional development activities on writing learning outcomes. This category also recorded the lowest expression of interest from the survey respondents in the planning and design section.

Delivery and practice

Respondents' attitudes towards professional development activities focusing on the ways to improve teaching practices were investigated in 'Delivery and Practice' section. This section contained seven separate statements which specifically differentiated between various types of teaching content delivery approaches and methods. The percentages of the responses were calculated and presented in Table 6 below.

Table 6 Responses (%) to the statements from question 15 which reflected the extent of participants' interest to professional development activities around delivery and practice

	N	Neutral	No interest	Little interest	Moderate interest	Great interest
Innovative delivery methods	635	6.9	3.9	4.7	38.4	46
Inquiry and problem based learning	636	15.4	4.7	4.4	39.8	35.7
Alternative assessment methods	633	12	3.3	5.1	40.8	38.9
Small group teaching methods	629	20.5	7.2	9.1	36.1	27.2
Large group teaching methods	628	17	6.4	7.5	38.2	30.9
Use of new technology	634	13.2	3.9	6	39	37.9
Managing teaching in a laboratory	629	16.7	35.6	11.1	21	15.6

The data analysis indicated that most of the responses which clustered around 'moderate' and 'great interest' related to the statements asking about innovative delivery methods (84.4%) and alternative assessment methods (79.7%). Interestingly, quite a negative response was observed in for the item asking about managing teaching in a laboratory with 35.6% of respondents indicating having 'no interest' the professional development activities of this type.

Feedback on teaching

The research recognises that continuous feedback from students helps to become aware of students' learning and improve teaching performance so that students could reach their full potential. The section 'Feedback on teaching' set out two statements which explored the extent of respondents' interest on professional development activities around reviewing their teaching practices.

Table 7 Responses (%) to the statements from question 16 which reflected the extent of participants' interest around feedback on teaching

	N	Neutral	No interest	Little interest	Moderate interest	Great interest
Methods of obtaining useful feedback from students	630	10.5	4.9	5.1	41	38.6
Expert assistance on interpreting student feedback	629	19.2	10.2	9.5	37.4	23.7

When comparing percentages of the responses falling into categories 'moderate interest' and great interest' it can be highlighted that the respondents identified a stronger interest in methods and approaches of getting the feedback from students than in provision of assistance on interpreting students feedback (79.6% compared to 61.1%).

Peer to peer opportunities

The questionnaire participants were presented with a series of statements which asked to indicate the extent of interest in professional development in the areas of peer collaboration, peer engagement and learning from each other. The distribution of the responses can be seen in Table 8 below.

Table 8 Responses (%) to the statements from question 17 which reflected the extent of participants' interest around peer to peer opportunities

	N	Neutral	No interest	Little interest	Moderate interest	Great interest
Peer feedback on my teaching	638	18	6.6	8.2	43.9	23.4
Microteaching to a peer group	630	33.2	13.8	13.3	27.1	12.5
Peer exchange on good practice	633	11.5	4.7	5.1	41.5	37.1
Connecting with others within my own discipline	633	15.5	4.1	3.2	36.8	40.4

Most of the responses for all four statements clustered around the categories 'moderate interest' and 'great interest', at the upper end of the scale, except for the statement which asks about microteaching to a peer group. There is quite a negative response to this item, with 33.2% expressing 'no interest' and further 33.2% choosing 'neutral'. This implies that professional development on microteaching to a peer group is not important to almost half of the respondents (47%) to this statement. According to the percentages of responses falling into categories 'moderate' and 'great interest' the activities around peer exchange on good practice (78.6%) and connecting with others within the discipline (77.2%) appear to be the most important for the lecturing staff.

Scholarship and research

Respondents' interest in a number of professional development activities around research dissemination, research collaboration and postgraduate certification in teaching and learning was explored in 'Scholarship and research' section of the questionnaire. A strong interest was expressed in the area of access to research findings on teaching and learning in respondents' own discipline, with 84.45% opting for 'moderate' or 'great interest' category. This was followed by professional development on access to research findings on teaching and learning in general, with 73.1% choosing the same response categories. In turn, quite even response was given to the opportunities around provision of the modules aimed at furthering teaching practice and understanding of students' learning. In total, less than 50% of the respondents expressed strong interest in this type of professional development, while 39% opted for 'no interest' or 'neutral' category (Table 9).

Table 9 Responses (%) to the statements from question 18 which reflected the extent of participants' interest around scholarship and research

	N	Neutral	No interest	Little interest	Moderate interest	Great interest
Access to research findings on teaching and learning in general	633	14.2	4.3	8.4	43.4	29.7
Access to research findings on teaching and learning in my discipline	633	7.4	3.5	4.7	37.8	46.6
Postgraduate qualification in teaching and learning	633	19.7	19.9	12.8	26.1	21.5
Fellowship opportunities	634	21.8	10.7	8.8	29.8	28.9

Personal professional development and leadership

Respondents' attitudes towards professional development activities focusing on the subject of leadership, practical and relevant issues around learners with various disabilities and preparation of teaching portfolio reflecting personal approach to teaching were investigated in 'Personal professional development and leadership' section. This section contained four separate statements methods. The percentages of the responses were calculated and presented in Table 10 below.

Table 10 Responses (%) to the statements from question 19 which reflected the extent of participants' interest around scholarship and research

	N	Neutral	No interest	Little interest	Moderate interest	Great interest
Preparation of teaching portfolio	640	18.9	12	8.8	35.9	24.4
Administrative requirements around teaching	638	26.2	15.7	12.5	31.3	14.3
Legal issues around teaching (health and safety, equality, etc.)	639	25.8	15.2	16.7	29.4	12.8
Training on accessibility for learners with various disabilities	638	20.8	8.2	9.7	40.1	21.2

The high level of importance was attached to two statements. The strongest interest was expressed for the activities around training on accessibility for learners with various disabilities, with 61.3% of respondents opting for category 'moderate' or 'great interest'. This was closely followed by the response on preparation of teaching portfolio with 60.3% of participants opting for 'moderate' or 'great interest' options. The least interest however, according to the percentages of responses falling in these two response options was observed for the statement on legal issues around teaching. In total, 41% of participants have opted for 'neutral' or 'no interest' in their response to this statement, and with only 42.2% expressing 'moderate' or 'great interest'.

1.4 Categorisation of responses in the highest ranking areas of interest for professional development

The rating scale method was used to get an insight to what extent respondents indicated their interest in specific activities for professional development which could be provided by DCAD in the future. The areas were then classified and ranked according to their reported frequencies (Table 11).

Table 11 Areas of highest interest for professional development (responses to Q14-Q19 for categories 'moderate' and 'great interest')

Response indicated	Respondents (%)	Rank
Innovative delivery methods	84.4%	=1
Access to research findings on teaching and learning in my discipline	84.4%	=1
Alternative assessment methods	79.7%	3
Methods of obtaining useful feedback from students	79.6%	4
Peer exchange on good practice	78.6%	5
Connecting with others within my own discipline	77.2%	6
Use of new technology	76.9%	7
Inquiry and problem based learning	75.5%	8
Integrating research into undergraduate curriculum	73.5%	9
Access to research findings on teaching and learning in general	73.1%	10
Large group teaching methods	69.1%	11
Curriculum design	68.2%	12
Peer feedback on my teaching	67.3%	13
Aligning assessment and learning outcomes	65.3%	14
Small group teaching methods	63.3%	15
Training on accessibility for learners with various disabilities	61.3%	16
Expert assistance on interpreting student feedback	61.1%	17
Preparation of teaching portfolio	60.3%	18
Fellowship opportunities	58.7%	19
Writing learning outcomes	48.2%	20
Postgraduate qualification in teaching and learning	47.6%	21
Administrative requirements around teaching	45.6%	22
Legal issues around teaching (health and safety, equality, etc.)	42.2%	23
Microteaching to a peer group	39.6%	24
Managing teaching in a laboratory	36.6%	25

Specifically, the responses were ranked according to the percentages of responses falling in categories 'moderate interest' or 'great interest' on the response scale. As can be seen, professional development on innovative delivery methods and access to research findings on teaching and learning in respondents own discipline were at the top of the list. In turn, professional development activities around microteaching to a peer group and managing teaching in a laboratory recorded least interest amongst the lecturing staff across eight higher education institutions. Some remarks can be made

about these findings. The data presented in Table 11 are indicative of 3 broad areas of interest for professional development activities.

1.4.1 Organisational side of lecturing

The first few areas reported by the respondents can be loosely grouped around 'organisational side of teaching'. What's emerging from the data is a strong focus on looking for new and effective approaches to teaching and delivery of subject content. The ways of keeping up-to-date with the research developments in the field, continuous update of the subject knowledge base and linking it back to teaching were at the top of the list of interest for future professional development for the survey respondents. Similarly, alternative ways and methods of assessing students' learning and methods of obtaining useful feedback from students were ranked the fourth and the fifth.

The findings were compelling in relation to the interest expressed for the opportunities to connect with others within respondents' own area of teaching, peer collaboration and peer exchange on good practice. There seem to be an interest in increased opportunities to form collaborative relations with colleagues and to meet and discuss ideas on effective teaching. It can be argued that majority of the lecturing staff recognise the importance of opportunities to engage in collaborative reflections and analysis which could directly benefit their teaching and research.

Additionally, professional development activities on the use of new technology received high rating by survey participants. Similarly, the activities around integrating research into undergraduate curriculum and access to research findings on teaching and learning in general received a significant interest from the respondents.

1.4.2 'Teaching' side of lecturing

A second broad area of interest which contained seven activities for professional development, according to the frequencies of responses falling in categories 'moderate' and 'great interest' on the response scale can be loosely defined around

'teaching' side of lecturing. In particular, professional development activities on large group teaching methods and curriculum design dominated in this group.

These were then followed by peer feedback on teaching, aligning assessment and learning outcomes and small group teaching methods. Additionally, training on accessibility for learners with various disabilities and professional development around expert assistance on interpreting student feedback were seen as important by the study respondents.

1.4.3 Administrational side of lecturing

The last cluster of activities for professional development can be loosely defined around 'administrational side of lecturing'. More specifically, these items are ranked from the 18th to 25th place according to the frequencies of responses falling into categories '4' and '5' on the responses scale. Some remarks can be made about these findings. Despite the findings that these were the activities which recorded least interest for future professional development, the percentage of the respondents selecting 'moderate' and 'great interest' on the response scale was quite high. The findings in this regard were particularly compelling for the first four items in this group: preparation of teaching portfolio (60.3%), fellowship opportunities (58.7%), writing learning outcomes (48.2%) and postgraduate qualification in teaching and learning (47.6%). Reflecting on the results presented in Table 11, it can be argued that professional development concerned with legal issues around teaching, microteaching to a peer group and managing teaching in a laboratory recorded least interest from the survey respondents across eight higher education institutions in Ireland.

1.5 Contextual differences in survey responses for highest and lowest ranking in areas of interest for professional development

The following sections present and discuss the role of contextual variables in the respondents' view on highest and lowest ranking areas of interest for professional development. Analyses were carried out for the comparison of respondents' views on professional development which could be provided by DCAD in the future. The data analysis was conducted with regard to two groups of higher education institutions

(four universities and four Institutes of Technology), the posts of responsibility, discipline taught and the level of engagement with professional development.

1.5.1 Views on professional development across Universities and Institutes of technology (IoTs)

To gain an understanding at the descriptive level, the distribution of the responses to the statements Q14-Q19 were obtained. The aim was to gain an insight into the views of lecturing staff across four universities and four Institutes of technology at the descriptive level into what areas for professional development record highest and lowest interest. These were calculated according to the percentages of responses falling into categories 'moderate' and 'great interest'. The majority of the survey respondents reported working in universities 71.4% and 28.6% were employed in the Institutes of Technology (Table 12).

Table 12 Institutions grouped (4 Universities, 4 IoTs)

	N	%
All Universities	493	71.4
All Institutes of Technology	197	28.6
Total	690	100

Comparing the responses of respondents in universities and IoTs, the analysis pointed out towards a number of interesting results (Table 13; also see Table 1 in Appendix for all Professional Development areas).

When comparing perceptions of lecturing staff in universities and Institutes of Technology in regard to professional development which could be provided by DCAD in the future we can point towards a great deal of similarities between the areas identified (first ten positions in both lists are occupied by the same areas). Despite the fact that the rank order was slightly different for both groups, there were no considerable differences in the reports of respondents in two groups. As can be seen, the respondents from universities primarily expressed the highest interest for innovative delivery methods, access to research findings on teaching and learning in my discipline, alternative assessment methods and methods of obtaining useful feedback from students.

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Table 13 Survey responses (%) to Q14-Q19 for categories 'moderate' and 'great interest' regarding highest and lowest ranking areas of interest for professional development (two groups of institutions: Universities/ IoTs)

Response indicated	Respond (%)	Rank	Respond (%)	Rank
Innovative delivery methods	82.5%	**1**	88.7%	**3**
Access to research findings on teaching and learning in my discipline	81.9%	**2**	90.9%	**1**
Alternative assessment methods	77.2%	**3**	86.9%	**6**
Methods of obtaining useful feedback from students	76.5%	**4**	87.5%	**=4**
Peer exchange on good practice	74.9%	**5**	87.5%	**=4**
Use of new technology	74.5%	**6**	83%	**8**
Connecting with others within my own discipline	72.5%	**7**	89.2%	**2**
Inquiry and problem based learning	72.1%	**8**	84.2%	**7**
Integrating research into undergraduate curriculum	71.1%	**9**	80.9%	**10**
Access to research findings on teaching and learning in general	70.1%	**10**	81%	**9**

The greatest differences, however, between the two groups occurred in alternative assessment methods and connecting with others within my own discipline. In regard to the percentages of responses for each individual statement, the respondents from IoTs seem to express more interest for all areas of professional development which could be provided by DCAD in the future.

Planning and Design

Comparing the responses of two groups in the area of 'Planning and Design' (Table 1, Appendix) the most marked differences occurred for the statement on writing learning outcomes. This particular area for professional development recorded quite a low proportion of respondents (41.3%) in the 'universities' group than in 'IoTs' group (64.7%). Furthermore, a slightly higher proportion of respondents from IoTs (76.9%) than from universities (60.6%) opted for categories 'moderate' and 'great interest' on the response scale in relation to aligning assessment and learning outcomes. To provide a more detailed examination of these two statements and to show the relationship at descriptive level between institution and response to the statement in Q14, the next two tables show the cross tabulation between these two variables.

Table 14 Cross tabulation between higher education institution in which employed (4 universities and 4 IoTs) and Writing learning outcomes as an area of interest for PD

Q14.2 Writing learning outcomes							
			Neutral	No interest	Little	Moderate	Great
Type of higher education institution	All univers.	Count	111	78	74	136	49
		% of Row	*24.8*	*17.4*	*16.5*	*30.4*	*10.9*
		% of Total	*17.8*	*12.5*	*11.9*	*21.8*	*7.9*
	IoTs	Count	27	12	23	74	40
		% of Row	*15.3*	*6.8*	*13.1*	*42*	*22.7*
		% of Total	*4.3*	*1.9*	*3.7*	*11.9*	*6.4*

Reflecting on the results, most of the responses cluster around 'moderate' option of the response scale irrespective of the type of the higher education institution. Nevertheless, there is a slight skew towards the upper end of the scale, indicating that respondents from both groups attributed some importance to the professional development activities of this type. To establish whether the responses of two groups differ of their interest in professional development on writing learning outcomes, we used a Mann-Whitney U test. This test is used for the data which is not normally distributed as instead of comparing means of two independent groups, the medians are compared. A Mann-Whitney U test established a statistically significant difference between the responses of two groups of institutions in how they responded to the statement (U=18320, z= -5.014, p = .000). What this suggests is that survey respondents when grouped by the type of higher education institution in which employed, seem to respond differently to the question Q14.2. Nevertheless, the test is not able to tell us where the difference lie only that the responses differ in some respect.

Again, most of the responses in Table 15 cluster around category 'moderate' for both groups of respondents. Similarly, a skew towards the upper end of the scale can be observed for the respondents from the universities and IoTs. Nevertheless, a Mann-Whitney U test revealed that there was a significant difference in the responses of two groups of institutions (U=23875, z= -3.87, p= .000).

Table 15 Cross tabulation between higher education institution in which employed (4 universities and 4 IoTs) and Aligning assessment and learning outcomes as an area of interest for PD

Q14.3 Aligning assessment and learning outcomes							
			Neutral	No interest	Little	Moderate	Great
Type of higher education institution	All univer.	Count	72	56	49	167	105
		% of Row	*16*	*12.5*	*10.9*	*37.2*	*23.4*
		% of Total	*11.5*	*8.9*	*7.8*	*26.7*	*16.8*
	IoTs	Count	19	8	14	72	64
		% of Row	*10.7*	*4.5*	*7.9*	*40.7*	*36.2*
		% of Total	*3*	*1.3*	*2.2*	*11.5*	*10.2*

Delivery and practice

The questionnaire analysis was carried out for the area of 'Delivery and Practice' on the reported frequencies in category 'moderate – great interest' for the respondents from four universities and four Institutes of Technology. While some differences for the responses on all seven statements were observed, the most marked differences occurred for the professional development around inquiry and problem based learning, alternative assessment methods, use of new technology and managing teaching in a laboratory. To provide a more detailed examination of response distribution on these statements the cross tabulations are presented below (Table 16-19).

Table 16 Cross tabulation between higher education institution in which employed (4 universities and 4 IoTs) and Inquiry and problem based learning as an area of interest for PD

Q15.2 Inquiry and problem based learning							
			Neutral	No interest	Little	Moderate	Great
Type of higher education institution	All univer.	Count	74	25	26	170	153
		% of Row	*16.5*	*5.6*	*5.8*	*37.9*	*34.2*
		% of Total	*11.8*	*4*	*4.2*	*27.2*	*24.5*
	IoTs	Count	21	5	2	80	69
		% of Row	*11.9*	*2.8*	*1.1*	*45.2*	*39*
		% of Total	*3.4*	*.8*	*.3*	*12.8*	*11*

Comparing the views of survey participants across the two groups, there is a skew towards the upper end of the scale with most responses clustering around 'moderate' and 'great interest' categories. Nevertheless, it appears that lecturing staff in IoTs seem to express a higher degree of interest in the professional development related to inquiry and problem based learning. Using a Mann-Whitney U test it was established that this result is not statistically significant, as the probability (p) value is not less than or equal to .05 (U=26798, z = -1.63, p = .103). The next cross tabulation considers the type of higher education institution by the response to professional development on alternative assessment methods.

Table 17 Cross tabulation between higher education institution in which employed (4 universities and 4 IoTs) and Alternative assessment methods as an area of interest for PD

Q15.3 Alternative assessment methods							
			Neutral	No interest	Little	Moderate	Great
Type of higher education institution	All univer.	Count	54	20	28	188	157
		% of Row	12.1	4.5	6.3	42.1	35.1
		% of Total	8.7	3.2	4.5	30.2	25.2
	IoTs	Count	18	1	4	68	84
		% of Row	10.3	.6	2.3	38.9	48
		% of Total	2.9	.2	.6	10.9	13.5

The greatest differences between the responses of two groups appeared for 'great interest' category. To explore if there was a statistically significant difference in responses to the statement, a Mann-Whitney U test was carried out. It produced a significant result (U=25481, z= - 3.534, p= .000). What is suggests that the participants when grouped by the type of higher education institution responded differently to the statement.

Similarly, the opportunities for professional development on the use of new technology recorded slightly higher interest for the respondents from the Institutes of Technology for the category 'great interest' (46.6% as compared to 34.2% for % Row data). Like the data in the previous table, the results was significant (U=25295, z= - 3.207, p= .001), which suggest that the participants seem to respond differently to the statement. Unfortunately, the test is not able to tell us where the difference lie.

Table 18 Cross tabulation between higher education institution in which employed (4 universities and 4 IoTs) and Use of new technology as an area of interest for PD

			Neutral	No interest	Little	Moderate	Great
Q15.6 Use of new technology							
Type of higher education institution	All univer.	Count	61	25	28	180	153
		% of Row	*13.6*	*5.6*	*6.3*	*40.3*	*34.2*
		% of Total	*9.8*	*4*	*4.5*	*28.9*	*24.6*
	IoTs	Count	20	0	10	64	82
		% of Row	*11.4*	*0*	*5.7*	*36.4*	*46.6*
		% of Total	*3.2*	*0*	*1.6*	*10.3*	*13.2*

Table 19 Cross tabulation between higher education institution in which employed (4 universities and 4 IoTs) and Managing teaching in a laboratory as an area of interest for PD

			Neutral	No interest	Little	Moderate	Great
Q15.7 Managing teaching in a laboratory							
Type of higher education institution	All univer.	Count	78	180	56	80	49
		% of Row	*17.6*	*40.6*	*12.6*	*18.1*	*11.1*
		% of Total	*12.6*	*29.1*	*9.1*	*12.9*	*7.9*
	IoTs	Count	24	38	14	52	47
		% of Row	*13.7*	*21.7*	*8*	*29.7*	*26.9*
		% of Total	*3.9*	*6.1*	*2.3*	*8.4*	*7.6*

Unlike the data in the previous table there seem to be a negative skew in the responses on managing teaching in a laboratory for the lecturing staff in the universities. Also looking at the percentage of responses falling into two categories for both groups of respondents, it can be argued that professional development of this type is more important for the participants from IoTs. Unsurprisingly, a Mann-Whitney U test recorded a significant difference in the responses across the two groups (U=18427, z= -6.249, p = .000).

Feedback on teaching

This section discusses the results on the views of lecturing staff across four universities and four Institutes of Technology in regard to professional development on methods of feedback and interpreting feedback from students. The section 'Feedback on teaching' in the questionnaire contained only two statements. The results indicated that although professional development activities on methods of obtaining useful feedback from students were ranked the 4th for both groups of respondents (see Table 1 in Appendix), the respondents from IoTs expressed greater interest for this type of professional development (87.5% as compared to 76.5%) (Table 20).

Table 20 Cross tabulation between higher education institution in which employed (4 universities and 4 IoTs) and Methods of obtaining useful feedback from students as an area of interest for PD

Q16.1 Methods of obtaining useful feedback from students							
			Neutral	No interest	Little	Moderate	Great
Type of higher education institution	All univer.	Count	51	26	27	182	156
		% of Row	*11.5*	*5.9*	*6.1*	*41.2*	*35.3*
		% of Total	*8.2*	*4.2*	*4.4*	*29.4*	*25.2*
	IoTs	Count	13	5	4	73	82
		% of Row	*7.3*	*2.8*	*2.3*	*41.2*	*46.3*
		% of Total	*2.1*	*.8*	*.6*	*11.8*	*13.2*

Using a Mann-Whitney U test it was found that there was a significant differences in the responses of two groups (U=27723, z = -2.773, p = .006). What this suggests is that the participants when grouped by the higher education institution, seem to respond differently to the statement. Similarly, there was a statistically significant difference in the responses to the statement about availability of professional development around expert assistance on interpreting student feedback (U=19643.5, z= -3.685, p=.000).The cross tabulation between the higher education institution and the statement on the expert assistance on interpreting student feedback is presented below in Table 21.

Table 20 Cross tabulation between higher education institution in which employed (4 universities and 4 IoTs) and Expert assistance on interpreting student feedback as an area of interest for PD

Q16.2 Expert assistance on interpreting student feedback							
			Neutral	No interest	Little	Moderate	Great
Type of higher education institution	All univer.	Count	82	51	45	179	86
		% of Row	*18.5*	*11.5*	*10.2*	*40.4*	*19.4*
		% of Total	*13.3*	*8.3*	*7.3*	*29*	*13.9*
	IoTs	Count	39	11	14	54	57
		% of Row	*22.3*	*6.3*	*8*	*30.9*	*32.6*
		% of Total	*6.3*	*1.8*	*2.3*	*8.7*	*9.2*

Peer to peer opportunities

The data analysis on the differences between the respondents from the universities and IoTs in the area 'Peer to peer opportunities' recorded the most marked differences between the statements on connecting with others within my own discipline (72.5% as compared to 89.2%). Table 22 below is intended to show the relationship between the higher education institution and questionnaire statement on this type of professional development.

Table 22 Cross tabulation between higher education institution in which employed (4 universities and 4 IoTs) and Expert assistance on interpreting student feedback as an area of interest for PD

Q17.4 Connecting with others within my discipline							
			Neutral	No interest	Little	Moderate	Great
Type of higher education institution	All univer.	Count	83	25	15	164	159
		% of Row	*18.6*	*5.6*	*3.4*	*36.8*	*35.7*
		% of Total	*13.3*	*4*	*2.4*	*26.3*	*25.5*
	IoTs	Count	14	0	5	68	90
		% of Row	*7.9*	*0*	*2.8*	*38.4*	*50.8*
		% of Total	*2.2*	*0*	*.8*	*10.9*	*14.4*

Two observations can be made about the results. Firstly, irrespective of the higher education institution band, the responses for two groups cluster toward the upper end

of the scale, around the category 'moderate' and 'great interest'. Secondly, connecting with other colleagues within the same discipline appears to be more important to the survey participants from the IoTs. Using a Mann-Whitney U test it was found that there was a significant difference in how both groups responded to the question (U=25195, z= -3.029, p= .002).

Scholarship and research

The results on the response distribution of survey participants from both groups of higher education institutions in the area of 'Scholarship and research' revealed a great deal of similarities between the areas of expressed interest (Table 1, Appendix). Nevertheless, the most marked differences in the respondents' views on the professional development were observed in access to research findings on teaching and learning in general, followed by postgraduate qualification in teaching and learning and access to research finings in teaching and learning in my own discipline, with the greatest interest expressed from the respondents from four IoTs. A Mann-Whitney U test was carried out to explore whether the results were statistically significant on these items. It was found that there was a difference across the two groups (universities and IoTs) in how they responded to the statements: i) access to research findings on teaching and learning in general (U=25141, z= -2.691, p = .007), ii) postgraduate qualification in teaching and learning (U=19492.5, z = - 3.913, p= .000) and, iii) access to research findings in teaching and learning in my own discipline (U=29353, z= -2.998, p = .003).

Personal professional development and leadership

This section discusses the results on the views of lecturing staff across universities and Institutes of Technology in regard to professional development in the area of 'Personal professional development and leadership'. The most marked differences between the two groups (universities and IoTs) in their responses appeared to the statement on administrative requirements around teaching. To provide a more detailed examination of response distribution on this statement the cross tabulation is presented below (Table 23).

Table 23 Cross tabulation between higher education institution in which employed (4 universities and 4 IoTs) and Administrative requirements around teaching as an area of interest for PD

			Neutral	No interest	Little	Moderate	Great
Q19.2 Administrative requirements around teaching							
Type of higher education institution	All univer.	Count	114	77	66	136	57
		% of Row	*25.3*	*17.1*	*14.7*	*30.2*	*12.7*
		% of Total	*18.2*	*12.3*	*10.5*	*21.7*	*9.1*
	IoTs	Count	49	23	14	61	30
		% of Row	*27.7*	*13*	*7.9*	*34.5*	*16.9*
		% of Total	*7.8*	*3.7*	*2.2*	*9.7*	*4.8*

The distribution of the responses is more evenly spread for the 'all universities' group than for the 'IoTs'. Nevertheless, there also seem to be a positive skew for both groups with higher percentage of responses clustering around 'moderate' category. Using a Mann-Whitney U it was established that there was a significant differences in how two groups responded to this statement (U=18486.5, z= -2.461, p= .014). Moreover, the statistically significant difference in the responses was observed for legal issues around teaching (U=18161.5, z= -2.757, p = .0006) and training on accessibility for learners with various disabilities (U=21639, z= -2.36, p = .018).

Additionally, when looking at the results in regard to the expressed interest in professional development on preparation of teaching portfolio (see Table 1 in Appendix), this type of professional development was ranked the 16th for the universities, while for the IoTs it was ranked the 20th (according to the percentages of responses falling into categories 'moderate' or 'great interest'). Nevertheless, the result was not significant (U=24531, z= - .95, p= .342).

1.5.2 Staff grouped by seniority

In the attempt to provide a more detailed analysis and discussion of the results in relation to the highest and lowest ranking areas of interest for professional development of the lecturing staff across eight higher education institutions in the Dublin region, the data was additionally analysed with regard to the posts of

responsibility occupied by the respondents. The baseline data on the respondents' level of the current position was presented earlier in Table 1. Nevertheless, to provide a more balanced analysis of the responses six response categories were collapsed in three bands – 'Professor, Associate Professor and Senior lecturer', 'Lecturer and Junior/Associate lecturer' and 'Researcher'.

Table 24 The level of the current position grouped in three categories

	N	%
Professor, Associate professor, Senior lecturer	184	28.4
Lecturer, Junior/Associate lecturer	411	63.4
Researcher	53	8.2
Total	648	100

In relation to the seniority, Table 24 shows that the majority of respondents (63.4%) are clustered in category 'Lecturer and Junior/Associate lecture', with a smaller proportion - in 'Professor, Associate Professor and Senior lecturer' (28.4%) band. As can also be seen from the Table 24 a small percentage of the respondents 8.2% were working as researchers at the time of survey completion. The distributions of the responses for the three bands were calculated and ranked according to the frequencies of responses falling into categories 'moderate' and 'great interest' with the results for the first ten items presented below in Table 25 (please refer to Table 2 in Appendix for the rankings of all areas of professional development for the three bands of respondents).

Table 25 Survey responses (%) to Q14-Q19 for categories 'moderate' and 'great interest' regarding highest and lowest ranking areas of interest for professional development (three groups of respondents by seniority)

Response indicated	Prof, Assoc.Prof., Senior Lecturer		Lecturer, Junior/ Assoc. lecturer		Researcher	
	Respond (%)	Rank	Respond (%)	Rank	Respond (%)	Rank
Access to research findings on teaching and learning in my discipline	83.7%	**1**	84.7%	**2**	79.5%	**7**
Innovative delivery methods	79.5%	**2**	84.8%	**1**	92.4%	**1**
Peer exchange on good practice	79.4%	**3**	78.2%	**7**	76.9%	**=9**
Alternative assessment methods	77.4%	**4**	81%	**=3**	69.2%	**=16**
Methods of obtaining useful feedback from students	76.8%	**5**	81%	**=3**	77.8%	**8**
Connecting with others within my own discipline	73.7%	**6**	78.8%	**6**	74.3%	**14**
Inquiry about problem based learning	71%	**7**	75.4%	**8**	87.2%	**2**
Access to research findings on teaching and learning in general	69.9%	**8**	73.7%	**10**	71.8%	**15**
Integrating research into undergraduate curriculum	69.8%	**9**	74.9%	**9**	82%	**5**
Use of new technology	68%	**10**	79.6%	**5**	82.1%	**4**
Fellowship opportunities	44.4%	**19**	63%	**18**	83.8%	**3**
Large group teaching methods	60.9%	**12**	71.7%	**11**	81.6%	**6**
Curriculum design	60.6%	**13**	71%	**12**	76.9%	**=9**
Preparation of teaching portfolio	46.7%	**18**	63.8%	**17**	76.9%	**=9**

When comparing the views of respondents across three groups of seniority on a number of professional development activities, we can point towards a great deal of similarities between the areas identified. In particular, first ten positions for the two bands ('Professor, Associate Professor and Senior lecturer' and 'Lecturer, Junior/ Associate lecturer') occupied by the same professional development activities. Despite the fact that the rank order was very similar for both groups, there were some differences. As can be seen, the respondents from the 'Prof., Associate Prof., and Senior lecturer' expressed greater interest for professional development on peer exchange on good practice. This item was ranked the 3rd, while for the 'Lecturer, Junior / Associate lecturer' group it was on the 7th place in regard to expressed interest. Nevertheless, the respondents from the 'Lecturer, Junior / Associate lecturer'

category seem to attribute more importance to the use of new technology (79.6%), than the 'Prof., Associate Prof., and Senior lecturer' category (68%).

Comparing the results with the 'Researcher' category a few remarks can be made about the findings. Firstly, professional development on innovative delivery methods was at the top of the list like for another two bands. Inquiry about problem based learning and fellowship opportunities recorded considerably more interest for the 'Researcher' category. Secondly, methods obtaining useful feedback from students were not as important for 'Researcher' category as for the 'Prof., Associate Prof., and Senior lecturer' and 'Lecturer, Junior/ Associate lecturer' categories. Another professional development where considerable difference in the interest of participants from three bands was observed was in alternative assessment methods.

Reflecting on the proportion of responses falling into 'moderate' and 'great interest' response option, the respondents in 'Lecturer, Junior/ Associate lecturer' and 'Researcher' bands seem to express greater interest in professional development activities in general than the respondents in 'Prof., Associate Prof., and Senior lecturer' band. This is particularly evident for access to research findings on teaching and learning in my discipline, inquiry and problem based learning and the use of new technology. In turn, access to research findings in teaching and learning in general appeared to be of less interest for the respondents in 'Researcher' category than for the respondents in the remaining two categories.

Planning and design

Comparing the results for three groups of respondents in the 'Planning and design' section a number of remarks can be made about the findings. Firstly, the professional development area which recorded the greatest interest in this category was integrating research into undergraduate curriculum with the respondents from 'Researcher' category expressing the most interest (82% have chosen 'moderate' or 'great interest' option). Additionally, this item was ranked the fifth for 'Researcher' band, while it was on the 9th place for the ''Prof., Associate Prof., and Senior lecturer' and 'Lecturer, Junior/ Associate lecturer' band. To provide a more detailed examination of the response distribution to this statements and to show the relationship at descriptive

level between the seniority level and response to the statement in Q14 the Table 26 shows the cross tabulation between these two variables. As can be seen from the table, the responses for all three bands are skewed towards the upper end of the scale.

Table 26 Cross tabulation between the level of current position (grouped by seniority) and Integrating research into undergraduate curriculum as an area of interest for PD

Q14.4 Integrating research into undergraduate curriculum							
			Neutral	No interest	Little	Moderate	Great
The level of current position grouped by seniority	Professor, Assoc. Prof., Senior lect.	Count	29	11	14	70	55
		% of Row	*16.2*	*6.1*	*7.8*	*39.1*	*30.7*
		% of Total	*4.8*	*1.8*	*2.3*	*11.7*	*9.2*
	Lecturer and Junior/Assoc. lecturer	Count	44	28	24	142	144
		% of Row	*11.5*	*7.3*	*6.3*	*37.2*	*37.7*
		% of Total	*7.3*	*4.7*	*4*	*23.7*	*24*
	Researcher	Count	3	2	2	11	21
		% of Row	*7.7*	*5.1*	*5.1*	*28.2*	*53.8*
		% of Total	*.5*	*.3*	*.3*	*1.8*	*3.5*

To explore if there was a statistically significant difference in the responses between three groups, a Kruskal-Wallis test was carried out. However, a Kruskal-Wallis test did not confirm that the level of the current position occupied by the respondents in higher education institution was a factor in the expressed interest in professional development on integrating research into undergraduate curriculum: χ^2 (2, n=524)= 4.767, p= .92. Overall, comparing the total proportions of responses across the three groups falling into 'moderate – great interest' response option, the respondents from 'Researcher' band seem to express slightly more interest for professional development on 'Planning and design'.

Delivery and Practice

The questionnaire statements Q15.1 – Q15.7 explored respondents' interest for the professional development which can be loosely grouped around activities on 'Delivery and Practice'. The results on the distribution of the responses from three

groups of the level of current position of responsibility revealed some similarities between the areas of expressed interest (Table 2, Appendix). Nevertheless, the most marked differences in the respondents' views on professional development were observed in regard to the inquiry and problem based learning, alternative assessment methods and the use of new technology. Table 26 shows a cross tabulation of the level of current position and the respondents' interest on professional development on inquiry and problem based learning.

Table 26 Cross tabulation between the level of current position (grouped by seniority) and Inquiry about problem based learning as an area of interest for PD

			Neutral	No Interest	Little	Moderate	Great
Q15.2 Inquiry about problem based learning							
The level of current position grouped by seniority	Professor, Assoc. Prof., Senior lect.	Count	34	8	9	63	62
		% of Row	*19.3*	*4.5*	*5.1*	*35.8*	*35.2*
		% of Total	*5.7*	*1.3*	*1.5*	*10.5*	*10.4*
	Lecturer and Junior/Assoc. lecturer	Count	56	20	18	153	136
		% of Row	*14.6*	*5.2*	*4.7*	*39.9*	*35.5*
		% of Total	*9.4*	*3.3*	*3*	*25.6*	*22.7*
	Researcher	Count	4	1	0	19	15
		% of Row	*10.3*	*2.6*	*0*	*48.7*	*38.5*
		% of Total	*.7*	*.2*	*0*	*3.2*	*2.5*

The descriptive statistics indicated that most of the responses irrespective of the level of current position clustered towards the right end of the scale. As can be seen from the table the greatest interest for the professional development around inquiry and problem based learning was expressed from the respondents in 'Researchers' category. However, a Kruskal-Wallis test did not establish a statistically significant difference in the responses across the three groups. This was done by testing the null hypothesis that here is no difference across the specified groups: χ^2 (2, n=504) =.47, p= .79.

Table 27 Cross tabulation between the level of current position (grouped by seniority) and Alternative assessment methods as an area of interest for PD

Q15.3 Alternative assessment methods			Neutral	No interest	Little	Moderate	Great
The level of current position grouped by seniority	Professor, Assoc. Prof., Senior lect.	Count	26	5	9	80	57
		% of Row	*14.7*	*2.8*	*5.1*	*45.2*	*32.2*
		% of Total	*4.4*	*.8*	*1.5*	*13.4*	*9.6*
	Lecturer and Junior/Assoc. lecturer	Count	37	14	21	148	160
		% of Row	*9.7*	*3.7*	*5.5*	*38.9*	*42.1*
		% of Total	*6.2*	*2.3*	*3.5*	*24.8*	*26.8*
	Researcher	Count	9	1	2	13	14
		% of Row	*23.1*	*2.6*	*5.1*	*33.3*	*35.9*
		% of Total	*1.5*	*.2*	*.3*	*2.2*	*2.3*

Cross tabulation of the level of current position and respondents' interest on professional development on alternative assessment methods indicated that, respondents in category 'Lecturer, Junior/ Associate lecturer' expressed greater interest for this type of professional development (Table 27). In total, 81% of respondents from the 'Lecturer, Junior/ Associate lecturer' band indicated 'moderate' or 'great interest', while 77.4% of respondents from the 'Prof., Associate Prof., and Senior lecturer' category have chosen the same response option. In turn, for the respondents in 'Researcher' category this type of professional development was ranked the sixteenth in the list of descending priority for which they expressed their interest.   However, a Kruskal-Wallis test established no difference in their responses: χ^2 (2, n=524) =2.19, p= .33.

As can be seen in Table 28, cross tabulation of the use of new technology and the level of current position of the survey respondents indicated the responses for the there groups clustered mostly around 'moderate interest' response option. Nevertheless, the respondents in category 'Researcher' seem to express slightly greater interest for this type of professional development, which 82.1% choosing 'moderate' or 'great interest' response option. Also, this item was ranked the 4th in the list of descending priority. A Kruskal-Wallis test did not confirm that the level of

current position grouped by seniority influenced respondents' views to this statement: χ^2 (2, n=515) =5.046, p= .08.

Table 28 Cross tabulation between the level of current position (grouped by seniority) and Use of new technology as an area of interest for PD

Q15.6 Use of new technology							
			Neutral	No interest	Little	Moderate	Great
The level of current position grouped by seniority	Professor, Assoc. Prof., Senior lect.	Count	36	8	12	70	49
		% of Row	*20.6*	*4.6*	*6.9*	*40*	*28*
		% of Total	*6*	*1.3*	*2*	*11.7*	*8.2*
	Lecturer and Junior/Assoc. lecturer	Count	41	14	23	146	158
		% of Row	*10.7*	*3.7*	*6*	*38.2*	*41.4*
		% of Total	*6.9*	*2.3*	*3.9*	*24.5*	*26.5*
	Researcher	Count	4	1	2	17	15
		% of Row	*10.3*	*2.6*	*5.1*	*43.6*	*38.5*
		% of Total	*.7*	*.2*	*.3*	*2.9*	*2.5*

Interestingly, although the item innovative delivery methods was ranked at the top according to the frequency of responses (Table 2, Appendix) by the survey participants across the three bands, a Kruskal-Wallis test established that level of seniority was a factor in how the respondents answered this statement: χ^2 (2, n=554) =8.717, p=.013. Nevertheless, it was not possible to establish whether the difference lie, and further analyses are needed. Similarly, there was a statistically significant difference in the responses to the statement about large groups teaching methods: χ^2 (2, n=489) =7.02, p=.03. What that means is that the level of seniority is a factor in the respondents' interest towards professional development activities on large group teaching methods. Although it was not possible to say where the difference lie.

Feedback on teaching

Some differences across the three groups of respondents were observed in regard to professional development in 'Feedback on teaching' section of the questionnaire, Overall, respondents in the 'Researcher' category expressed less interest for methods of obtaining useful feedback from students with 77.8% choosing 'moderate - great

interest' than the respondents from 'Lecturer, Junior/ Associate lecturer' (81%) category. Also quite a high proportion of those grouped in 'Prof., Associate Prof., and Senior lecturer' band (76.8%) have opted for the same response option. A Kruskal-Wallis test did not confirm that there was an association between the level of the current position the responses to this statement across the three groups: χ^2 (2, n=532) =4.78, p= .091.

In turn, the professional development activities on expert assistance on interpreting students' feedback seem to record less interest from the respondents in 'Prof., Associate Prof., and Senior lecturer' band with 55.4% choosing 'moderate' or 'great interest' than those in 'Lecturer, Junior/ Associate lecturer' (62.7%) and 'Researcher' (63.2%) categories. A Kruskal-Wallis test did not confirm that the level of current position grouped by seniority influenced respondents' views to this statement: χ^2 (2, n=475) =1.867, p= .393.

Peer to peer opportunities

The section 'Peer to peer opportunities' contained four statements (Q17.1-Q17.4) which explored the respondents views on professional development around collaboration and communication with their colleagues. The distributions of responses were calculated and ranked according to their frequencies falling into 'moderate' and 'great interest' response options (refer to Table 2 in Appendix). Comparing the responses between the three groups of respondents, we can point towards a great deal of similarities in the areas of interest for professional development. Nevertheless, the greatest difference in the proportion of respondents choosing 'moderate' or 'great interest' response option seem to appear in the statement about microteaching to a peer group. Tables 29 below presents a cross tabulation to this statement.

Table 29 Cross tabulation between the level of current position (grouped by seniority) and Microteaching to a peer group as an area of interest for PD

Q17.2 Microteaching to a peer group							
			Neutral	No interest	Little	Moderate	Great
The level of current position grouped by seniority	Professor, Assoc. Prof., Senior lect.	Count	79	17	25	36	17
		% of Row	*45.4*	*9.8*	*14.4*	*20.7*	*9.8*
		% of Total	*13.3*	*2.9*	*4.2*	*6.1*	*2.9*
	Lecturer and Junior/Assoc. lecturer	Count	115	62	45	106	51
		% of Row	*30.3*	*16.4*	*11.9*	*28*	*13.5*
		% of Total	*19.4*	*10.5*	*7.6*	*17.9*	*8.6*
	Researcher	Count	7	3	9	12	8
		% of Row	*17.9*	*7.7*	*23.1*	*30.8*	*20.5*
		% of Total	*1.2*	*.5*	*1.5*	*2*	*1.4*

As can be seen from the table most of the responses irrespective of the level of seniority cluster the upper end of the scale. Moreover, the respondents in 'Researcher' category seem to express greater interest in professional development of this type with 51.3% choosing 'moderate' or 'great interest' response option. In turn the respondents in 'Prof., Associate Prof., and Senior lecturer' band seem to express less interest in microteaching to a peer groups with only 30.5% choosing the same response option. A Kruskal-Wallis test was carried out to establish if there was a statistically significant difference in the responses across the three bands. The result has indicated that the level of current position grouped by seniority seems to be a factor in the expressed interest for the professional development around microteaching to a peer group: χ^2 (2, n=391) =1.208, p= .547.

Additionally, according to the items ranked in the descending order of priority for the three groups of respondents, the professional development activities on peer exchange of good practice recorded greater interest for the respondents in 'Prof., Associate Prof., and Senior lecturer' category. Overall, this item was ranked the third in the descending order of priority for the express interest (Table 2, Appendix).

Scholarship and research

The analysis of the results on the distribution of survey responses to the statements on 'Scholarship and research' from three bands of respondents grouped according their level of seniority in higher education institution are presented in Table 1 in Appendix. Nevertheless, most marked differences in respondents' views occurred to the statements on postgraduate qualification in teaching and learning and fellowship opportunities (see Tables 30 and 31 below).

Table 30 Cross tabulation between the level of current position (grouped by seniority) and Postgraduate qualification in teaching and learning as an area of interest for PD

			Q18.3 Postgraduate qualification in teaching and learning				
			Neutral	No interest	Little	Moderate	Great
The level of current position grouped by seniority	Professor, Assoc. Prof., Senior lect.	Count	42	42	37	36	20
		% of Row	*23.7*	*23.7*	*20.9*	*20.3*	*11.3*
		% of Total	*7*	*7*	*6.2*	*6*	*3.4*
	Lecturer and Junior/Assoc. lecturer	Count	71	77	37	105	91
		% of Row	*18.6*	*20.2*	*9.7*	*27.6*	*23.9*
		% of Total	*11.9*	*12.9*	*6.2*	*17.6*	*15.2*
	Researcher	Count	4	4	4	14	13
		% of Row	*10.3*	*10.3*	*10.3*	*35.9*	*33.3*
		% of Total	*.7*	*.7*	*.7*	*2.3*	*2.2*

When comparing percentages of the responses falling into categories 'moderate interest' and 'great interest' it can be highlighted that higher proportion of respondents from 'Researcher' category identified a identified a stronger interest in postgraduate qualification in teaching and learning than the respondents in 'Prof., Associate Prof., and Senior lecturer' category. A Kruskal-Wallis test was carried out to establish if there was a statistically significant difference in the responses across the three categories of respondents. The result has indicated that the level of current position grouped by seniority seems to be a factor in the expressed interest for the professional development around postgraduate qualification on teaching and learning: χ^2 (2, n=480) =19.96, p=.000.

Table 31 Cross tabulation between the level of current position (grouped by seniority) and Fellowship opportunities as an area of interest for PD

			Q18.4 Fellowship opportunities				
			Neutral	No interest	Little	Moderate	Great
The level of current position grouped by seniority	Professor, Assoc. Prof., Senior lect.	Count	53	23	23	48	31
		% of Row	*29.8*	*12.9*	*12.9*	*27*	*17.4*
		% of Total	*8.9*	*3.8*	*3.8*	*8*	*5.2*
	Lecturer and Junior/Assoc. lecturer	Count	73	40	29	119	122
		% of Row	*19.1*	*10.4*	*7.6*	*31.1*	*31.9*
		% of Total	*12.2*	*6.7*	*4.8*	*19.9*	*20.4*
	Researcher	Count	4	2	0	12	19
		% of Row	*10.8*	*5.4*	*0*	*32.4*	*51.4*
		% of Total	*.7*	*.3*	*0*	*2*	*3.2*

Reflecting on the relationship at descriptive level between level of the current position and response to the statement in Q18, we can highlight that there is a positive skew towards the upper end of the scale, particularly for the respondents in 'Researcher' category. It is also evident that the respondents in this band attributed a much greater importance to the professional development activities on fellowship opportunities. This item was ranked the third in the descending order of priority, while for the respondents in 'Prof., Associate Prof., and Senior lecturer' band it was on the nineteenth place and for the 'Lecturer, Junior/ Associate lecturer' band it was on the eighteenth place accordingly. Additionally, a Kruskal-Wallis test established that the level of the current position of respondents was a factor in how they answered to the statement about fellowship opportunities: χ^2 (2, n=468) =20, p=.000

Personal professional development and leadership

The section 'Personal professional development' contained four statements Q19.1-Q19.4. The distributions of the responses were calculated and ranked according to the frequencies falling into 'moderate' and 'great interest' response options (see Table 2 in Appendix). Reflecting on the proportion of respondents selecting these two

response options, it can be highlighted that the respondents in 'Prof., Associate Prof., and Senior lecturer' band expressed least interest in 'Personal professional development and leadership'. In turn, a considerably higher proportion of respondents in 'Researcher' band selected 'moderate-great interest' response option when reflecting on all four statements in this section of the questionnaire. Additionally, for those in 'Lecturer, Junior/ Associate lecturer' band professional development on training on accessibility for learners with various disabilities appeared to be more important than for respondents in remaining two bands.

A Kruskal-Wallis test was carried out to explore it there was a statistically significant difference in the responses across three categories of respondents. It was confirmed that the level of current position was a factor in the responses to the statement on preparation of teaching portfolio: χ^2 (2, n=487) =32.972, p=.000. Additionally, the level of current position was a factor in the responses to the statement on administrative requirements around teaching: χ^2 (2, n=443) =18.056, p=.000. And finally, the level of the current position also seems to influence the respondents' views in regard to training on accessibility for learners with various disabilities: χ^2 (2, n=471) =17.137, p=.000.

1.5.3 Primary academic discipline

The following section discusses the results of the survey analysis in regard to the highest and lowest ranking areas of interest for professional development of the lecturing staff across eight higher education institutions in the Dublin region. Importantly, the data was additionally analysed with regard to the primary academic discipline of the respondents. The baseline data on the respondents' academic discipline was already presented earlier in Table 2. Nevertheless, to provide a more balanced analysis and discussion of the responses eleven response categories were collapsed just in three bands – 'Social Sciences and Humanities', 'Medical and Health Sciences' and 'Science and Technology' (Table 32).

Table 32 Academic discipline grouped in 3 categories

	N	%
Social Sciences and Humanities	317	46.4
Medical and Health Sciences	97	14.2
Science and Technology	269	39.4
Total	683	100

In relation to the academic discipline, Table 32 indicates that the majority of respondents (46.4%) are clustered in category 'Social Sciences and Humanities', with a smaller proportion - in 'Science and Technology' (39.4%) band. As can also be seen a small percentage of the respondents 14.2% associated their primary academic discipline with 'Medical and Health Sciences'.

The distributions of the responses for the three bands were calculated and ranked according to the frequencies of responses falling into categories 'moderate' and 'great interest' with the results for the first ten items presented below in Table 33 (please refer to Table 3 in Appendix for the rankings of all areas of professional development for the three bands of respondents).

When comparing perceptions of lecturing staff within three disciplines in regard to professional development which could be provided by DCAD we can point towards a great deal of similarities between the areas identified. In particular, professional development activities around innovative delivery methods and access to research findings on teaching and learning in respondents' discipline seem to be very important to the respondents from three disciplinary areas. Nevertheless, professional development on methods of obtaining useful feedback from students is the first item in the list of descending order of priority for the respondents in 'Science and Technology' area. In turn, peer exchange on good practice is less important for the respondents in 'Medical and Health Sciences'. Peer collaboration and communication appears to be of more interest for the respondents from 'Social Sciences and Humanities' disciplinary area. The greatest differences between the rankings in items seem to occur in access to research findings in teaching and learning in general and expert assistance on interpreting student feedback.

Table 33 Areas of highest interest for professional development (responses to Q14-Q19 for categories 'moderate' and 'great interest') for primary academic discipline (first ten items)

Response indicated	Social Sciences and Humanities		Science and Technology		Medical and Health Sciences	
	Respond (%)	Rank	Respond (%)	Rank	Respond (%)	Rank
Access to research findings on teaching and learning in my discipline	85.8%	1	80.8%	3	90%	2
Innovative delivery methods	83.2%	2	83.3%	2	92.3%	1
Peer exchange on good practice	81.2%	3	75.9%	6	78.6%	11
Alternative assessment methods	80.8%	4	76.2%	5	88.9%	3
Connecting with others within my own discipline	79.4%	5	73.8%	9	83.3%	8
Use of new technology	75.8%	6	74.8%	8	87.9%	5
Access to research findings on teaching and learning in general	74.2%	7	66.7%	14	85.8%	6
Methods of obtaining useful feedback from students	73.4%	8	84.3%	1	88.7%	4
Inquiry and problem based learning	72.2%	9	78.9%	4	80%	10
Integrating research into undergraduate curriculum	69.8%	10	75.7%	7	84.4%	7
Curriculum design	64.7%	14	71.8%	10	74.4%	13
Expert assistance on interpreting student feedback	55.3%	19	61.1%	16	80.7%	9

Overall, (according to the percentage of the respondents opting for the 'moderate' and 'great interest' response options on the scale, the respondents from 'Medical and Health Sciences' category generally appear to express more interest for the professional development. Interestingly, the respondents from 'Social Sciences and Humanities' disciplinary area appear to consider professional development on integrating research into undergraduate curriculum as less important than the respondents from 'Medical and Health Sciences' and 'Science and Technology' bands.

Planning and design

The section 'Planning and design' contained four statements which focused on the respondents perceptions on professional development around teaching, defining educational objectives and relevance of research findings to teaching and learning in general. Reflecting on the proportions of the respondents in opting for 'moderate' and 'great interest' response scale options a number of remarks can be made. Firstly, the most marked differences occurred in response to the statement about professional development on aligning assessment and learning outcomes, which respondents in 'Medical and Health Sciences' considered more important than the respondents in remaining two bands. A Kruskal-Wallis test did not establish a statistically significant difference in the responses across the disciplinary groups: χ^2 (2, n=511) = 4.63, p=.099.

Furthermore, reflecting on the response distribution to the statement about integrating research into undergraduate curriculum, the respondents from 'Medical and Health Sciences' seem to attribute greater interest to professional development of this type. Tables 34 below presents a cross tabulation to this statement.

Table 34 Cross tabulation between academic discipline (grouped in 3 bands) and integrating research into undergraduate curriculum as an area of interest for PD

Q14.4 Integrating research into undergraduate curriculum			Neutral	No interest	Little	Moderate	Great
Academic discipline	Social Sciences and Humanities	Count	37	30	20	95	106
		% of Row	*12.8*	*10.4*	*6.9*	*33*	*36.8*
		% of Total	*5.9*	*4.8*	*3.2*	*15.2*	*17*
	Science and Technology	Count	37	9	14	106	81
		% of Row	*15*	*3.6*	*5.7*	*42.9*	*32.8*
		% of Total	*5.9*	*1.4*	*2.2*	*17*	*13*
	Medical and Health Sciences	Count	7	2	5	31	45
		% of Row	*7.8*	*2.2*	*5.6*	*34.4*	*50*
		% of Total	*1.1*	*.3*	*.8*	*5*	*7.2*

Irrespective of the disciplinary area the responses for all three groups cluster at the upper end of the scale. Notably, 50% of the respondents in 'Medical and Health sciences' band have opted for the 'great interest' scale response option, while a considerably lower proportion of the respondents in 'Social Sciences and Humanities' and 'Science and Technology' indicate the same type of response. A Kruskal-Wallis test confirmed that discipline was a factor in how the respondents answered this question: χ^2 (2, n=544) = 6.815, p=.033.

Although, the differences between the proportion of respondents across three disciplinary areas opting for the categories 'moderate' and 'great interest' to the statement on writing learning outcomes were not appear to be considerable, a Kruskal-Wallis test established that disciplinary area was a factor in the views of survey respondents to the professional activities of this type: χ^2 (2, n=487) =11.094, p=.004.. Table 35 below presents cross tabulation of the responses to the statement on curriculum design.

Table 35 Cross tabulation between academic discipline (grouped in 3 bands) and writing learning outcomes as an area of interest for PD

Q14.2 Writing learning outcomes							
			Neutral	No interest	Little	Moderate	Great
Academic discipline	Social Sciences and Humanities	Count	57	55	51	86	39
		% of Row	*19.8*	*19.1*	*17.7*	*29.9*	*13.5*
		% of Total	*9.1*	*8.8*	*8.2*	*13.8*	*6.3*
	Science and Technology	Count	57	27	31	93	37
		% of Row	*23.3*	*11*	*12.7*	*38*	*15.1*
		% of Total	*9.1*	*4.3*	*5*	*14.9*	*5.9*
	Medical and Health Sciences	Count	22	5	14	35	14
		% of Row	*24.4*	*5.6*	*15.6*	*38.9*	*15.6*
		% of Total	*3.5*	*.8*	*2.2*	*5.6*	*2.2*

Similarly, the disciplinary area appeared to be a factor in how survey respondents' replied to the statement on professional development concerned with integrating research into undergraduate curriculum: χ^2 (2, n=544) =6.815, p=.033. While the test was unable to tell us where the difference lie, according to the distribution of the

responses, integrating research into undergraduate curriculum appear to be less important to respondents in 'Social Sciences and Humanities'.

Delivery and Practice

Exploring the results in regard to expressed interest to professional development activities in the area of 'Delivery and Practice', it is evident that innovative delivery methods recorded the highest proportion of respondents in the 'moderate' and 'great interest' for the respondents in 'Medical and Health Sciences' (see Table 3, Appendix). Additionally, this item was ranked the second in the descending order of priority for the respondents in 'Social Sciences and Humanities' and 'Science and Technology'. A cross tabulation between academic discipline and innovative delivery methods is presented in Table 36 below.

Table 36 Cross tabulation between academic discipline (grouped in 3 bands) and innovative delivery methods as an area of interest for PD

			Q15.1 Innovative delivery methods				
			Neutral	No interest	Little	Moderate	Great
Academic discipline	Social Sciences and Humanities	Count	16	15	17	94	144
		% of Row	*5.6*	*5.2*	*5.9*	*32.9*	*50.3*
		% of Total	*2.6*	*2.4*	*2.7*	*15.1*	*23.1*
	Science and Technology	Count	23	7	11	115	90
		% of Row	*9.3*	*2.8*	*4.5*	*46.7*	*36.6*
		% of Total	*3.7*	*1.1*	*1.8*	*18.5*	*14.4*
	Medical and Health Sciences	Count	5	1	1	30	54
		% of Row	*5.5*	*1.1*	*1.1*	*33*	*59.3*
		% of Total	*.8*	*.2*	*.2*	*4.8*	*8.7*

A Kruskal-Wallis test confirmed that disciplinary area was a factor in respondents view on innovative delivery methods: χ^2 (2, n=579) =13.072, p=.001.

Table 37 below presents cross tabulation on the respondents views regarding their expressed interest to professional development on the use of new technology. Similarly the disciplinary area appeared to be a factor in the response to the statement on the use of new technology: χ^2 (2, n=540) =12.025, p=.002.

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Table 37 Cross tabulation between academic discipline (grouped in 3 bands) and use of new technology as an area of interest for PD

Q15.6 Use of new technology			Neutral	No interest	Little	Moderate	Great
Academic discipline	Social Sciences and Humanities	Count	36	13	20	102	114
		% of Row	*12.6*	*4.6*	*7*	*35.8*	*40*
		% of Total	*5.8*	*2.1*	*3.2*	*16.4*	*18.3*
	Science and Technology	Count	38	7	17	109	75
		% of Row	*15.4*	*2.8*	*6.9*	*44.3*	*30.5*
		% of Total	*6.1*	*1.1*	*2.7*	*17.5*	*12.1*
	Medical and Health Sciences	Count	8	2	1	32	48
		% of Row	*8.8*	*2.2*	*1.1*	*35.2*	*52.7*
		% of Total	*1.3*	*.3*	*.2*	*5.1*	*7.7*

Reflecting on the results, it can be highlighted that irrespective of the disciplinary area the responses are skewed towards the upper end of the scale, with higher proportion of respondents from 'Medical and Health Sciences' expressing interest for this type of professional development.

Table 38 Cross tabulation between academic discipline (grouped in 3 bands) and managing teaching in a laboratory as an area of interest for PD

Q15.7 Managing teaching in a laboratory			Neutral	No interest	Little	Moderate	Great
Academic discipline	Social Sciences and Humanities	Count	42	162	30	23	28
		% of Row	*14.7*	*56.8*	*10.5*	*8.1*	*9.8*
		% of Total	*6.8*	*26.3*	*4.9*	*3.7*	*4.5*
	Science and Technology	Count	48	32	30	85	49
		% of Row	*19.7*	*13.1*	*12.3*	*34.8*	*20.1*
		% of Total	*7.8*	*5.2*	*4.9*	*13.8*	*7.9*
	Medical and Health Sciences	Count	13	26	10	20	19
		% of Row	*14.8*	*29.5*	*11.4*	*22.7*	*21.6*
		% of Total	*2.1*	*4.2*	*1.6*	*3.2*	*3.1*

Table 38 presents cross tabulation between primary academic discipline and the extent of interest in professional development on managing teaching in a laboratory as professional development. A Kruskal-Wallis test established a statistically significant difference between the responses of participants from different disciplinary areas: χ^2 (2, n=514) =103.283, p=.000.

Feedback on teaching

The section 'Feedback on teaching' contained only two statements. Comparing the distributions of responses falling into categories 'moderate' and 'great interest' on the response scale, the respondents from 'Medical and Health Sciences' expressed a greater interest in methods of obtaining useful feedback from students. Despite the finding that for the respondents in 'Science and Technology' this item was ranked the first in the list of the descending order of the expression of interest (Table 3), the difference in the responses across three discipline groups was not statistically significant: χ^2 (2, n=554) =2.623, p=.27.

In turn, a Kruskal-Wallis test revealed that disciplinary area was a factor in the response to the statement on expert assistance in interpreting students' feedback: χ^2 (2, n=497) = 8.622, p=.013. A higher proportion of respondents from 'Medical and Health Sciences' band has opted for 'moderate' and 'great interest' response category in their response to this statement. More specifically, for this group this item was ranked the ninth, while it was ranked the sixteenth for those in 'Science and Technology' and the nineteenth for those survey respondents in 'Social Sciences and Humanities' (see Table 3 in Appendix).

Peer to peer opportunities

The data analysis on the distribution of the responses falling into 'moderate' or 'great interest' categories in the section 'Peer to peer opportunities' of the questionnaire was carried out. The most marked differences between the proportions of the respondents falling into the selected two scale response options were found in the statement on peer feedback on my teaching and connecting with others within my own discipline.

Tables 39 and 40 below presents cross tabulation of the responses between the disciplinary area and extant of interest expressed to professional development on collaborating with others.

Table 39 Cross tabulation between academic discipline (grouped in 3 bands) and peer feedback on my teaching as an area of interest for PD

			Q17.1 Peer feedback on my teaching				
			Neutral	No interest	Little	Moderate	Great
Academic discipline	Social Sciences and Humanities	Count	46	30	24	114	74
		% of Row	*16*	*10.4*	*8.3*	*39.6*	*25.7*
		% of Total	*7.3*	*4.8*	*3.8*	*18.2*	*11.8*
	Science and Technology	Count	53	8	20	116	51
		% of Row	*21.4*	*3.2*	*8.1*	*46.8*	*20.6*
		% of Total	*8.5*	*1.3*	*3.2*	*18.5*	*8.1*
	Medical and Health Sciences	Count	14	3	7	45	21
		% of Row	*15.6*	*3.3*	*7.8*	*50*	*23.3*
		% of Total	*2.2*	*.5*	*1.1*	*7.2*	*3.4*

Reflecting on the results, most of the responses cluster around 'moderate' interest response option. This is true particularly for the respondents from 'Medical and Health Sciences' and 'Science and Technology' bands. Nevertheless, there is a slight skew towards the upper end of the scale, indicating that respondents from both groups attributed some importance to the professional development on peer feedback. To establish whether the responses of three groups differed in their expressed interest to professional development on peer feedback, a Kruskal-Wallis test was carried out. A Kruskal-Wallis test did not confirm that there the respondents from three disciplinary areas differed in their response to the statement about peer feedback on teaching: χ^2 (2, n=513) =.642, p=.725.

Table 40 below presents a cross tabulation between primary academic discipline and the extent of interest on professional around connecting with others within respondents own discipline.

Table 40 Cross tabulation between Academic discipline (grouped in 3 bands) and Connecting with others within my discipline as an area of interest for PD

			Neutral	No interest	Little	Moderate	Great
Academic discipline	Social Sciences and Humanities	Count	32	19	8	91	136
		% of Row	11.2	6.6	2.8	31.8	47.6
		% of Total	5.2	3.1	1.3	14.7	21.9
	Science and Technology	Count	50	5	9	102	79
		% of Row	20.4	2	3.7	41.6	32.2
		% of Total	8.1	.8	1.4	16.4	12.7
	Medical and Health Sciences	Count	11	1	3	37	38
		% of Row	12.2	1.1	3.3	41.1	42.2
		% of Total	1.8	.2	.5	6	6.1

The table is headed "Q17.4 Connecting with others within my discipline".

As can be seen from the table there is a positive skew of the responses towards the upper end of the scale with most responses clustering around 'moderate' and 'great interest' response option. Interestingly, just under 50% of the respondents from 'Social Sciences and Humanities' have chosen 'great interest' response category. This finding is indicative that connecting with others was particularly important for this group of respondents. Additionally, professional development of this type was of considerable importance to the respondents from 'Science and Technology' band. To explore if a disciplinary area was a factor in how survey respondents answered this questionnaire statement, a Kruskal- Wallis test was carried out. The result indicated that [primary discipline was not a factor in the perceived importance of the professional development on connecting with others within respondents' own discipline: χ^2 (2, n=528) =4.137, p=.126.

Scholarship and research

The results on the response distribution of survey participants across three disciplinary areas to the questionnaire statements in section 'Scholarship and research' are presented below. The ranking of the areas for professional development revealed a great deal of similarities between the three groups (see Table 3 in Appendix). For instance, professional development on the access to research findings

on teaching and learning in respondents own discipline appears to be of greater importance to the respondents in the section 'Scholarship and research'. Table 41 below presents a cross tabulation between the disciplinary area and expressed interest in the professional development of this type. As can be seen from the Table 41, 55% of the respondents from 'Medical and Health Sciences' band expressed a 'great interest' in this type of professional development.

Table 41 Cross tabulation between academic discipline (grouped in 3 bands) and access to research findings on teaching and learning in my discipline as an area of interest for PD

			Q18.2 Access to research findings on teaching and learning in my discipline				
			Neutral	No interest	Little	Moderate	Great
Academic discipline	Social Sciences and Humanities	Count	16	14	11	94	152
		% of Row	5.6	4.9	3.8%	32.8	53
		% of Total	2.6	2.3	1.8%	15.1	24.4
	Science and Technology	Count	28	7	12	111	87
		% of Row	11.4	2.9	4.9%	45.3	35.5
		% of Total	4.5	1.1	1.9%	17.8	14
	Medical and Health Sciences	Count	3	1	5	31	50
		% of Row	3.3	1.1	5.6%	34.4	55.6
		% of Total	.5	.2	.8%	5	8

To note, a Kruskal-Wallis test indicated that disciplinary area was a factor in expressed interest to professional development on access to research findings on teaching and learning in respondents' own discipline: χ^2 (2, n=575) =11.312, p=.003. Nevertheless, it was not possible to say where the difference lie and further analyses are needed. Moreover, the there also was a statistically significant difference in respondents' views in regard to professional development on access to research findings on teaching and learning in general: χ^2 (2, n=531) =12.018, p=.002.

Reflecting on the results presented in Table 3 (see Appendix) it can be highlighted that, the least interest however, was expressed in regard to postgraduate qualification in teaching and learning. The most marked differences in the respondents' views were observed in response to statement about the access to research findings on teaching and learning in general with the respondents from 'Science and Technology'

indicating least interest (according to the percentages of respondents selecting 'moderate' and 'great interest' response option).

Personal professional development and leadership

The distribution of responses to questionnaire statements in section 'Personal professional development and leadership' were analysed and presented below. Reflecting on the distribution of the responses in Table 3 in Appendix it can be highlighted that the least interest from the respondents in three disciplinary areas was expressed in professional development on legal issues around teaching (health and safety, equality, etc.). This was particularly evident for the respondents in 'Social Sciences and Humanities'. In turn, the greatest interest was expressed in professional development on training on accessibility for learners with various disabilities by the respondents from 'Medical and Health Sciences'. A Kruskal-Wallis test established a statistically significant difference in the views of respondents from three disciplinary areas in regard to expressed interest in training on accessibility for learners with various disabilities: χ^2 (2, n=494) =11.596, p=.003. Table 42 below presents a cross tabulation between primary academic discipline and expressed interest for professional development of this type.

Table 42 Cross tabulation between academic discipline (grouped in 3 bands) and training on accessibility for learners with various disabilities as an area of interest for PD

			Q19.4 Training on accessibility for learners with various disabilities				
			Neutral	No interest	Little	Moderate	Great
Academic discipline	Social Sciences and Humanities	Count	55	23	28	106	77
		% of Row	*19*	*8*	*9.7*	*36.7*	*26.6*
		% of Total	*8.8*	*3.7*	*4.5*	*17*	*12.3*
	Science and Technology	Count	62	20	26	107	30
		% of Row	*25.3*	*8.2*	*10.6*	*43.7*	*12.2*
		% of Total	*9.9*	*3.2*	*4.2*	*17.1*	*4.8*
	Medical and Health Sciences	Count	14	6	6	39	26
		% of Row	*15.4*	*6.6*	*6.6*	*42.9*	*28.6*
		% of Total	*2.2*	*1*	*1*	*6.2*	*4.2*

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1.5.4 Level of engagement with professional development

The following section discusses the results of the survey analysis in regard to the highest and lowest ranking areas of interest for professional development of the lecturing staff across eight higher education institutions in the Dublin region. Importantly, the data in this section was additionally analysed with regard to respondents' level of engagement with professional development. For the purposes of the analysis the level of engagement with professional development was defined within three bands – 'Participate regularly', 'Participate occasionally' and 'I do not participate' (Table 43).

Table 43 Level of engagement with professional development

	N	%
Participate regularly	176	26.7
Participate occasionally	324	49.2
I do not participate	159	24.1
Total	659	100

('Participate occasionally' also includes those respondents who participate only in sessions relevant specifically to their academic discipline)

In relation to the level of engagement with professional development, Table 43 indicates that the majority of respondents (49.2%) are clustered in category 'Participate occasionally', with a smaller proportion - in 'Participate regularly' (26.7%) band. As can also be seen a smaller proportion of the respondents 24.1% associated their level of engagement with the category 'I do not participate'. The distributions of the responses for the three bands were calculated and ranked according to the frequencies of responses falling into categories 'moderate' and 'great interest' with the results for the first ten items presented below in Table 44 (please refer to Table 4 in Appendix for the rankings of all areas of professional development for the three bands of respondents).

Table 44 Areas of highest interest for professional development (responses to Q14-Q19 for categories 'moderate' and 'great interest') for level of engagement with professional development (first ten items)

Response indicated	Participate regularly		Participate occasionally		I do not participate	
	Respond (%)	Rank	Respond (%)	Rank	Respond (%)	Rank
Access to research findings on teaching and learning in my discipline	95.2	**1**	84.7	**1**	71.5	**2**
Innovative delivery methods	94.1	**2**	82.5	**2**	77.3	**1**
Alternative assessment methods	91.7	**3**	80.5	**3**	64	**9**
Peer exchange on good practice	91.2	**4**	77.3	**5**	67.6	**4**
Access to research findings on teaching and learning in general	90.1	**5**	71.7	**9**	56.8	**13**
Connecting with others within my own discipline	90	**6**	76.6	**=6**	64.2	**8**
Methods of obtaining useful feedback from students	89.3	**7**	78.2	**4**	71.3	**3**
Use of new technology	87.1	**8**	76.6	**=6**	65.6	**6**
Integrating research into undergraduate curriculum	85.9	**9**	71.2	**10**	64.3	**7**
Inquiry and problem based learning	84.3	**10**	74.8	**8**	66.6	**5**
Peer feedback on my teaching	81.8	**12**	60.9	**14**	63.9	**10**

Reflecting on the results presented in Table 44 a few remarks can be made about the findings. The first two positions for the ten items are occupied by the same professional activities on access to research findings on teaching and learning in respondents own discipline and innovative delivery methods. When grouped according to their level of engagement with professional development, the survey respondents appear to value more professional development associated with 'Scholarship and research', 'Delivery and Practice' and 'Peer to peer opportunities'.

The greatest differences in the ranking of items between three groups of respondents occurred in alternative assessment methods and access to research findings on teaching and learning in general. Interestingly, those respondents who defined themselves as participating regularly in professional development expressed a considerably higher interest in planning and design and peer to peer opportunities. As

can be seen from Table 44, over 90% of respondents from 'Participate regularly' band selected 'moderate' or 'great interest' category in response to the first six statements.

Furthermore, comparing proportions of the respondents across the three groups who opted for 'moderate' or 'great interest' categories, we can highlight that those who participate regularly in general seem to express more interest in various professional development activities. And in turn, those who do not participate express less interest across all questionnaire statements.

Planning and design

The questionnaire statements Q14.1 – Q15.4 explored respondents' interest for the professional development which can be loosely grouped around activities on 'Planning and design'. The results on the distribution of the responses from three groups of the level of engagement in professional development can be compared in Table 4 in Appendix.

As can be seen from the table, the most marked differences appeared in response to all four statements. Unsurprisingly, those respondents who agreed with participating in professional development regularly expressed considerably higher interest in professional development, than those respondents who do not participate. A Kruskal-Wallis test revealed that the level of engagement with professional development was a factor in the expressed interest for professional development on all four statement in 'Planning and design': i) Q14.1: χ^2 (2, n=552) =27.355, p=.000, ii) Q14.2: χ^2 (2, n=496) =26.346, p=.000, iii) Q14.3: χ^2 (2, n=545) =54.172, p=.000 and, iv) Q14.4: χ^2 (2, n=555) =18.262, p=.000.

Delivery and practice

 According to the percentages of responses falling into 'moderate' or 'great interest', it can be highlighted that the survey respondents regarded professional development on innovative delivery methods as most important in section 'Delivery and practice'. In turn, managing teaching in a laboratory recorded the least interest across all levels of engagement in professional development. The greatest differences in responses

seem to lie in responses to the statements on alternative assessment methods and small group teaching methods. Although, a Kruskal-Wallis test established statistically significant difference in the responses across three groups for all statements in section 'Delivery and practice', there was no significant difference in responses to the statement on managing teaching in a laboratory.

Feedback on teaching

Professional development on methods of obtaining useful feedback from students recorded some interest from respondents in 'Feedback on teaching' section of the questionnaire. Table 45 below presents a cross tabulation between the level of engagement in professional development and the extent of expressed interest on methods of feedback.

Table 45 Cross tabulation between participation in professional development (PD) and methods of obtaining useful feedback from students as an area of interest for PD

Q16.1 Methods of obtaining useful feedback from students			Neutral	No interest	Little	Moderate	Great
Level of engagement with PD	Participate regularly	Count	15	2	1	50	100
		% of Row	8.9	1.2	.6	29.8	59.5
		% of Total	2.4	.3	.2	7.9	15.9
	Participate occasionally	Count	26	18	24	140	104
		% of Row	8.3	5.8	7.7	44.9	33.3
		% of Total	4.1	2.9	3.8	22.2	16.5
	I do not participate	Count	25	11	7	68	39
		% of Row	16.7	7.3	4.7	45.3	26
		% of Total	4	1.7	1.1	10.8	6.2

As can be seen from the table, there is a positive skew of responses towards the upper end of the scale. Additionally, a slightly higher proportion of respondents from 'Participate regularly' band opted for 'moderate' and 'great interest' category, than respondents in other two bands. A Kruskal-Wallis test revealed that the level of engagement was a factor in how respondents answered to the statement: χ^2 (2, n=564) =48.358, p=.000. Also, the level of engagement with professional development

appeared to be a factor in the response to the statement on expert assistance on interpreting students' feedback. A Kruskal-Wallis test established that there was a statistically significant difference in the responses across the three groups: χ^2 (2, n=564) =48.358, p=.000

Peer to peer opportunities

In 'Peer to peer opportunities' section survey respondents expressed the greatest interest for professional development on peer exchange on good practice, followed by connecting with other within respondents own discipline and peer feedback on teaching. Table 4 in Appendix presents the percentages of responses across the three groups. Again, the survey respondents from 'Participate regularly' band expressed the greatest interest in professional development on 'Peer to peer opportunities', while the respondents from 'I do not participate' category expressed the least interest. Again, a Kruskal-Wallis test recorded significant differences in the responses on all four statements in the professional development on collaboration with colleagues.

Scholarship and research

The most marked differences across the three groups in their responses to statements in 'Scholarship and research' section appeared towards professional development on access to research findings on teaching and learning in general, access to research findings within respondents own discipline and fellowship opportunities. Importantly, when ranked according to the level of engagement with professional development, activities around access on teaching and learning in respondents own discipline seem to record the greatest interest across all 25 statements on professional development (Q14-Q19). Additionally, a Kruskal-Wallis test established that the level of engagement in professional development appear to be a factor in how respondents answered the statements on 'Scholarship and research'.

Personal professional development and leadership

In the section 'Personal professional development and leadership' professional development on training on accessibility for learners with various disabilities recorded the highest interest among the respondents from three groups. In turn, professional development on legal issues around teaching was not considered as very important. This was particularly true for the respondents from 'I do not participate' band. Also, activities around preparation of teaching portfolio appear to be the most interesting to the respondents from 'I do not participate' band. Just over 50% of respondents in this groups selected 'moderate' or 'great interest' response option. The statement on preparation of teaching portfolio was ranked the fourteenth in the descending order of priority of expressed interest for professional development.

1.6 Summary

The section above provided a descriptive overview of survey results in relation to the highest and lowest ranking areas of interest for professional development which could be provided by DCAD in the future. The following areas were discussed: planning and design, delivery and practice, feedback on teaching, peer to peer opportunities, scholarship and research and personal and professional development and leadership. The discussion stated with the description of the characteristics of the respondents. Then some insight was provided into the highest and lowest ranking areas of interest for professional development which could be provided by the DCAD. For comparative purposes the views of respondents from universities and Institutes of Technology were compared. The data was additionally analysed with regard to respondents' level of seniority in the institutions, primary academic discipline and the level of engagement with professional development.

- In regard to the results on the highest and lowest ranking of the area for professional development the following points can be highlighted:

1) Professional development around innovative delivery methods and access to research findings on teaching and learning in my discipline are at the top of the list.

2) Professional development activities around microteaching to a peer group and managing teaching in a laboratory recorded least interest.

3) The results were indicative of the three broad areas of interest for professional development activities: 'organisational side of lecturing', 'teaching side of lecturing' and 'administrational side of lecturing'.

- In regard to the results on the highest and lowest ranking of the area for professional development across universities and Institutes of Technology the following points can be highlighted:

1) The respondents from universities primarily expressed the highest interest for innovative delivery methods, access to research findings on teaching and learning in my discipline, alternative assessment methods and methods of obtaining useful feedback from students.

2) The greatest differences in interest occurred in alternative assessment methods and connecting with others within respondents' own discipline.

3) In regard to the percentages of responses for each individual statement, the respondents from four IoTs seem to express greater interest for all areas of professional development.

4) Respondents from both groups expressed particular interest for professional development in the areas of 'Delivery and practice', 'Peer to peer opportunities' and 'Scholarship and research'.

- In regard to the results on the highest and lowest ranking of the area for professional development across posts of responsibility occupied by the respondents the following points can be highlighted:

1) Professional development on innovative delivery methods, access to research findings on teaching and learning in respondents' own discipline and peer exchange on good practice are important for the three groups of respondents: 'Professor, Associate Professor and Senior lecturer', 'Lecturer and Junior/Associate lecture' and 'Researcher'.

2) Fellowship opportunities are given considerable interest from the respondents in 'Researcher' band. This item was ranked the 3rd in the descending order of the extent of interest for 25 professional development activities listed.

3) The respondents in 'Lecturer, Junior/ Associate lecturer' and 'Researcher' categories seem to express greater interest in professional development activities in general than the respondents in 'Prof., Associate Prof., and Senior lecturer' band

(according to the proportion of responses falling into 'moderate' and 'great interest' response options).

- In regard to the results on the highest and lowest ranking of the area for professional development across three disciplinary areas the following points can be highlighted:

1) Professional development activities around innovative delivery methods and access to research findings on teaching and learning in respondents' discipline seem to be very important to the respondents from three disciplinary areas: 'Social Sciences and Humanities', 'Science and Technology' and 'Medical and Health Sciences'.

2) Professional development on methods of obtaining useful feedback from students is the first item in the list of descending order of priority for the respondents in 'Science and Technology' area.

3) In turn, peer exchange on good practice is less important for the respondents in 'Medical and Health Sciences'.

4) Peer collaboration and communication appears to be of more interest for the respondents from 'Social Sciences and Humanities'.

- In regard to the results on the highest and lowest ranking of the area for professional development across the level of engagement with professional development the following points can be highlighted:

1) The survey respondents appear to value more professional development associated with 'Scholarship and research', 'Delivery and Practice' and 'Peer to peer opportunities'.

2) The greatest differences in the ranking of items between three groups of respondents occurred in alternative assessment methods and access to research findings on teaching and learning in general

3) Professional activities on access to research findings on teaching and learning in respondents own discipline and innovative delivery methods are at the are at the top of the list.

4) Respondents from 'Participate regularly' expressed a considerably higher interest in planning and design and peer to peer opportunities.

5) Comparing proportions of the respondents across the three groups who opted for 'moderate' or 'great interest' categories, we can highlight that those who participate

regularly in general seem to express more interest in various professional development activities. And in turn, those who do not participate express less interest across all questionnaire statements.

Appendix

Table 1 Areas of highest interest for professional development (responses to Q14-Q19 for categories 'moderate' and 'great interest') for the respondents grouped by two groups of institutions (universities/IoTs)

Response indicated	Universities		IoTs	
	Respond (%)	Rank	Respond (%)	Rank
Curriculum design	65.4%	**13**	75.2%	**12**
Writing learning outcomes	41.3%	**22**	64.7%	**18**
Aligning assessment and learning outcomes	60.6%	**15**	76.9%	**11**
Integrating research into undergraduate curriculum	71.1%	**9**	80.9%	**10**
Innovative delivery methods	82.5%	**1**	88.7%	**3**
Inquiry and problem based learning	72.1%	**8**	84.2%	**7**
Alternative assessment methods	77.2%	**3**	86.9%	**6**
Small group teaching methods	61.3%	**14**	67.8%	**15**
Large group teaching methods	68.1%	**11**	71.5%	**13**
Use of new technology	74.5%	**6**	83%	**8**
Managing teaching in a laboratory	29.2%	**25**	56.6%	**21**
Methods of obtaining useful feedback from students	76.5%	**4**	87.5%	**=4**
Expert assistance on interpreting student feedback	59.8%	**17**	63.5%	**19**
Peer feedback on my teaching	66.6%	**12**	69.1%	**14**
Microteaching to a peer group	35.9%	**24**	48.6%	**24**
Peer exchange on good practice	74.9%	**5**	87.5%	**=4**
Connecting with others within my own discipline	72.5%	**7**	89.2%	**2**
Access to research findings on teaching and learning in general	70.1%	**10**	81%	**9**
Access to research findings on teaching and learning in my discipline	81.9%	**2**	90.9%	**1**
Postgraduate qualification in teaching and learning	44.5%	**20**	55.4%	**22**
Fellowship opportunities	55.9%	**19**	65.9%	**17**
Preparation of teaching portfolio	60.3%	**16**	61.3%	**20**
Administrative requirements around teaching	42.9%	**21**	51.4%	**23**
Legal issues around teaching (health and safety, equality, etc.)	39.7%	**23**	47.5%	**25**
Training on accessibility for learners with various disabilities	58.9%	**18**	66.6%	**16**

Table 2 Areas of highest interest for professional development (responses to Q14-Q19 for categories 'moderate' and 'great interest') for the respondents grouped by the level of current position

Response indicated	Prof, Assoc.Prof., Senior Lecturer		Lecturer, Junior/ Assoc. lecturer		Researcher	
	Respond (%)	Rank	Respond (%)	Rank	Respond (%)	Rank
Curriculum design	60.6%	13	71%	12	76.9%	=9
Writing learning outcomes	39.8%	20	52.1%	20	51.3%	=23
Aligning assessment and learning outcomes	57.3%	14	66.5%	14	74.4%	=12
Integrating research into undergraduate curriculum	69.8%	9	74.9%	9	82%	5
Innovative delivery methods	79.5%	2	84.8%	1	92.4%	1
Inquiry and problem based learning	71%	7	75.4%	8	87.2%	2
Alternative assessment methods	77.4%	4	81%	=3	69.2%	=16
Small group teaching methods	54%	16	65.9%	15	69.2%	=16
Large group teaching methods	60.9%	12	71.7%	11	81.6%	6
Use of new technology	68%	10	79.6%	5	82.1%	4
Managing teaching in a laboratory	33.4%	21	36.3%	25	51.3%	=23
Methods of obtaining useful feedback from students	76.8%	5	81%	=3	77.8%	8
Expert assistance on interpreting student feedback	55.4%	15	62.7%	19	63.2%	19
Peer feedback on my teaching	66.3%	11	67.3%	13	74.4%	=12
Microteaching to a peer group	30.5%	25	41.5%	24	51.3%	=23
Peer exchange on good practice	79.4%	3	78.2%	7	76.9%	=9
Connecting with others within my own discipline	73.7%	6	78.8%	6	74.3%	14
Access to research findings on teaching and learning in general	69.9%	8	73.7%	10	71.8%	15
Access to research findings on teaching and learning in my discipline	83.7%	1	84.7%	2	79.5%	7
Postgraduate qualification in teaching and learning	31.6%	23	51.5%	21	69.2%	=16
Fellowship opportunities	44.4%	19	63%	18	83.8%	3
Preparation of teaching portfolio	46.7%	18	63.8%	17	76.9%	=9
Administrative requirements around teaching	32.1%	22	48.8%	22	61.5%	=20
Legal issues around teaching (health and safety, equality, etc.)	31.5%	24	44.8%	23	53.8%	22
Training on accessibility for learners with various disabilities	51.6%	17	65%	16	61.5%	=20

Table 3 Areas of highest interest for professional development (responses to Q14-Q19 for categories 'moderate' and 'great interest') for the respondents grouped by primary academic discipline

Response indicated	Social Sciences and Humanities		Science and Technology		Medical and Health Sciences	
	Respond (%)	Rank	Respond (%)	Rank	Respond (%)	Rank
Curriculum design	64.7%	**14**	71.8%	**10**	74.4%	**13**
Writing learning outcomes	43.4%	**21**	53.1%	**20**	54.5%	**20**
Aligning assessment and learning outcomes	60.7%	**17**	68.3%	**12**	76.7%	**12**
Integrating research into undergraduate curriculum	69.8%	**10**	75.7%	**7**	84.4%	**7**
Innovative delivery methods	83.2%	**2**	83.3%	**2**	92.3%	**1**
Inquiry and problem based learning	72.2%	**9**	78.9%	**4**	80%	**10**
Alternative assessment methods	80.8%	**4**	76.2%	**5**	88.9%	**3**
Small group teaching methods	66.8%	**12**	59.4%	**17**	65.6%	**18**
Large group teaching methods	69.3%	**11**	69%	**11**	70.8%	**16**
Use of new technology	75.8%	**6**	74.8%	**8**	87.9%	**5**
Managing teaching in a laboratory	17.9%	**25**	54.9%	**19**	44.3%	**=24**
Methods of obtaining useful feedback from students	73.4%	**8**	84.3%	**1**	88.7%	**4**
Expert assistance on interpreting student feedback	55.3%	**19**	61.1%	**16**	80.7%	**9**
Peer feedback on my teaching	65.3%	**13**	67.4%	**13**	73.3%	**14**
Microteaching to a peer group	39.1%	**24**	39.3%	**25**	44.3%	**=24**
Peer exchange on good practice	81.2%	**3**	75.9%	**6**	78.6%	**11**
Connecting with others within my own discipline	79.4%	**5**	73.8%	**9**	83.3%	**8**
Access to research findings on teaching and learning in general	74.2%	**7**	66.7%	**14**	85.8%	**6**
Access to research findings on teaching and learning in my discipline	85.8%	**1**	80.8%	**3**	90%	**2**
Postgraduate qualification in teaching and learning	47%	**20**	50.2%	**22**	44.9%	**23**
Fellowship opportunities	63.9%	**15**	51.9%	**21**	62.7%	**19**
Preparation of teaching portfolio	58.2%	**18**	61.5%	**15**	67.1%	**17**
Administrative requirements around teaching	43%	**22**	46%	**23**	52.8%	**21**
Legal issues around teaching (health and safety, equality, etc.)	41.2%	**23**	41.4%	**24**	47.3%	**22**
Training on accessibility for learners with various disabilities	63.3%	**16**	55.9%	**18**	71.5%	**15**

Table 4 Areas of highest interest for professional development (responses to Q14-Q19 for categories 'moderate' and 'great interest') for the respondents grouped by the level of engagement with professional development

Response indicated	Participate regularly		Participate occasionally		I do not participate	
	Respond (%)	Rank	Respond (%)	Rank	Respond (%)	Rank
Curriculum design	82.4%	**11**	68.1%	**11**	52.7%	**17**
Writing learning outcomes	61.2%	**=20**	47.3%	**20**	35.6%	**22**
Aligning assessment and learning outcomes	79.5%	**14**	63.4%	**13**	53.3%	**16**
Integrating research into undergraduate curriculum	85.9%	**9**	71.2%	**10**	64.3%	**7**
Innovative delivery methods	94.1%	**2**	82.5%	**2**	77.3%	**1**
Inquiry and problem based learning	84.3%	**10**	74.8%	**8**	66.6%	**5**
Alternative assessment methods	91.7%	**3**	80.5%	**3**	64%	**9**
Small group teaching methods	75.7%	**16**	57.7%	**=18**	60.8%	**12**
Large group teaching methods	80.5%	**13**	66.6%	**12**	61.3%	**11**
Use of new technology	87.1%	**8**	76.6%	**=6**	65.6%	**6**
Managing teaching in a laboratory	37.9%	**25**	38%	**24**	32%	**25**
Methods of obtaining useful feedback from students	89.3%	**7**	78.2%	**4**	71.3%	**3**
Expert assistance on interpreting student feedback	77.8%	**15**	58.2%	**16**	48.3%	**18**
Peer feedback on my teaching	81.8%	**12**	60.9%	**14**	63.9%	**10**
Microteaching to a peer group	56.2%	**23**	34.3%	**25**	32.2%	**24**
Peer exchange on good practice	91.2%	**4**	77.3%	**5**	67.6%	**4**
Connecting with others within my own discipline	90%	**6**	76.6%	**=6**	64.2%	**8**
Access to research findings on teaching and learning in general	90.1%	**5**	71.7%	**9**	56.8%	**13**
Access to research findings on teaching and learning in my discipline	95.2%	**1**	84.7%	**1**	71.5%	**2**
Postgraduate qualification in teaching and learning	61.2%	**=20**	43.9%	**21**	39.7%	**20**
Fellowship opportunities	71.2%	**18**	57.7%	**=18**	46.7%	**19**
Preparation of teaching portfolio	70.6%	**19**	57.9%	**17**	53.9%	**14**
Administrative requirements around teaching	60%	**22**	42.1%	**22**	36.8%	**21**
Legal issues around teaching (health and safety, equality, etc.)	52.1%	**24**	40.5%	**23**	34.9%	**23**
Training on accessibility for learners with various disabilities	73.1%	**17**	58.6%	**15**	53.6%	**15**