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## **Impact of Courses for University Teachers**

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Research undertaken into the Postgraduate Certificate in Teaching and Learning in Higher Education (PgC TLHE) at Napier University, Edinburgh is producing surprising results that appear to challenge some accepted thoughts on the impact of such courses. In this research project we compare the teaching, learning and assessment strategies of members of staff who have successfully completed the PgC TLHE and those who have not undertaken it. The research prompts questions about both the philosophies and aims of such programmes, within institutional and wider contexts, and how we can or should go about measuring or evaluating the impact of such programmes. The importance, and the potential danger, of exploring impact in the current higher education policy context is also considered.

In part one of this paper we will outline the research undertaken at Napier University and consider some preliminary findings suggesting both similarities and differences between staff who have undertaken the PgC TLHE and those who have not. Then, in part two, we will consider three alternative scenarios of what impact the PgC TLHE may be having, and discuss the implications of these for educational developers and their practice, and the nature of academic skill. Crucially linked to these questions, we will consider how one can, or should, go about research into the impact of such programmes for promoting better practice in the field of teaching and learning.

### **Part 1 – Research into Napier University’s PgC in Teaching and Learning in Higher Education**

#### Background – Napier’s PgC TLHE

The Napier University Postgraduate Certificate in Teaching and Learning in Higher Education has been running since 1992. It is a flexible learning course combined with the same nominated tutor for each student throughout the four modules. The tutor is based within, or linked to Educational Development (EdDev). Participants also have a mentor, usually from within their own school to provide subject-specific advice and guidance.

This is a work-based, highly individualised programme. Tasks and assignments are practical and practice-based, the character of each is negotiated with the tutor to ensure maximum relevance to each individual participant’s work context. In addition, the fourth module is comprised largely of an Independent Professional Study, usually a unique and individualised piece of research relevant to the participant’s practice. Underlying this practical, work-based character, the programme is designed to assist participants to embed the professional values and principles of the Staff and Educational Development

Association (SEDA). Thus it has Masters level theory and challenge plus two further critical dimensions – practical/work-based and professional value-based – both achieved through an individualised programme.

Napier University has a probationary system for all new academic staff. Since these probationary arrangements were introduced in 2001/2 it has been essentially mandatory for less experienced, new staff to undertake the PgC TLHE. The programme, however, has retained the philosophy and character of the pre-mandatory context, and still attracts participants for whom it is not mandatory. Approximately 50% of participants on the programme are internal Napier staff, the other 50% come mainly from other higher education institutions and the health sector. This research has focused solely on the impact of the PgC TLHE for Napier staff.

### Research into the PgC TLHE

A combination of questionnaires and taped interviews was used to obtain information from lecturers on their learning, teaching and assessment attitudes and strategies. Cohorts of four PgC (P) and four non-PgC lecturers (NP) were drawn from each of the four faculties within Napier. No criteria other than experience of the PgC TLHE were considered in identifying cohort members, except an attempt to ensure some gender balance.

Interviewees were selected from four schools, Life Sciences, Computing, Business and Psychology and Sociology. These represent the four faculties at Napier University – Health and Life Sciences, Engineering and Computing, the Napier University Business School and Arts and Social Science

The profile of these cohorts, despite the random selection, does differ. The NP have an older average age of 52 years over a range from 39 years to 60 years compared to the P average age of 39 years over a range from 33 to 50 years. The difference in average teaching experience is even more marked: 21.5 years for the NP cohort (over a range from 6.5 to 32 years) and 6 years for the P cohort (over a range from 1 to 15 years). Average weekly teaching hours were consistent across both cohorts: 9.6 hours for the P and 10 hours for the NP. There were also more males in the NP cohort, possibly reflecting the larger population from which this cohort was drawn.

A questionnaire was designed with a mixture of illuminative and scientific content with the purpose of gathering both quantitative and qualitative information from lecturers about their views on teacher and student roles, the methods and materials they use for teaching, assessment strategies and on-going professional development. The questionnaire was followed-up by one-to-one semi-structured interviews that sought to clarify and explore further the responses given.

Statistical representation of the qualitative data poses certain challenges.

Categorisation of the qualitative data must be in fairly broad categories to allow for any meaningful data size, but this needs to be balanced against losing the meaning of individual responses within such broad groupings. Inter-rater reliability testing of the categories has been employed to ensure their validity.

The results within this paper provide a flavour of the preliminary results to date. A more comprehensive report of all results will follow.

## Impact – Comparison of P and NP Cohorts

The picture which first emerged from preliminary analysis of the large amount of qualitative and quantitative data provided by the questionnaires and interviews was striking. There appeared to be no stark difference between the two cohorts. The teaching strategies and styles revealed by both groups included many aspects of accepted good practice such as a student focus, use of a variety of teaching methods and provision of a variety of learning opportunities. Attitudes to the purpose of assessment and the range of assessment techniques used were also less contrasted than expected.

Closer analysis of the data, however, has revealed a more complex, indeed challenging, picture. There is strong evidence that the PgC TLHE does have an impact, but the nature of this impact is multi-faceted and rests on indicative subtleties, the nature of which require careful analysis.

In this section, we will look firstly at the similarities between the two cohorts, and then attempt to tease out the differences between them as we start to consider what impact the PgC TLHE may be having.

The similarities between the two cohorts are most evident, from the analysis so far, in the time they spend on various teaching methods and in the student-centred nature of their approaches to teaching, learning and assessment.

Figure 1 below represents the responses to a question on the relative amount of time the respondents spent teaching using various methods (which were listed for them).

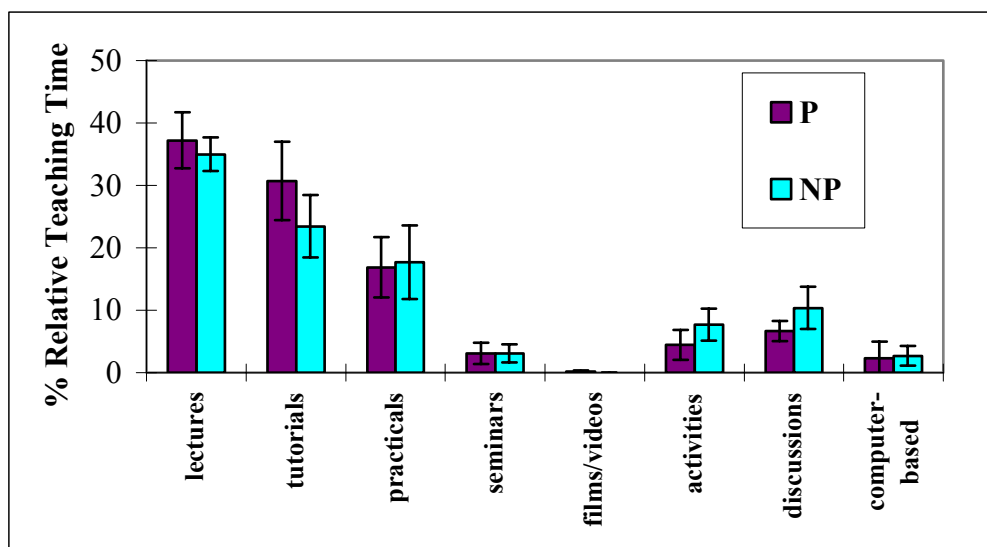


Figure 1 – Relative teaching time using different methods

The differences between P and NP on relative time spent on different methods are statistically insignificant, as shown by the overlapping Y error bars.

Identifying the level of student focus of participants is a less clear process. No direct question was asked about this, nor is it considered than any such direct question would

have been appropriate or useful. Instead, we have interpreted a sense of student focus from responses to questions such as the role of the teacher, and how student interest is encouraged during classes. Student focus has, however, also been clear from the interview transcripts. Here is an extract from a P and a NP:

I think that the ideal role of the student currently should be to go on a journey of exploration and study with a tutor. (P)

The key job of university teachers is to take them through that transition, to encourage them when their confidence is low and then put them into an environment where they are learning deeply. (NP)

When asked about their own role as teacher, both cohorts gave a high proportion of responses such as: to encourage and inspire, to act as guide, mentor or role model, to support students and to perform a developmental role. We argue that this suggests a good level of student focus in both cohorts. It may reflect the character of the institution which has a stated commitment to a learner focus in its Learning, Teaching and Assessment Strategy. We shall explore other possible explanations in the next section.

The student focus of both cohorts is also suggested in their responses to the question, 'How do you encourage student involvement and attention during lessons?' It was an open question, with no specification of lesson type or possible answers. Some respondents separated their answers into lectures/large classes and tutorials/small classes but all responses have been grouped in the analysis here (sample sizes would be too small if we attempted to distil that finer detail). Results are outlined in figure 2 below.

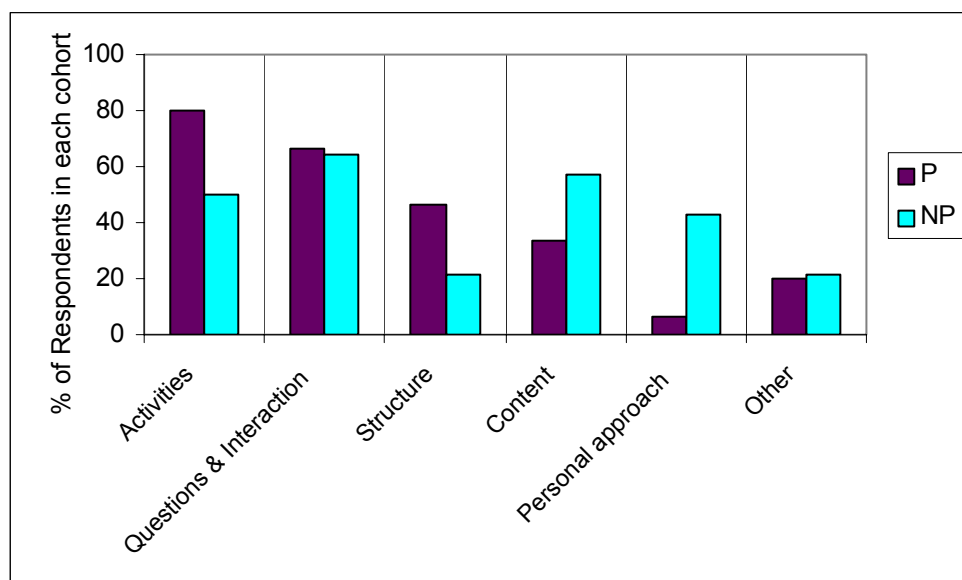


Figure 2 – Ways of encouraging student involvement and attention –P and NP cohorts

Again both cohorts demonstrate a good level of student focus and use of various interactive techniques: we are certainly not finding a clear distinction between interactive, student focused approaches and old-fashioned, passive lecturing or the like.

Responses to this question, however, also help us to start to tease out the differences between the two cohorts.

While P and NP have a similar use of questions and interaction, the P cohort specifies a greater use of activities (eg problem solving, group discussion sessions, set tasks) than the NPs. Ps also use the structure of the lesson (eg breaks, changing the pace, variety of elements) to encourage student involvement and attention more than twice as much as NPs. Conversely the NP cohort use content (eg interesting subject matter, stories, anecdotes, real examples) more than Ps. The NP use of personal approach (eg humour, enthusiasm) is strikingly greater than that of the Ps.

The differences between Ps and NPs revealed by these results are interesting and will require further analysis of the interview data. The greater use of structure to encourage student involvement and attention by Ps could be due to the PgC TLHE and is certainly consistent with concepts and approaches that PgC participants would cover. It may be that the methods that NPs use more are those where experience plays a greater part, for example the confidence to use humour to gain attention may not be something that can be taught on even the best PgC but may develop over time. Similarly having a large body of content to draw upon and the confidence to range freely through it, may come more with experience? Certainly the profile of respondents who gave conscious use of content as a method to engage interest shows a high proportion of those with above average years' teaching experience.

We noted above, that in discussing their role as teacher many participants appeared to conceptualise their role in terms of a student focus. But there was also variation between the two cohorts. NPs were slightly more inclined to respond that their role is to 'provide information'. Ps, by contrast, responded much more frequently with roles such as to enable the use of information, to facilitate or enable independent learning or to create a learning environment. In this way the P cohort appears to reflect a broader form of student focus, the impact of which influences the way they structure their teaching role, so as to facilitate or create the environment for students' learning .

It may also be, however, that the P cohort has, due to the PgC TLHE, a different language in which to express their role, with ideas of facilitation being stressed within the course content. Having done the PgC TLHE it could be argued they will be more used to explicitly discussing their own role. Further analysis of the interview transcripts will allow for further insight into whether this marked difference is partially a linguistic artefact or one of attitude. If the latter it may be that in reflecting upon and conceptualising their role, as participants on the PgC TLHE are required to do, they establish a basis for changing that role.

Another unexpected difference is that the NP cohort has a higher proportion of respondents who link the role of teacher with researcher. This is a surprising result, particularly as the profile of the P cohort contains more new staff, many of whom are recent postgraduate students and hence recently and still research active. The critical point may come in the belief that research and teaching can or should be linked. The pressures upon staff new to teaching may make this link appear more difficult. The Napier University PgC TLHE does promote scholarship and knowledge of the educational literature, but perhaps does not explicitly demonstrate the curricular and process links with subject-related research as well.

More difference is found if we compare the relative time spent on teaching methods with the respondents' preferred teaching methods. We saw above in Figure 1 the relative amount of teaching time each cohort spent on different teaching methods, and the high degree of similarity between the two cohorts. This showed, for example, that Ps and NPs spend a similar proportion of teaching time on lectures, however, in response to other questions, this teaching method was less preferred by the P cohort. Further while Ps and NPs spent a similar, small proportion of time on other activities (eg participation or problem solving exercises) these were rated very highly by Ps as a preferred teaching method.

It may be that the PgC TLHE encourages use of new and various teaching methods, as described by Ps in questionnaires and interviews, but it may take time for them to be able to introduce their preferred teaching methods into established courses. Further analysis is required to test if the PgC TLHE speeds up or improves the chances over time of Ps aligning their preferred teaching methods with those they use. It will also be necessary to check that these differences in preferred and actual teaching methods are not simply artefacts of length of teaching experience/seniority rather than related to the PgC TLHE.

## **Part 2 – Implications of the research into the PgC TLHE**

### What is the impact of the PgC TLHE?

We propose three scenarios to explain the possible impact of the PgC TLHE and the similarities and differences between the cohorts who have and who have not undertaken it. These scenarios are suggested as a basis for further analysis and expansion of this research. They are neither a comprehensive list nor mutually exclusive.

(1) Does the PgC TLHE get less experienced colleagues to the same point as more experienced colleagues faster? This scenario challenges the notion that for the PgC TLHE to have an impact, we should expect to see clear differences between the two cohorts. It also encompasses the different profiles of the two cohorts, with the NPs having far more teaching experience than Ps.

There is evidence to support this contention within the wider UK sector. The HE Academy awards accredited teacher status on the basis of either an accredited programme such as the PgC TLHE or a portfolio of work based upon experience. It can be argued that it generally takes less time to achieve such accredited status, and the level of proficiency it implies, by undertaking a PgC TLHE or equivalent than by building up the necessary experience to display in a portfolio if working outwith such a structured programme. What the HE Academy recognises formally, we may be witnessing informally in this research within Napier.

(2) Does the mixture of similarities and differences between the cohorts support the thesis that there can be several paths to equally good practice in teaching and learning?

In having these dual routes for accredited teacher status, the HE Academy is showing the equal legitimacy and worth of the two potential routes. One can achieve the proficiency to be an accredited teacher by either experience or by a programme such as the PgC TLHE. So again, in this research, the two cohorts have achieved a similar standard in their level of student focus, for example, but as revealed by the differences in their approaches, they have achieved this in different ways. Both, however, could be equally valid.

A further example of recognition of the potential value of experience is found in initiatives such as Teaching Fellowship Schemes (of which Napier University has one of the most established) which recognise teaching excellence based upon a portfolio of work. As with the HE Academy, experience here is defined not in terms of years, but in terms of achievements, activities, reflection and enhancement of process.

Indicative quotes from both a P and a NP demonstrate the commitment to reflection and enhancement among both cohorts:

I rely quite heavily on informal feedback ... and the method that I use and that I find most useful is very quick feedback after the fourth session of a class which consists with people just writing on bits of paper what they like, what they don't like, what they want to change about the classes. What that gives me is very instant feeling for how the class is doing.... I can quickly see if I am standing in front of the overhead, if there are people at the back who can't hear, if people are just getting completely lost in the material and so on.... I also always give students feedback on their feedback to me the next session.... So I say to students, look you told me last week that you can't hear me at the back, I'm going to speak louder, you told me that my notes were rubbish I'm going to give you new ones, or whatever. But I think that that is a very important closing note, that loop. (P)

Well, I believe in reflective practice, about looking at what you do, trying to think if its worked. And then modifying your behaviour appropriately, with an appropriate time scale, as there's a danger if something works well one year and you do it next year and then it doesn't work so you change it, you have to average things out over a number of years. (NP)

(3) Could the similarities between the two cohorts arise from the influence the Ps have on their school or faculty cultures? Certainly, the PgC TLHE at Napier is not designed as a minimum competence programme, and it actively encourages the development of reflective practice. We would argue that genuinely reflective practice is active and social – bound to have an impact on the culture within which, and colleagues with whom, PgC TLHE participants work.

This explanation would have implications for how universities develop and deliver programmes such as PgC TLHE and for the broader suite of activities undertaken by educational developers. In this case, the potential impact of the PgC TLHE rests as much on factors outwith the programme as on the essential elements of the programme itself. Knight and Trowler (2000) have explored how change can occur at department level and the importance of that department's culture to such change being possible:

We argue that the exhortation to teach better – or to facilitate better learning – will have little impact unless departmental cultures are conducive to better teaching. (Knight & Trowler, 2000: 69)

In particular, Knight and Trowler stress the importance of department leadership to the possibility of change. Hence, if the P cohort were having an impact on their school cultures, and thus the practice of NP colleagues, we would expect Heads of Schools to be creating an appropriate environment for this. Would this also mean that they share the values and principles of the PgC TLHE? How important is this for consonance between leadership and management and teaching and learning development?

Resolution of this dilemma may link to a possible fourth scenario. This, potentially the most intriguing scenario of all, is the idea that what is being revealed is a two-way impact. The similarities between the P and NP cohorts exist because each cohort has influenced the other. This is also the most difficult potential impact to unpick. We have already discussed how the P may be changing their local cultures. The NPs may also be influencing the Ps. Could we be seeing evidence of informal mentoring? In the nature of school-level communities of practice (Wenger, 1998) would we not expect that established colleagues would have some influence over newer colleagues? Also, the PgC TLHE actively encourages learning from more experienced colleagues by helical communication (Duff, 2003) and the integration of a semi-formal mentoring scheme within the programme.

#### How can/should we go about researching impact?

The above scenarios have emerged from the research we have done with Napier University, and part of their purpose is to help guide how we pursue further research, most likely across several institutions.

There are at least two major issues underlying any such research into programmes to enhance teaching and learning. Firstly, how can we go about such research within the real contexts within which we currently work? Secondly, how might the results of such research be used – by ourselves to change our practice and by policy-makers within and outwith our institutions?

Other research into the impact of training for university teachers, such as that undertaken by Graham Gibbs (Gibbs, 2003; Gibbs & Coffey, 2004), has outlined clearer differences between trained and non-trained teachers in higher education than we appear to be finding in this study. In their research Gibbs and Coffey were able to study a cohort of new teaching staff who were undergoing training and a control cohort of, also new staff, who were not. It was an extensive study over 22 institutions and eight countries. They looked at three measures of impact: students' ratings of teachers, the extent teachers described themselves as student or teacher focused and the extent students had deep or surface approaches to learning. They noted over time significant, positive changes in the trained teachers and their students, while the untrained control and their students showed no such changes, and actually some negative effects.

This extensive research is worth considering when we reflect on the preliminary results from this study at Napier University, particularly the issue of the impact of training (postgraduate certificates) over time: not only improving teaching but preventing a



decline in standards. However the scope and approach of Gibbs and Coffey's work is also markedly different from that of this project, hence the disparity in results is not surprising. Most important is the deliberate decision by Gibbs and Coffey not to attempt to measure teachers' abilities to reflect, on-going self-improvement or increases in confidence. It is in the nature of the Napier University PgC TLHE that these are among the very attitudes and attributes this study seeks to explore.

Whereas Gibbs and Coffey (Gibbs & Coffey, 2004) were able to limit the number of variables in their study by looking at only new staff and having a cohort undertaking training and a control receiving no training, we have had to deal with a number of variables. This is unavoidable as the initial aim of this project was to capture a snapshot of what was happening within our own institution. We also believe many other institutions would be in a similar position to Napier in terms of requirements to undertake a PgC TLHE or equivalent, staff age and experience profiles etc, thus the idea of such a control to exclude other variables may not be possible in this type of research into the impact of postgraduate certificates

There are several problems to consider when analysing the data in this project, coming as it does from a comparison of academic staff who have and have not completed a PgC in TLHE within the one institution. Samples sizes are relatively small but this is partly a reflection of the size of the academic population from which the cohorts were drawn. There is also a practical consideration of how many busy colleagues one can realistically expect to give up time for such a study and the financial cost of undertaking a larger project. We believe the sample sizes and analysis undertaken do allow for meaningful results, but these obviously would benefit from a further phase of study, possibly with Napier University, but certainly with collaboration at other institutions (with postgraduate certificates both similar and unlike our own).

Such research may be linked to programme evaluation, however, the two are not the same. Kreber and Brook (2001) suggest a useful model for educational development programme impact evaluation. But no such evaluation can provide information about those who have not undertaken a programme or course. With moves towards making training or accreditation mandatory within institutions and in the wider sector, through initiatives such as the Higher Education Academy Register of Practitioners, we think that research into both cohorts is particularly crucial at this time.

A final problem, however, with research in such an area is that programmes such as the PgC TLHE do not necessarily have easily measurable goals. They rest on a philosophy of highly individualised learning, are learner/participant-driven and involve complex values and principles. These can be both difficult to capture in such research and subtleties easily misunderstood.

## **Conclusions**

In this paper we have sought to present some preliminary findings of research into the impact of the PgC TLHE at Napier University, Edinburgh. We have outlined some of the methodological issues in trying to obtain such data and the research and analysis challenges in interpreting this data. Several further avenues of research are clear and we have plans to develop this research.

There is not a clear and consistent picture of differences between the P and NP cohorts. There has certainly not emerged a picture to show that P staff within this institution are models of good practice, while NP are not. Rather in attitudes and approaches to teaching, learning and assessment a high level of student focus and belief and use of a variety of teaching and learning techniques were apparent in both cohorts.

The results are consistent with the thesis that the impact of the PgC in TLHE may be to enable less experienced staff to develop teaching and learning attitudes and methods more quickly than they would without undertaking the postgraduate certificate. In other words they catch up with the more experienced staff more quickly. A picture is emerging that there may be some methods and approaches that one is more likely to adopt with greater experience and confidence. NPs appear to use such methods more than Ps. There are other methods and approaches which either experience or undertaking the study and reflection entailed in a PgC in TLHE may encourage. P and NP rate these more equally. Finally, some aspects of the language of discussing teaching and learning (using phrases from the literature, current theoretical concepts) may more likely be found among P rather than NP cohorts.

We have suggested that the PgC TLHE may help to 'fast track' participants to a place in their careers more quickly than otherwise, and that the Ps may have an influence on the culture of their schools and attitudes and approaches of other colleagues. Might the Napier University PgC TLHE be having an impact on NPs and on departments, beyond the course participants? Is consonance important? How do we structure and run such postgraduate certificates to have wider influence and not simply be certificates of minimum competence? What influence do other colleagues within the institution have on PgC TLHE participants? How is this relevant to the way in which such programmes are run and the work of educational developers?

The preliminary findings and such questions raise interesting issues about postgraduate certificates in teaching and learning and their use within institutions for probation or evaluation and nationally for accreditation. The introduction of the new UK Higher Education Academy and a potential 'Register of Practitioners' provides an interesting context for this on-going research. The HE Academy list of accredited programmes provides sources for comparative national research. Staff and Educational Development Association and HERDSA lists of accredited programmes may yet prove to be sources for international endeavour.

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As this research is still in progress colleagues may find it useful to contact the first author before citing or reproducing material from this paper.

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An earlier report on this research also appears in the proceedings of the All Ireland Society for Higher Education Inaugural Conference September 2004.

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