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Academic Staff Development:

**A summary of a synthesis of research on the impact of
academic staff development programmes on student
outcomes in undergraduate tertiary study**

Summary Report to the Ministry of Education

Edited by Janet Rivers

RESEARCH DIVISION



Wāhanga Mahi Rangahau

Academic Staff Development

A summary of a synthesis of research on the impact of academic staff development programmes on student outcomes in undergraduate tertiary study

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Overview

Tertiary institutions invest substantially in developing and training their academic staff to improve the quality of their teaching, in the expectation that better teaching will improve student learning.

To provide institutions with a guide to the forms of academic staff development that are likely to be most effective, the Ministry of Education commissioned a systematic review of research on the impact of academic staff development on student outcomes.

The full report from this project is called: *Impact of Student Support Services and Academic Development Programmes on Student Outcomes in Undergraduate Tertiary Study: A Synthesis of the Research* and is available on line at:

<http://www.minedu.govt.nz/goto/UgradStudOutcomesRpt> or in hard copy by request from the Ministry of Education Research Division, research@minedu.govt.nz or PO Box 1666, Wellington.

The review was undertaken by a research team from Massey University College of Education, comprising Tom Prebble, Helen Hargraves, Linda Leach, Kogi Naidoo, Gordon Suddaby and Nick Zepke.

The team examined some of the assumptions underlying academic staff development activities, the major forms of staff development that take place, and the research evidence on how academic staff development affects the performance of teachers and students.

They looked first at the link between teaching and learning by summarising the existing reviews and syntheses on this topic. They then looked at the evidence on the impact of academic staff development programmes on teaching behaviour and beliefs.

The synthesis presents its findings as a series of propositions derived from its analysis of the research.

The review of the research on academic staff development comprises one part of the wider systematic synthesis which also includes a review of research on the impact of student support services on student outcomes in undergraduate tertiary study (summarised separately).

This booklet is a summary of the team's findings on academic staff development. The summary does not include details of individual research studies, which can be obtained from the full report and annotated bibliography.

The propositions

Based on its analysis of the international literature, the review team derived two propositions which encapsulate the key features of the impact of academic staff development programmes on teaching beliefs and practice, namely:

- good teaching has positive effects on student outcomes

- through a variety of academic development interventions, teachers can be assisted to improve the quality of their teaching.

The second proposition, that teachers can be assisted to improve their teaching by means of a variety of interventions, forms the core of the study, and has been further divided into five sub-propositions. These are:

- Short training courses are unlikely to lead to significant change in teaching behaviour. They tend to be most effective when used to disseminate information about institutional policy and practice, or to train staff in discrete skills and techniques.
- The academic work group is generally an effective setting for developing the complex knowledge, attitudes and skills involved in teaching.
- Teachers can be assisted to improve the quality of their teaching through obtaining feedback, advice and support for their teaching from a colleague or academic development consultant.
- Student assessments are among the most reliable and accessible indicators of the effectiveness of teaching. When used appropriately they are likely to lead to significant improvements in the quality of the teaching.
- Teachers' conceptions about the nature of teaching and learning are the most important influences on how they teach. Intensive and comprehensive staff development programmes can be effective in transforming teachers' beliefs about teaching and learning and their teaching practice.

The synthesis

The relationship between what teachers do and what students learn is complex. There are many variables that may affect student outcomes. There is virtually no research on any direct relationship between academic staff development and student learning outcomes. Rather it is an indirect, two-step relationship – academic staff development programmes can improve teaching, and good teaching contributes to good student outcomes (as measured by retention, persistence, and achievement).

Because of this indirect relationship, the Massey University team divided its analysis of the research evidence on the impact of academic staff development into two sections.

In the first, the team summarises the evidence from existing syntheses that look at the links between teaching and learning, and explores how the research has influenced academic staff development. In the second, the team reviews the various approaches to academic staff development and the research evidence for the impact of the different approaches on teacher and student performance.

In all, more than 150 studies were examined. Of these, 33 were empirical studies that are described in an annotated bibliography in the full report.

Much of the research analysed by the team was of limited value in that most of the studies were case studies undertaken by academic developers concerning their own professional practice; there was little standardisation of the variables in the literature; and the wide variation in programmes made it difficult to generalise outcomes to other programmes. Also, many studies fell short of a rigorous standard of proof in that they determined the impact of a course from the opinions of the participants and few actually observed an impact on teaching practice.

The findings

The review of the research literature suggests two principal propositions relating to the relationship between academic staff development and students' learning outcomes: good teaching has positive impacts on student outcomes; and teachers can be assisted to improve the quality of their teaching through a variety of academic interventions. Each proposition is discussed in turn, with the second proposition further subdivided into five sub-propositions.

Good teaching has positive effects on student outcomes

Research on the links between teaching and learning has already been comprehensively reviewed and synthesised, and the evidence is generally positive. The key issue for this synthesis was how the body of research informs the efforts of academic developers to change teachers' beliefs and behaviour.

Academic staff development is still a relatively new focus for higher education. Up until the 1960s, academics were appointed on their academic merits and it was considered they would pick up the skills of teaching their discipline as they taught.

The first academic staff development work involved the induction of newly appointed academics and focused on the technical skills academics required to organise, deliver and assess their courses. Since then, academic developers have drawn on several sources in developing programmes to improve teaching. These include:

- using the research evidence to identify the teaching approaches or attributes that lead to effective learning and then designing programmes to encourage use of those teaching practices
- asking exemplary teachers what they think are the attributes of effective teachers, and designing programmes to encourage the development of these attributes
- basing programmes on what students say about what contributes to effective teaching
- developing integrated conceptual models for their academic staff development programmes. This is a more recent focus and has developed from the greater recognition of the complex interplay of teacher, context, curriculum and student on the teaching and learning process.

Attributes of good teaching

The research shows a broad consensus on what constitutes good teaching, namely that effective teachers are those who:

- are knowledgeable about their subject
- adopt an organised and systematic approach to their teaching
- are enthusiastic and interesting
- respect their students
- have high expectations of their students' performance.

These precepts have informed the work of academic developers since the early days of the profession.

A conceptual model

In recent years, academic developers have also formed a loose-knit framework of concepts to inform their work. The framework is based on four key observations:

- Students go about learning in qualitatively different ways, intending either to make sense of the work (a deep approach) or to reproduce the work (a surface approach).
- Student outcomes are qualitatively different as well as quantitatively different.
- Students vary in their metacognitive approaches and skills but these tend to develop in sophistication over time.
- Teachers vary in their understanding of teaching and learning in qualitatively different ways.

These observations are supported and extended by the findings in an emerging body of research evidence, which can be summarised as:

- Students tend to adopt either a deep or a surface approach to their learning.
- There is a relationship between deep and surface approaches to learning and quality student learning outcomes (i.e. deep approaches to learning tend to lead to higher quality learning outcomes and vice versa).
- There is a relationship between students' awareness of the learning environment they are operating in (course structure, assessment, workload, and suchlike) and their adoption of surface or deep learning strategies (e.g. if they see the workload as too heavy or the assessment tasks as encouraging memorisation, they will adopt surface learning strategies).
- There is a positive relationship between students' perceptions of high quality teaching and their use of a deep approach to learning (i.e. students who perceive they have received high quality teaching are more likely to have used deep learning strategies).

- There is a consonant, coherent relationship between teachers' approaches to teaching and students' approaches to learning.
- Teachers' approaches to teaching are related to their previous experience and conceptions of teaching and learning.
- Teachers can influence students' approach to learning by changing the learning contexts within which students work.
- Changes in teachers' approaches to teaching may require changes in how they experience or conceptualise teaching.

The research also suggests good teaching requires teachers to:

- develop a coherent and well-articulated view of what they are trying to achieve and how they are planning to achieve it
- discover the variations in the way students perceive the planned learning context
- work towards bringing their students into relation with, and understanding of, that articulated view.

Through a variety of academic development interventions, teachers can be assisted to improve the quality of their teaching.

The studies included in the synthesis used the following methods for analysing the findings on the effects of the various academic staff development programmes: teacher attitudes as measured by self-report; teacher knowledge from tests or observation of knowledge; teacher skill from observation; student attitude from self-report; student learning from tests or observer reports.

Academic staff development programmes, and the research that studies them, are divided into five main categories:

- short training courses
- *in situ* training
- consulting, peer assessment and mentoring
- student assessment of teaching
- intensive staff development.

The research evidence on each category is summarised below.

Short training courses

Proposition: Short training courses tend to have limited impact on changing teaching behaviour. They tend to be most effective when used to disseminate information about institutional policy and practice, or to train staff in discrete skills.

Short training courses include workshops, seminars and training programmes which take place outside the participant's normal work context, or where the training does not involve the participant's primary work group.

The research indicates most institutions rely on short withdrawal courses for their major form of academic staff development.

The evidence to support the impact of short courses on teaching practice is weak. There is also a paucity of well-designed studies into the medium- and long-term outcomes of short courses, which suggests they should not be relied on to effect significant and enduring change in teaching practice.

However, such courses are a useful way to introduce new knowledge and skills to large numbers of staff. There is some evidence they may lead to changes in teaching practice, they seem to be well received by participants, and they meet an immediate institutional need at an affordable cost.

In situ training

Proposition: The academic work group is generally an effective setting for developing the complex knowledge, attitudes and skills involved in teaching.

With *in situ* training, academic staff developers work with an entire academic work group and build a development programme on the activities and objectives of that particular group. It involves establishing a culture of professional inquiry and discussion within a work group. Working with a whole academic work unit is considered more effective than withdrawing individual staff members to take part in a short course because:

- a model of academic staff development that challenges academics to focus on their jobs is likely to be more effective if the two are not separated
- academics work within a shared system and culture, and effective change and development is only likely if the entire work group is committed to change
- effective change usually requires the support and commitment of the leadership within the work group.

To avoid having an unstructured, 'learning by doing' approach, a number of models have been developed to shape these work-based professional development activities. They include such things as:

- team or department-based development projects
- action learning approaches where a group of colleagues meet regularly to reflect on their individual work

- critical reflection on teaching practice, where the members of a work unit engage in a critical dialogue about the ends as well as the means of their work
- learning communities where the unit develops the capacity to learn from staff experience
- quality learning circles, and other similar approaches from the corporate world
- transformational models of leadership that recognise the key challenge for leadership is to develop a shared vision of change that pervades the work unit and informs the work of its members.

There are few studies on outcomes for students from these approaches. Because this is a relatively new focus for academic developers the research focuses more on the development of the models than on testing their effectiveness. However, there is some tentative evidence to support academic work groups. Most studies show a high level of satisfaction from participants; a significant change in the attitudes and skills of the participants; and a strong belief on the part of the champions of this approach that it represents a valuable form of academic staff development.

Consulting, peer assessment and mentoring

Proposition: Teachers can be assisted to improve the quality of their teaching through obtaining feedback, advice and support for their teaching from a colleague or academic development consultant.

Consulting, peer assessment and mentoring includes targeted one-to-one support for teachers to help them reflect on their current practice, consider alternative ideas and methods, trial new ways of teaching and then review the results. The three broad types are:

- the professional service model (a consultant provides organisational or technical expertise)
- the counselling model (a consultant assists teachers to articulate and find solutions to their own problems and challenges)
- the collegial model (guidance is provided by a peer).

Often academic staff developers draw on the strengths of all three to inform their work.

There have been few comprehensive studies on the impact of consulting, peer review and mentoring on improved teaching and learning. Nonetheless the research evidence gives moderate support to these methods.

Consultation appears most effective when it assists teachers to interpret and reflect on feedback on their own performance. However, providing academics with information about their teaching may not be sufficient and unsupported feedback does not necessarily lead to improvement in teaching. Targeted feedback on teaching performance is likely to be more effective than the provision of generic advice and training on teaching techniques.

Student assessment of teaching

The proposition: Student assessments are among the most reliable and accessible indicators of the effectiveness of teaching. When used appropriately they are likely to lead to significant improvements in the quality of the teaching and learning.

Student evaluation of teaching (SETs) is the most pervasive and extensively used way of assessing the effectiveness of teaching.

Although there is a lot of research on the validity and reliability of student ratings, the synthesis looked only at studies that link teaching development activities to changes in teaching as measured by student ratings.

The evidence suggests SETs are useful in that they assist in improving teaching, but there is a need for more and better research. One difficulty is that of assigning a global index as a measure of teaching effectiveness and the associated challenge of measuring the many dimensions of teaching. There is a strong move to use multiple evaluative efforts, and to avoid judging teaching or overall performance on the basis of ratings alone.

It is also important to distinguish between summative and formative use of student ratings, with formative use important for the development and improvement of teaching and learning. Feedback needs to be timely, relevant and able to be interpreted by staff if it is to be used as a formative evaluation tool for improving teacher effectiveness.

Intensive staff development

Proposition: Intensive and comprehensive staff development programmes can be effective in transforming teachers' beliefs about teaching and learning and their teaching practice. In particular, teachers can be assisted to shift from a teacher-centred approach to a learner-centred approach, and to align all the elements of the teaching situation in order to achieve positive student outcomes.

While the research draws heavily on the reported experience of participants, there is a gradual accumulation of research evidence that provides cautious grounds for concluding longer, more intensive programmes of academic staff development can increase the knowledge and skills of participants and lead to an improvement in teaching practice.

Such programmes are usually based on a coherent theory of teaching and learning. They run concurrently with the participants' teaching work, and require them to apply new skills and knowledge in their teaching practice and to reflect on that practice.

These programmes tend to be longer, extending over one or more semesters of part-time study, and they frequently involve some form of peer mentoring as part of the process. Increasingly the programmes contribute to certificates, diplomas and degrees in teaching and learning, leading to formal teaching accreditation in some systems.

To be effective, the programmes need the support of the institution, and recognition of the importance of teaching in policies on workload and rewards.

Common theoretical frameworks include:

- behavioural change models (focus on changing the teacher's behaviour in the classroom)

- developmental models (based on the idea that teachers change their focus of attention over the course of their career from self to subject to student (passive) to student (active))
- reflective practice models (advocate the development of reflective practitioners)
- conceptual change models (maintain that teachers' conceptions about teaching are linked to their teaching intentions and strategies)
- student learning models (focus on students' approaches to study and their perceptions of their learning environment)
- hybrid models (combine elements of several models).

Research on behavioural change models indicates that while there may be significant correlations between some readily measured teaching behaviours and outcome measures, these are small and do not explain much of the variation in learning outcomes. This raises questions about the cost effectiveness of such programmes, and suggests the return on an institution's investment may be too low to warrant the investment. There were no recently published studies that systematically studied the impact of intensive programmes based on the behavioural change model.

The developmental model assumes that with experience and training, teachers will change the focus of their attention from a focus on their own performance at the beginning of their careers to a focus on their students as first passive and then active learners. There is no evidence that academic developers are successful in accelerating teachers along this path.

There was no evidence that teachers who have undergone training in reflective practice were in fact making decisions on the basis of reflection rather than convention. However, there were some *in situ* programmes that had promising outcomes, and which are discussed in the section on that subject.

Conceptual change and student learning models both emphasise the learning approach adopted by students and the way students respond to the various elements of the learning situation, such as course materials and systems of assessment. Most academic developers use both models at the same time. This approach has influenced most of the more systematic and intensive programmes of academic staff development introduced over the past decade and is contributing to current international pressure to introduce accredited and mandatory programmes in systems of higher education.

Conclusion

The synthesis focused on research on the impact of academic staff development programmes on teaching practice, and recommends institutions should continue to invest resources in assisting their staff to develop in the professional practice of teaching.

The evidence does not strongly favour one methodology over another. It suggests focusing exclusively on short, skills-based courses is unlikely to lead to significant professional growth or change, but it supports a greater emphasis on assisting work groups to reflect collectively on their joint tasks.

Evidence for the long-term impact of in-depth teacher preparation programmes is promising but limited, and it is not yet strong enough to justify a compulsory scheme for the entire sector. However, staff should be encouraged to participate in training schemes.

Finally, the synthesis highlights the paucity of New Zealand research in this area, with only three New Zealand based studies exploring the link between academic staff development and outcomes for teachers or students and no studies that address Maori or Pasifika contexts.

The synthesis concludes that while it is reasonable to expect that the findings of international research will have broad applicability to New Zealand, it also recommends more research be undertaken on academic staff development and how it makes a difference to teaching and learning in New Zealand. It also recommends tertiary institutions be encouraged to use their academic staff development units as centres for research on teaching and learning, as well as for training and development.