RECONCEPTUALISING TEACHER CHANGE

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There is a need to reconceptualise "Change" in the context of teacher professional development. This paper examines alternative conceptions of change. In the context of teacher professional development, "Change" could be something that:

- *is done to teachers (teachers are "changed"; that is, change as training);*

- *is experienced passively by teachers (teachers "change" in response to something; that is, change as adaptation);*

- *teachers do purposefully to themselves (teachers "seek to change"; that is, change as personal development);*

- *teachers do purposefully to their environment (teachers "change something" for reasons of personal growth; for example, the mathematics curriculum; that is, change as local reform);*

- *teachers do as agents for others (teachers enact the "change policies" of the system; that is, change as systemic restructuring);*

- *is organic and intrinsic to professional activity (teachers change inevitably through professional activity; that is, change as growth or learning).*

These alternative perspectives on change need not be mutually exclusive. This paper will contrast the implications of adopting each of these perspectives.

The identification of the various teacher change perspectives is of value for the insight it offers researchers and in the criteria it provides for the development of effective inservice programs for teachers.

Introduction

"Change" is a pivotal construct in any academic discipline, and studies of "change" can be found in any field, from Physics to Sociology. Education is no different, and studies of curricular reform, knowledge acquisition, and teacher professional development, for instance, are fundamentally studies of change. Within any such area of research, however, this diversity of interpretation of the term "Change" makes it imperative that the researcher identify the type of change which provides the focus for any particular study. Research into teacher professional development has centred on the idea of "Teacher Change". It is our purpose in this paper to suggest that this notion of "teacher change" is open to multiple interpretations, and that each interpretation can be associated with a particular perspective on teacher professional development. In particular, we argue that the adoption of a particular perspective and its concomitant emphases and goals can lead to

the advocacy of a particular form of professional development program, and to the undertaking of a specific type of research. It is this association of change perspective with inservice program and type of research that we wish to explore in this paper. Each of the change perspectives outlined in this paper is illustrated with data drawn from two different studies of teacher professional growth.

Perspectives on change

It is our intention in this paper to explore alternative perspectives with respect to teacher change. The three terms "development", "change" and "growth" are frequently treated interchangeably in the literature. The difference for our purposes is one of association. Thus, the discussion which follows will make use of each term selectively: "development" when referring to in-service programs and as a generic term encompassing a particular research stance (typically program evaluation); "change" when referring to a process, an observable phenomenon, or a set of behaviours; and, "growth" where the intention is to encompass both a change process and to invoke a notion of learning. This paper proposes the viability of "growth" as the most appropriate metaphor for the sort of "teacher change" which might characterize the professional development of a "reflective practitioner", and which, we argue, should serve as the goal of teacher inservice programs. The multiple perspectives on teacher change, outlined below, also have the potential to inform the activities of researchers and those involved in developing inservice programs.

Change as training

This perspective views change as something that is done to teachers; that is, teachers are changed. Teacher professional development programs which are designed to change teachers appear to operate from a deficit model of the teacher as either lacking appropriate teaching skills (which the inservice program will provide) or as actually engaging in inappropriate practices (which the inservice program will identify and correct).

When professional development became a major enterprise in education during the post-depression era (Howey & Vaughan, 1983), it was based on a training paradigm that implied a deficiency in teachers' skills and knowledge (Guskey, 1986). Professional development attempts based on such a-deficit model have been criticized throughout the literature. Researchers, including Guskey (1986), Howey and Joyce (1978), McLaughlin and Marsh (1978), and Wood and Thompson (1980) have highlighted the ineffectiveness of professional development programs that have an overemphasis on this deficit approach. Nontheless, teachers appear to value the training provided by such programs.

It did, it certainly did change things. I think it heightened my awareness. I mean I'd always believed in cooperative learning and things like that and working that way, but it heightened my awareness of using those ideas in the maths area more often. Also the necessity of giving our maths concepts a more practical base in every day life.

(Teacher participant in an Exploring Mathematics In Classrooms inservice program)

The implementation of innovative curricula is frequently accompanied by inservice support which takes the new curriculum as a model of effective practice. Such an approach seeks to equip teachers to implement the new curriculum with the highest possible fidelity to the conceptions of the curriculum developers. The professional development support provided for teachers implementing the "Interactive Mathematics Project" (IMP) in California embodies this perspective. Alternatively, it may be a pedagogical model that is offered through the inservice program. The Victorian "Exploring Mathematics In Classrooms" (EMIC) program is an example of such an "evangelical" approach.

Change as adaptation

Where there are changes to a teacher's work environment or conditions, the necessity arises for teachers to adapt their practices to the changed conditions. Changes to class size, to mathematical content, to resource availability, to forms of acceptable behaviour or activity, to assessment practices, or through the adoption of a new class text, would all require the teacher to adjust existing practice to accommodate to the new situation.

The curricular changes associated with the introduction of the "Victorian Certificate of Education" have involved a reconceptualization of the nature of school mathematics, student mathematical activity, and appropriate assessment procedures. The inclusion of these new practices at the most senior level of the secondary school, accompanied by changes to "high-stakes", mandatory assessment, have created a new work environment to which teachers at all year levels have had to adapt.

Teaching environments have been classified as "Depressant", "Maintenance oriented" or "Energising" (Joyce, Bush & McKibbon, 1982). Whatever the source of the environmental change, the alternative forms of adaptation available to teachers would be constrained by the characteristics of the teaching environment, and teachers would inevitably adapt their behaviour to accommodate to the characteristics of such environments.

> I haven't done as much with the whole class as far as groupings yet, I
> guess that will be the next thing to really look at, just to see if they could
> work some way. But we have so many comings and goings with the new
> arrivals going out and coming back in again that I don't know, it sometimes
> just seems it's an easier way to keep tabs on it working in one big group.
>
> (EMIC program participant)

This constraining effect of the environment has been widely documented.

> The lack of time to do the things that are all worth doing ... I will be ready
> to retire when I have learnt some of it.
>
> (Teacher participant in the ARTISM inservice program)

Desforges and Cockburn (1987) quote one teacher to delightful effect.

> I don't see the point of all these inservice sessions. I already know how to
> teach better than I possibly can.

Teacher change can be seen as a response to environmental change (that is, as adaptation), but the ecological metaphor can be sustained even further, because the teacher's subsequent experimentation or attempted reform is constrained by elements within the very environment that stimulated the change. It appears that the relationship between elements within the classroom environment is a symbiotic one.

Change as personal development

Many teachers in the course of their professional activity come to recognize areas in which they might improve their performance or develop additional skills or strategies. The existence of such "self-motivating" teachers has been noted in the literature. Joyce and McKibbon (1982) included such teachers within the two categories "Omnivores" and "Active Consumers". The recognition of a need to develop new skills, and the feeling of professional obligation to do so, are characteristics we associate with the "reflective practitioner" as described by Schon (1983).

> I think I've got updating to do, and that's why I'm doing EMIC. Because
> things have definitely changed and it's happened fairly quickly.
>
> (EMIC participant)

Since such teachers actively seek personal change in accord with a self-generated agenda, professional development programs aimed at facilitating such personal development would

need to be designed with a high level of flexibility and built-in responsiveness in order for the individual's personal agenda to be realized.

> I just want to be open to other ideas on how to teach maths, because there are, well I see lots of faults in my teaching. I've done things and I'm doing things and I want to know more about what to teach and how to teach and about evaluation, and the more I can ... Well, if you don't see it you can't make any changes, but if you do then you've got the opportunities to make those changes. So I hope that through those things the changes I make can be positive.
>
> <div align="right">(EMIC participant)</div>

The "Case Methods" approach to teacher professional development (Barnett, Goldenstein & Jackson, 1993) appears to offer this degree of responsiveness. There is an open-endedness to the case methods approach that acknowledges that participants will take from the experience only those elements they are sensitive to, and which appear relevant to their classroom practice. The structure of a Case Methods program derives from a sensitivity to issues likely to be of interest to teachers; in this sense, Case Methods is in strong contrast to programs such as EMIC, which derive their structure from an image of desirable pedagogical practice.

Change as local reform

Teachers who adopt a critical stance to their work place and to their own practices may decide to initiate change in their working environment. Such change may be driven by a variety of motivations, but the essential characteristic is "teacher as reformer".

> I would like to set out a plan for myself. We have the syllabus document that's here, but I think there are different ways you could set it up and use resources. I would like to do one for myself and adapt it, to use my expectations, and not necessarily what's written down at this school anyway.
>
> <div align="right">(EMIC participant)</div>

An individual teacher or a school mathematics department may choose to access an existing inservice program or approach an "expert" for assistance in undertaking their reformist agenda. Because the essential characteristics of the situation are locally derived issues, local experimentation or research, and locally implemented solutions, the most appropriate "inservice

program" for such teachers would be participation in an on-going program of "Action Research" (McTaggart & Singh, 1986) within the school or the mathematics department.

Change as systemic restructuring

Teachers may be required to act as the agents of other outside bodies, who are the initiators of the change. These outsiders will have an agenda determined externally to the teacher's workplace, and will see the teacher's role to be one of "Implementer". This was certainly true of the introduction of the Victorian Certificate of Education (VCE). While the purpose of the initiated change may be system-wide curricular reform, we would suggest that consequent changes in individual teachers' practices is inevitable.

The introduction of the new VCE was motivated primarily by a perceived need for curricular reform, and changes in teachers' knowledge and beliefs were an inevitable consequence of the process of implementing the new curriculum. This causal relationship has been demonstrated by Clarke, Stephens and Pavlou (1994). Individual teachers' lack of awareness of the pervasiveness of VCE-like practice throughout more junior grades illustrates the extent to which the the mathematics curriculum has changed.

> I think the main thing is probably the variety of tasks that we give them and I think that has been encouraged by the VCE ... I don't know which came first, whether we were doing it down below or not and it's been confirmed by the VCE, or whether the VCE came first and then we started doing it down [in the junior year levels].
>
> (Victorian secondary mathematics teacher)

Change as growth or learning

Teachers in a school can be viewed as a "community of scholars" (see, for instance, the recent work of Brown and Palincsar, in press). As such, the individuals within that community can be seen to be engaged in learning. This learning is characterized by its purposeful nature, since it is concerned with the continual improvement of the viability of the teacher's actions in relation to the goals of the classroom and in response to those problematic situations arising daily in the course of the teacher's professional activity.

> [My teaching approach] has altered as much as I can, you know within my limitations. I'm still looking for more ideas and better ways to do it. I guess that's the major thing that I am now aware that things can be done in slightly different ways... I try to tie it in a bit more. It's harder work, exhausting trying to always come up with something appropriate.
>
> (EMIC participant)

An inservice program which adopted this perspective would attempt to create situations in which members of the mathematics community in a school could meet to discuss issues of personal or local significance. Such a program would emphasize the individual nature of learning, while creating a sense of community and community endeavour most conducive to learning. Within such a program, the teacher would be accorded the same integrity of purpose and ownership of the learning process that is currently being advocated for the effective teaching of children. The integration of any demonstrations or discussions of theory into the classrooms of individuals would be seen, under such an inservice program, as an essential component. Both the EMIC program and the "Active and Reflective Teaching In Secondary Mathematics" (ARTISM) program attempt to acknowledge the individuality of the learner (teacher), the importance of feedback mechanisms whereby the program can be modified as required to respond more effectively to teachers' articulations of local and personal need, and the need for the trialling of ideas in the teachers' own classrooms in order to increase the likelihood of fruitful task adaptation to suit local needs and interests. Adoption of a growth perspective on teacher change and teacher inservice places an obligation on program developers to acknowledge present theories of learning. The contemporary valuing of metacognitive activity in school classrooms finds its analogue in the idea of the "reflective practitioner" (Schon, 1983).

> I am questioning my teaching and ask myself whether the new approach is
> actually better. Although I am not convinced so far, I am thinking about
> [my teaching] a lot more.
>
> (ARTISM teacher)

The endorsement of such a critical stance both recognizes the teacher as learner and affirms the teachers right to assert control over the form and direction of that learning.

Table 1 sets out the categories discussed in a form designed to facilitate comparison. These categories are not to be seen as mutually exclusive. Many of the forms of change discussed in this paper are interrelated.

Table 1

Change Perspectives

Change Perspective	Location of Change Initiative	Teacher Role	Object of Change	Inservice Character (Example)
Training	External	Subject	Teacher	Evangelical (EMIC)
Adaptation	External	Respondent	Environment	Ecological (Collegial Support)
Personal Development	Internal	Reflective Practitioner	Teacher	Responsive (Case Methods)
Local Reform	Internal	Reformer	Environment	Critical (Action Research)
Systemic Restructuring	External	Implementer	Curriculum	Systemic (VCE In-Service)
Growth	Internal	Learner	Teacher	Community of Scholars/ Collegial

The consequences of adopting a growth perspective

I mean your approach has to change. It's not the same all the time. I think that's very important.

(EMIC participant)

The documented ineffectiveness of many of the professional development programs based on deficit-training-mastery models (for example, McLaughlin & Marsh, 1978) has led to a shift in focus for professional development in education. This renewed view of professional development is based on the notion of continuous learning. Rather than mastery of skills, the central concern of current professional development efforts is on teacher growth.

Adoption of this growth perspective allows researchers and the developers of inservice programs to lay claim to an inheritance of research literature and theory relating to learning. It is our belief that the richness of learning theory and research has been tapped inadequately in the area of teacher professional development. One part of our agenda in writing this paper has been to draw attention to the competing models of teacher change extant in the education community and to draw attention to the "Change as Growth" perspective.

Professional development programs and teacher change research

A second purpose to this paper concerns the value of maintaining an awareness of the various "Change Perspectives" as useful lenses to apply to both professional development programs and to teacher change research. Feiman (1981) has suggested a degree of correspondence between research paradigms and the form taken by professional development programs.

> If research discovers "effective" behaviours or techniques, one generally
> expects a training format where behaviours can be modelled and practiced. If
> research generates theories and concepts, one expects a format where teachers
> are encouraged to examine ideas in relation to their own teaching experience.
> If research produces "thick descriptions", one expects an inservice format in
> which teachers share interpretations of this vicarious experience.

(Feiman, 1981, p.11)

In this case, Feiman appears to be arguing that the type of research undertaken determines the type of inservice program likely to be advocated. This seems an oversimplification since any inservice program will tend to be a synthesis of research findings in a format which may employ a combination of skills training and practice, ideas discussion, role playing and, importantly, the exchange of the participants' experience and expertise. We are not proposing any such simplified mapping. Rather, it is our contention that the way in which "Teacher Change" is conceived can provide a useful insight into the goals and structure of inservice programs, and into the questions and the design underlying particular research projects. Our approach has been to model various alternative perspectives on "Teacher Change".

The relevance of these perspectives for the implementation of research or the development of an inservice program does not lie in the exclusive adoption of one perspective. Instead, we would assert that different perspectives may be simultaneously applicable to the one research study, offering alternative ways to interpret teachers' motivations and actions. For example, different teachers may participate in a given inservice program with different goals and motivations. As a consequence, individual teachers will

expect and experience different things within the same inservice program. Identification of a particular teachers' "perspective on change" may provide insight into the consequent value they attribute to the program and the subsequent professional practices they employ.

Similarly, the developers of inservice programs might critically scrutinize their programs with respect to the two issues:

a. The perspective of the inservice program ˙

"Is our program structured by a particular change perspective?

Is our program too focussed on a particular change perspective?"

b. The perspective of the program participants

"Assuming participants in our inservice program represent the full range of change perspectives; what does our program offer to a particular teacher whose motivation to participate comes from a particular change perspective?

Do we cater adequately for all change perspectives?"

It is our hope that the detailing of the alternative change perspectives in this paper will inform both research into teacher professional growth, and the development of inservice programs for teachers.

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