

# **Dynamic not static: Characteristics of effective teacher professional development in ICT**

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## **Abstract**

A recent small scale study was conducted in Queensland on behalf of a state professional association to inform its position statement on the professional development of teachers in ICT (ICT PD). Data for the study was drawn from a survey of teachers at the association's 2004 state conference and semi-structured interviews with leaders from a cross-section of educational systems.

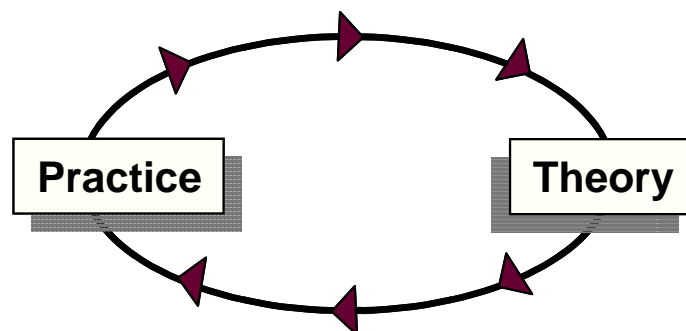
The study was premised on an understanding of professional development as the interrelationship and reflexivity of theory and practice. It identified the models of ICT PD as being tertiary study, school-based programs, single events, online curriculum projects, serial courses in hybrid or face-to-face mode, professional communities, and action learning/research. As a measure of effectiveness, the impacts were identified as being direct and/or sustained impact on practice, personal knowledge, increased ICT skills, reflection on practice, professional status, professional networks, and peer collaboration.

The study concluded that the characteristics of ICT PD were (1) Context, in terms of relevance and immediacy; (2) Time, as both a measure and a variable of need (timeliness); (3) Community, referring to professional collaborations; and (4) Personal Growth, both cognitive challenges and "corporate" knowledge. The study concluded that these characteristics are dynamic and interdependent and need to be considered in the design of effective ICT PD for teachers.

In 2004, an Australian state-based teacher professional association concerned with ICT commissioned a small scale study to inform its development of a position statement on the professional development (PD) of teachers in the curricular use of ICT. The study comprised of (a) an environmental scan to determine what form professional development in ICT was

taking in the state and elsewhere, (b) a literature review which focussed on local and national initiatives in professional development in ICT for teachers, and (c) a data collection drawn from a survey of the delegates to the association's 2004 state conference and semi-structured interviews with leaders from a cross-section of educational systems. The full report of this study (Lloyd, Cochrane, & Beames, 2005) is available online at <http://www.qsite.edu.au>.

The definition of professional development adopted by this study was one premised on the notion of professional development as being concerned with the interrelationship and reflexivity of theory and practice where 'theory' is broadly understood to incorporate personal philosophy, educational tenets and systemic policies and goals. This can be shown diagrammatically as a simple oval loop with *theory* and *practice* as diametric opposite joined by arcs marked with directional arrows (Figure 1).



*Figure 1: Simple model of professional development*

The dynamism of this model is evident in the literature where professional development is likened to a journey or a pathway. For example, McKenzie (2001) contended that professional development can be “experienced as a personal journey of growth and discovery that engages

the learner on a daily and perhaps hourly basis” which “includes an emphasis upon self-direction” (paragraph 33). Similarly, the national Department of Education, Science and Training report *PD 2000 Australia* also recommended that “teachers should be responsible for their own professional development, both in the design and choice of paths to follow” (DEST, 2004, p. 1). This could, on one level, be seen as a simple and iterative enactment of a constructivist approach to learning.

Through the environmental scan and literature review, the study identified the models of ICT PD as being tertiary study, school-based programs, single events, online curriculum projects, serial courses in hybrid or face-to-face mode, professional communities, and action learning/research. As a measure of effectiveness, the impacts were identified as being direct and/or sustained impact on practice, personal knowledge, increased ICT skills, reflection on practice, professional status, professional networks, and peer collaboration. The survey instrument was based on these observations and findings were represented on an 8 x 8 matrix which graphically showed the impacts (for the sample population in the study) of the ICT models under review. It is cautiously contended that these findings are not generalisable across broader populations, but are valuable in determining the needs of a particular group. In this study, the models with the highest impact across the largest number of possible impacts were (a) professional communities, (b) online curriculum projects, and (c) action learning/research. The primacy of professional communities is not a surprising finding, as according to the influential national report *Making Better Connections*, professional learning communities are “powerful and supportive environments where teachers interact with each other” and achieve “mutual improvement of their professional practices” (Downes et al., 2002. p. 52).

While there were multiple outcomes from this study including the development of validated survey instruments which has subsequently been adopted for other purposes, the main outcome (and operational aim) of the study was the development of the association’s position statement. The over-arching guidelines for effective professional development developed were that:

1. it must support teachers’ lifelong learning through reflection (practice to theory),
2. it must improve teaching practice through action (theory to practice); and,
3. it should foster active membership and collegiate relationships within professional communities.
4. it should consider the need for timeliness and reflection over time for practising teachers.

The general guidelines for effective professional development emerging from the study described in this paper and from which the association developed their position statement are presented as Table 1. These guidelines are categorised according to the elements identified through the literature and supported by the findings of the study. These elements are (a) Context, in terms of relevance and immediacy; (b) Time, as both a measure and a variable of need (timeliness); (c) Community, referring to professional collaborations; and (d) Personal Growth, both cognitive challenges and “corporate” knowledge. It is important to note, that while these elements were drawn independently from the data of this study, they can be corroborated within the extant literature.

**Table 1**  
*Guidelines for effective professional development*

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Elements	Effective professional development must:
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<i>Context</i> (relevant and immediate)	<ul style="list-style-type: none"><li>• be relevant (authentic, local and real)</li><li>• be meaningful</li><li>• be practical</li><li>• meet immediate needs (direct impact)</li><li>• meet ongoing needs (sustained impact)</li></ul>
<i>Time</i> (sustained and timely)	<ul style="list-style-type: none"><li>• be timely (just-in-time)</li><li>• be sustained (over time)</li><li>• provide adequate time for participation, reflection and implementation</li></ul>
<i>Community</i>	<ul style="list-style-type: none"><li>• encourage sharing with others, hear other stories from the field</li><li>• provide ongoing support and heightened collaboration</li><li>• expand professional and personal networks</li></ul>
<i>Personal Growth</i> (challenging and informed)	<ul style="list-style-type: none"><li>• add to personal knowledge</li><li>• increase personal skills</li><li>• enhance status (within learning community)</li><li>• take account of teachers' prior knowledge, different levels and learning styles</li><li>• enable reflection</li><li>• allow personal selection</li><li>• allow teachers to take responsibility for their own learning</li></ul>

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The identification of the four elements, that is, context, time, community and personal growth do represent a generalisable finding from the small scale study reported in this paper. There is clear evidence from within the study and from within the extant literature on ICT PD to support this contention.

What this paper will argue, and what the authors will expand in other publications, is that these elements are dynamic rather than static and it is their interdependence and balance in motion which are key to effective professional development. This can be shown diagrammatically (see Figure 2)

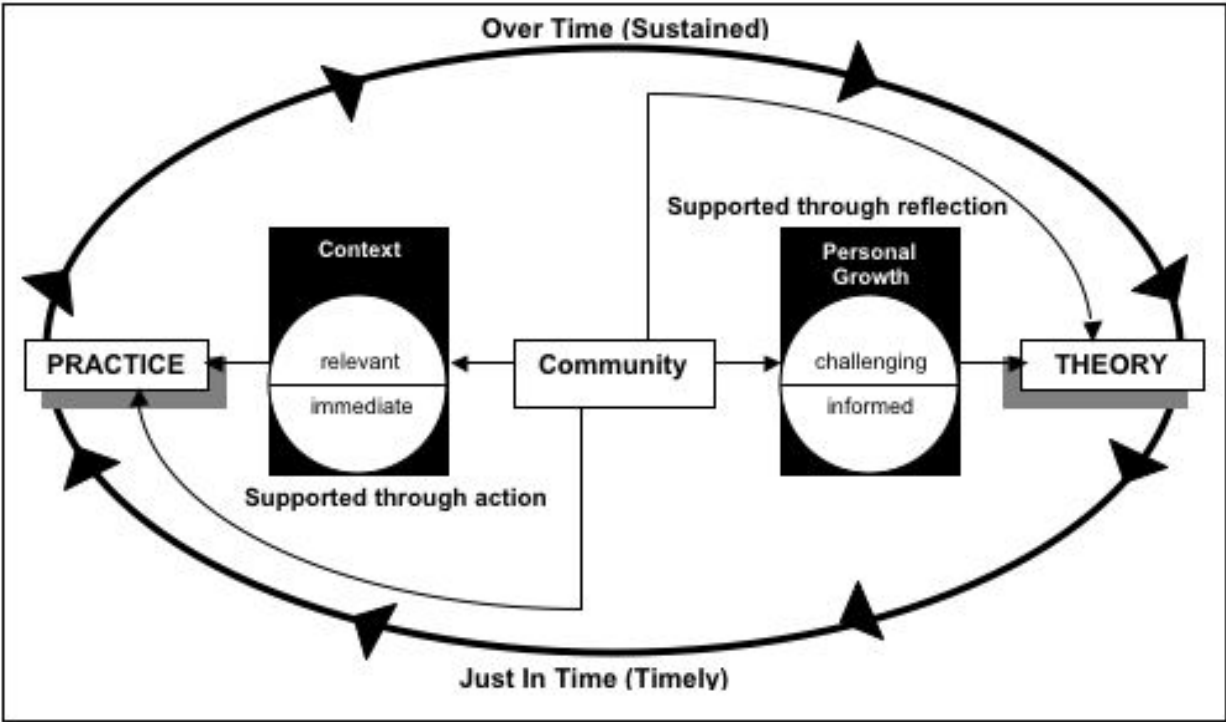


Figure 2: Dynamic model of professional development showing the interaction of its four elements

The representation in Figure 2 requires detailed explication which, unfortunately, is beyond the scope of this paper. What is sufficient to explain here is that the elements are dynamic and interdependent and may be seen to pivot around the element of *community*. The centrality of community is, as with the primacy of professional communities in terms of individual impact as previously discussed, not a surprising finding given the frequency of references in the literature to the efficacy of collaborative learning environments and workplaces (see, for example, Apple Computers, 2003; BECTA, 2002; Carr, 2003; Webb, Robertson, & Fluck, 2004).

In the model presented in Figure 2, time, the most complex and disparately defined element in the study, is shown as the base in which the elements operate. Time is represented as being both “over time”, that is, sustained and “just in time” or timely. There were clear distinctions in the study data to show that both were important but that they filled different needs. Being “over time” was concerned with the more reflective journey from practice to theory while “just in time” was related to more immediate needs of enacting theory into practice. The former was concerned with reflection while the latter was concerned with action. It is important to understand that both these processes occurred with and through the community in both direct and indirect ways.

Although there is a logical, arguably self-evident, placement of the element of Context in the ‘practice’ zone and the element of Personal Growth in the ‘theory’ zone, this placement is clearly supported through the data of the study. The ensuing diagram becomes representative of the contention that effective PD for teachers in ICT is a dynamic rather than static process and a visual representation of the metatheory which supports this contention. The “best” or most effective PD is that which fits the rhythms and momentum of this interaction.

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