

# **QSITE Report**

## **Towards a Model of Effective Professional Development in ICT for Teachers**

### **PART 4**

#### **DATA COLLECTION AND ANALYSIS**

# PART 4

## DATA COLLECTION AND ANALYSIS

### CONTENTS

<a href="#">Elements of effective professional development</a>	3
<a href="#">Models of effective professional development</a>	11
▪ <a href="#">Tertiary study</a>	13
▪ <a href="#">School-based/focused programs</a>	14
▪ <a href="#">Single event programs</a>	16
▪ <a href="#">Online curriculum projects</a>	17
▪ <a href="#">Serial course in hybrid mode</a>	19
▪ <a href="#">Serial course in F2F mode</a>	21
▪ <a href="#">Professional learning communities</a>	23
▪ <a href="#">Action learning/action research</a>	24
<a href="#">Analysis in terms of impacts</a>	26
▪ <a href="#">Direct impact</a>	27
▪ <a href="#">Sustained impact</a>	28
▪ <a href="#">Added knowledge</a>	29
▪ <a href="#">Increased skills</a>	31
▪ <a href="#">Enabled reflection</a>	32
▪ <a href="#">Enhanced status</a>	33
▪ <a href="#">Expanded networks</a>	35
▪ <a href="#">Heightened collaboration</a>	36
<a href="#">Open-ended comments and semi-structured interviews</a>	37
<a href="#">Summary</a>	46

## LIST OF TABLES

TABLE 4.1	Elements of effective professional development (in order of agreement)	4
TABLE 4.2	Number of survey respondents who had participated in aggregate numbers of PD models of the eight listed	12
TABLE 4.3	Response to effectiveness of tertiary study	13
TABLE 4.4	Response to effectiveness of School-based/focused Programs	15
TABLE 4.5	Response to effectiveness of Single Event Program	17
TABLE 4.6	Response to effectiveness of Online Curriculum Project	19
TABLE 4.7	Response to effectiveness of Serial Course in Hybrid Mode	20
TABLE 4.8	Response to effectiveness of Serial Course in F2F Mode	22
TABLE 4.9	Response to effectiveness of Professional Learning Communities	24
TABLE 4.10	Response to effectiveness of Action learning/Action research	25
TABLE 4.11	Direct Impact	27
TABLE 4.12	Sustained Impact	29
TABLE 4.13	Added Knowledge	30
TABLE 4.14	Increased Skills	31
TABLE 4.15	Enabled Reflection	33
TABLE 4.16	Enhanced Status	34
TABLE 4.17	Expanded Network	35
TABLE 4.18	Heightened Collaboration	37

## LIST OF FIGURES

FIGURE 4.1	Response to effectiveness of Tertiary Study	14
FIGURE 4.2	Response to effectiveness of School-based/focused Programs	15
FIGURE 4.3	Response to effectiveness of Single Event Program	17
FIGURE 4.4	Response to effectiveness of Online Curriculum Project	19
FIGURE 4.5	Response to effectiveness of Serial Course in Hybrid Mode	21
FIGURE 4.6	Response to effectiveness of Serial Course in F2F Mode	22
FIGURE 4.7	Response to effectiveness of Professional Learning Communities	24

FIGURE 4.8	Response to effectiveness of Action learning/Action research	26
FIGURE 4.9	Direct Impact	28
FIGURE 4.10	Sustained Impact	29
FIGURE 4.11	Added Knowledge	30
FIGURE 4.12	Increased Skills	32
FIGURE 4.13	Enabled Reflection	33
FIGURE 4.14	Enhanced Status	34
FIGURE 4.15	Expanded Network	36
FIGURE 4.16	Heightened Collaboration	37

The findings of this report will be presented in terms of (a) elements of effective professional development, (b) models of professional development, and (c) characteristics of effective and ineffective professional development. The first three sections are drawn from the survey instrument while the fourth is drawn from both the survey instrument and the semi-structured interviews.

### **Elements of effective professional development**

The second item included in the survey form was concerned with the elements of effective professional development. Survey respondents were asked to rate on a 5 point Likert scale (from Strongly Agree (SA) to Strongly Disagree (SD)) a list of thirteen elements identified through the review of the literature, particularly from the inventory of characteristics of effective professional development programs identified by Arbuckle and Murray (1989) and the flaws of traditional approaches listed by Abdal-Haqq (1996)) as well as from anecdotal experience which were deemed to contribute to effective professional development.

Respondents were also provided with space to make additional comments, which have been included where relevant to the discussion in this section. Such comments have been acknowledged using the codes allocated to survey and interview subjects (see Table 3.1). The results of the rating scale (as raw scores) are presented as Table 4.1. The text following the table will incorporate the additional comments made by survey respondents. A fuller analysis of these impacts is discussed in Section 5.

**Table 4.1**

*Elements of effective professional development (in order of agreement)*

	Element	SA	A	NA	D	SD	<i>n</i>
1	Face to face	40	24	1	1	0	66
2	Skills based	32	30	2	2	1	67
3	Locally delivered	33	27	5	2	0	67
4	Curriculum based	30	30	4	2	0	66
5	Relevance to subject or year level	23	32	5	6	0	66
6	Software based (software package/s)	15	40	8	3	1	67
7	Appropriate pedagogy (adult learning, constructivism)	27	23	11	2	0	63
8	Time duration (intensive)	15	35	10	5	1	66
9	Similarity of training and school environment	20	29	14	3	0	66
10	Time duration (extended)	14	35	10	7	0	66
11	Specialist groupings (subject or year level)	20	28	13	5	0	66
12	Online	9	37	8	13	0	67
13	Certification	10	26	17	12	1	66

Participants rated “face to face” as the element from the given list, which most strongly contributed to effective professional development with 64 ( $n=66$ ) agreeing or strongly agreeing and only one individual disagreeing. The second was “skills based” with “locally delivered” and “curriculum based” closely following in third and fourth position.

The top four are markedly favoured ahead of the other listed elements and together form a perception of effective professional development as being practical, focused and grounded in the local context.

According to Education Queensland (1998), professional development should ‘be structured so that learning activities can be contextualised locally’ (p. 7). Williams (2004) agreed, suggesting that ‘there is considerable understanding of overall professional development program design in districts and this is a strength which means districts can ‘click people into place’ (Conclusion). It has also been noted that standards, whilst developed nationally, must be able to be translated into local contexts (DEST, 2004b). Similarly, experiences with the CLIC 2 program led Stokes and Sidey (1996) to note, ‘teachers preferred to have in-service offered at their own location... [and] teachers preferred to be in-serviced by a knowledgeable person on their staff rather than an outside ‘expert’ (p. 23).

Comments from respondents indicated cautious support for skills-based training, and included qualifying comments, drawn from this section of the survey and the final section of the survey. These included the comment that ‘sometimes I really need skill development [while] at other times I have other focuses’ (S22) and:

I believe in balance and that people have different needs at different times.

Teachers, in the early stages of implementation, need to feel competent and are fixated with skills training. For some people, this needs to be available.

However, it is essential that the next step be available and that people are moved in this direction. (S24)

Almost equally ranked (in 5<sup>th</sup> and 6<sup>th</sup> position) were ‘relevance’ and ‘software based’ despite their being quite disparate elements. The distinction between ‘software based’ and ‘skills based’ and ‘curriculum based’ is significant (the latter being ranked 2<sup>nd</sup> and 4<sup>th</sup> respectively) as evidenced by several comments from respondents indicating dissatisfaction with professional development focused on selling software products. This kind of professional development was categorised as ineffective by many respondents

with negative comments about “workshops that aim to sell a product” (O8) and “sessions that are more sales and product specific” (P1) where the “aim is selling, not educating [or] sharing” (O8). Respondents were suspicious of “professional development targeted at software which is too expensive, not suited to needs” (S15) and “professional development delivered by people with a barrow to push” (S15) or “learning a piece of software without its curriculum uses” (P14).

The listing of “appropriate pedagogy” as 7<sup>th</sup> in the list of 13 does not diminish its importance with 75% of respondents agreeing or strongly agreeing with its contribution to the effectiveness of professional development, and only two respondents disagreeing. This importance was borne out in strong complaints about inappropriate pedagogy, for example “being ‘talked at’ rather than participate - it is important to become involved and immersed” (O7) and that “set structure, instructor -led (step by step) doesn’t allow creativity, doesn’t relate” (P1). Respondents recalled being ‘rushed, ‘spoken at’ [with] no involvement [or] time to follow up” (L10/O14) and did not value professional development which required them to “sit and listen at the end of a busy day [and] content poor” (S25).

Amongst the negative comments were recollections of (a) “preachy style of presenter” [who made] “constant references to pedagogy and software that is not appropriate or affordable or relevant” (S22), (b) professional development which “tends to alienate participants; it needs to be relevant and meaningful” (O7), (c) “prescriptive sessions – all talk, little interaction; activities with little variety; events I did not relate to; sessions presented by speakers who were dull or not confident” (S23), and (d) “poor presenters with poor pedagogy and poor curriculum design” (L7/O11). Presenters were also criticised for “stating the obvious; reading overheads or slides; too much overused or clichéd or PC terminology” (O9) and “lack of purpose; presenter-focused instead of participant-focused” (O12). Further comments on the characteristics of presenters (and presentations), drawn from the open-ended questions and semi-structured interviews, are presented further on.

The next highest ranked group of elements included “time”, “similarity” and “specialist groupings.” It is interesting to note that, in the open-ended comments (see Section 4.4), the concept of time was a consistent theme when respondents were asked to describe the characteristics of effective professional development. However in this first section of the survey neither “intensive” nor “extensive” time duration was ranked particularly highly and, in fact, this group of elements was considered by some respondents ( $n=10$ ) to be “not applicable” to effective professional development.

When analysed further however, the concept of time in relation to professional development in the open-ended comments appeared to be more closely related to time needed to reflect, practice and follow up on things they had learned, rather than the length of time spent in the initial professional development event. Respondents’ comments included many references to time, where they expressed the need “to have time to meet, practise, organise” (S13), “to discuss, reflect and return for follow up sessions” (S23) for “ongoing extended time to implement, improve”, and for “time given for reflection and research” (L2/O13). Further comments indicated that respondents wanted “time to absorb and practise and reinforce what is being studied” (P12) and “time to participate away from a busy work schedule” (O7). This concept was also expressed in terms of “time to play” (O4).

The theme of time was further reinforced in the semi-structured interviews with references to professional development events which “include time to reflect and link back to classroom practice” (L3) and “time to go away and consolidate” (L3). One interview subject noted that (when designing professional development programs for teachers) “we have built into agendas now a lot of time for reflection and input from the learners” (L1), whilst others commented on ineffective professional development with comments such as “definitely lack of time to participate and practice correctly” (S14) and “fragmented, lack of time to participate and practice, unrelated to practice” (P12).

Downes et al. (2002) supported the notion that time is “one of the greatest challenges to effective professional development” (p. 3) but noted that:

Although time is consistently identified as a crucial key to successful professional development (or, more often, lack of time identified as a barrier), the mere provision of time alone is unlikely to eventuate in significantly changed practice in the use of ICTs. (p. 75)

In the same report, the authors note that “professional development requires adequate time for inquiry, reflections, and mentoring” (Downes et al., 2002, p. 19), and go on to say that:

Teachers, researchers, and policymakers consistently indicate that the greatest challenge to implementing effective professional development is lack of time. Teachers need time to understand new concepts, learn new skills, develop new attitudes, research, discuss, reflect, access, try new approaches and integrate them into their practice; and time to plan their own professional development (Cambone 1995; Corcoran 1995; Troen and Bolles 1994; Watts and Castle 1993). Cambone (1995) points out that teachers, as adult learners, need set-aside time for learning (e.g. workshops and courses); time to experience and digest new ideas and ways of working; and, as other literature points out, time for inquiry reflection and analysis within their workplace (CERI 1998).

(Downes et al., 2002, p. 75)

The OTA report *Teachers and Technology: Making the Connection* (1995) echoes this finding, stating that “probably the greatest barrier to technology use, however, is simply lack of teacher time – time to attend training or workshops, to experiment with machines and explore software, to talk to others teachers about what works and what doesn’t, and to plan lessons using new materials or methods” (p. 25).

Ellis and Phelps (2000) agreed, stating, “the most difficult aspect of staff development processes is in managing the timeliness of learning opportunities. There is a fine balance between exposing staff to technological possibilities and overwhelming them with technology which they do not immediately use” (paragraph 56). In the report *Providing Professional Development for Effective Technology Use* (2000) Rodriguez and Knuth

pointed out that “for any professional development activity, teachers need time to plan, practise skills, try out new ideas, collaborate, and reflect on ideas” (paragraph 22).

The lowest ranked elements, namely online delivery and certification, also drew the highest number of individuals disagreeing or who felt these elements were not relevant to effective professional development. A comment relating to this element was that:

Certification is sometimes required, for example, for ITS [Information Technology Systems], professional development needs to fill a need for the user, not learning for the sake of it. Professional development is needed for all levels of users. It is very easy to forget how basic some needs are. (S11)

Similarly, one respondent noted, “certification [is needed] only if required to qualify for VET or industry. Not skills-based but skill development is a necessary element or lack of it will become a barrier” (O5). A general dissatisfaction with online professional development delivery was expressed with this low ranking (particularly the heightened levels of disagreement), and reinforced with comments included in the survey.

Respondents were apparently unimpressed with “online self paced training or course, poorly organised online course” (O5) and “one -off demonstrations on how to use online tools [with] ineffective networking, online collaboration [and] support” (P2). Amongst characteristics of ineffective professional development, respondents defined “online” professional development through comments as being “online, workbooks, self paced material” (S32) and “CD ROM training, online learning” (P22). Garvey (2002) noted, “a key learning has been that the majority of teachers have been reluctant to adopt the online mode of learning on its own” (p. 15).

### Models of effective professional development

In the third section of the survey eight models of professional development were listed. These were substantively drawn from Downes et al. (2002) and were complemented by the addition of a more recent model viz. action learning/ action research. These were:

- i. Tertiary Study
- ii. School-based/focused Programs
- iii. Single Event Programs
- iv. Online Curriculum Projects
- v. Serial Course in Hybrid Mode
- vi. Serial Course in F2F Mode
- vii. Professional Learning Communities
- viii. Action learning/Action research

The professional development experience of the sample group was widespread with most ( $n=55$ ) having participated in three or more different models of professional development in the past. This indicates a group well positioned to comment on the effectiveness of different models of professional development not only due to a breadth of experience but also because they were able to compare and contrast different professional development events. Four respondents had experienced all eight proffered models.

The average number of different models of professional development in which respondents had participated was 3.95 and the median number was 4. Table 4.2 presents the tally of models experienced by the survey participants.

**Table 4.2**

*Number of survey respondents who had participated in aggregate numbers of professional development models of the 8 listed (n=67)*

Aggregate number of models	Number of survey responses
0 models	0
1 model	5
2 models	7
3 models	17
4 models	18
5 models	8
6 models	5
7 models	3
8 models	4

Respondents were asked to rate each of the models they were familiar with in terms of a series of impacts synthesised from the literature (see, for example, Abdal-Haqq, 1996; Arbuckle & Murray, 1989). These impacts were:

- i. Direct impact on teaching practice
- ii. Sustained impact on teaching practice
- iii. Added to personal knowledge of ICT integration
- iv. Increased ICT skills
- v. Enabled participant to reflect on practice
- vi. Enhanced professional status
- vii. Expanded professional networks
- viii. Instigated heightened collaboration within school

The impacts were rated on a 5 point Likert scale (from Strongly Agree (SA) to Strongly Disagree (SD)). The results of the rating scales presented in this section are presented in percentage values while a fuller analysis of these impacts is discussed further on.

Tertiary study

More than 80% ( $n=54$ ) of survey respondents commented that tertiary study (as professional development) had a direct (85.19%) and sustained (79.63%) impact on their teaching practice. There was also strong agreement that tertiary study enabled respondents to reflect on their practice (85.19%) and enhanced their professional status (79.63%), and to a slightly lesser degree increased their ICT skills (72.22%). A lower rating was given when asked if it added to their personal knowledge of ICT integration (64.82%) or and expanded their professional networks (68.52%). In terms of heightened collaboration, more than half of the respondents (59.26%) either disagreed or felt it was not applicable.

The average number of respondents who agreed that tertiary study was an effective mode of professional development was 71.99% and the average number of respondents who disagreed was 13.43%. The median number of respondents who agreed that tertiary study was an effective mode of professional development was 75.93% and the median number of respondents who disagreed was 12.04%. The survey responses relating to tertiary study are presented as Table 4.3 and Figure 4.1.

**Table 4.3**

*Response to effectiveness of tertiary study (%) in order of agreement ( $n = 54$ )*

Tertiary Study	SA	A	N/A	D	SD
Direct Impact	46.30	38.89	7.41	7.41	0.00
Enabled Reflection	38.89	46.30	9.26	3.70	1.85
Sustained Impact	38.89	40.74	11.11	9.26	0.00
Enhanced Status	31.48	48.15	11.11	9.26	0.00
Increased Skills	31.48	40.74	12.96	7.41	7.41
Expanded Networks	31.48	37.04	12.96	16.67	1.85
Added Knowledge	29.63	35.19	18.52	9.26	7.41
Heightened Collaboration	20.37	20.37	33.33	18.52	7.41

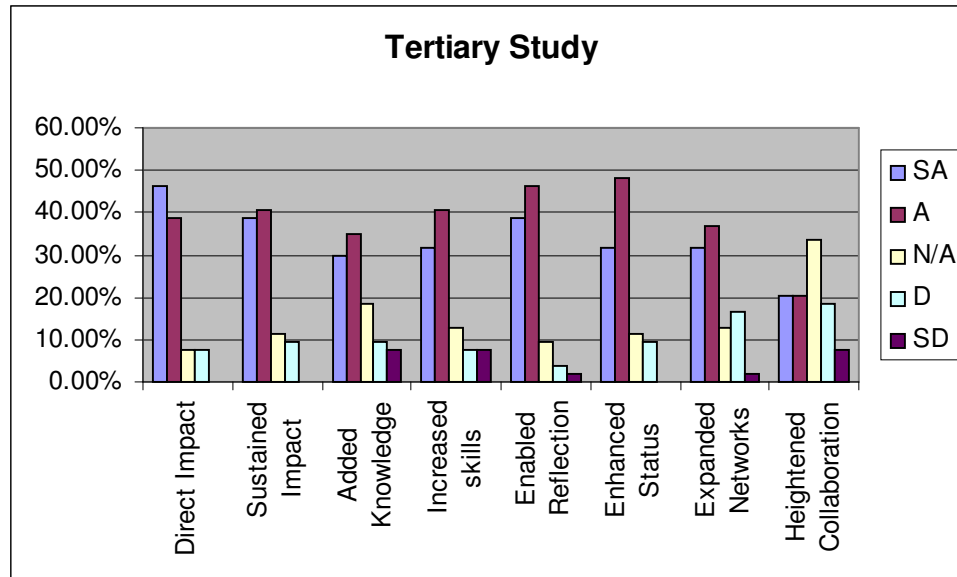


Figure 4.1 Response to effectiveness of tertiary study

#### School-based/focused programs

School-based/focused programs include initiatives such as (a) the Australian Government Quality Teacher Programme (AGQTP) which is intended to update and improve teachers' skills and understanding and enhance the status of teaching, and (b) learning circles, which can be defined as more informal arrangements in which groups of teachers meet to share and discuss issues related to their learning areas usually with a facilitator to guide the process.

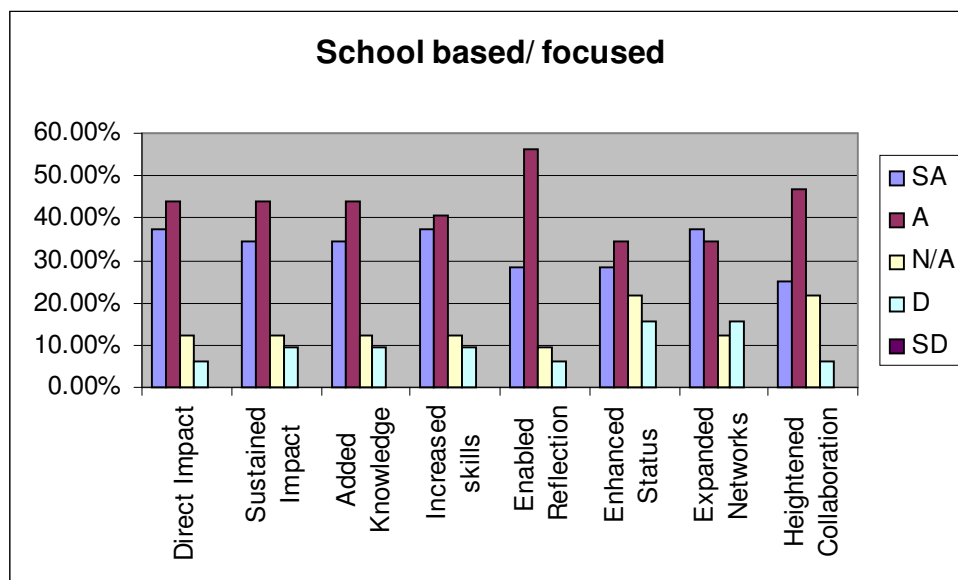
Survey respondents reported that school-based programs primarily had enabled them to reflect on their practice (84.38%) and also had a direct (81.25%) and sustained (78.13%) impact on their teaching practice. There was also strong agreement that school-based programs had increased their ICT skills and added to their personal knowledge of ICT integration (both 78.13%). Less agreement was shown when asked if school-based programs expanded their professional networks, heightened collaboration (both 71.88%) or enhanced their professional status (62.51%). Almost half of all survey respondents ( $n=32$ ) had participated in this model of professional development. The average number of respondents who agreed that school-based programs were an effective mode of professional development was 75.78% and the average number of respondents who

disagreed was 9.77%. The median number of respondents who agreed that school-based programs were an effective mode of professional development was 78.13% and the median number of respondents who disagreed was 9.38%. The survey responses relating to school-based programs are presented as Table 4.4 and Figure 4.2.

**Table 4.4**

*Response to effectiveness of school-based/focused programs (%) in order of agreement (n=32)*

School-based/Focused	SA	A	N/A	D	SD
Enabled Reflection	28.13	56.25	9.38	6.25	0.00
Direct Impact	37.50	43.75	12.50	6.25	0.00
Sustained Impact	34.38	43.75	12.50	9.38	0.00
Added Knowledge	34.38	43.75	12.50	9.38	0.00
Increased Skills	37.50	40.63	12.50	9.38	0.00
Expanded Networks	37.50	34.38	12.50	15.63	0.00
Heightened Collaboration	25.00	46.88	21.88	6.25	0.00
Enhanced Status	28.13	34.38	21.88	15.63	0.00



*Figure 4.2* Response to effectiveness of school-based/focused programs

### Single event programs

Single event programs were described in the survey as full day and/or half day conferences or practicums. Almost all survey respondents ( $n=64$ ) had participated in this model of professional development and reported that single event programs had a direct impact on their teaching practice (85.94%), increased their ICT skills (87.50%) and added to their personal knowledge of ICT integration (87.51%).

There was also strong agreement that the single event programs described in the survey enabled participants to reflect on their practice (84.37%) and expanded their professional networks (85.94%). Less agreement was shown when asked if single event programs had a sustained impact (70.32%), heightened collaboration (64.06%) or enhanced their professional status, with 20.31% of respondents disagreeing with the latter.

The average number of respondents who agreed that single event programs were an effective mode of professional development was 78.71% and the average number of respondents who disagreed was 10.94%. The median number of respondents who agreed that single event programs were an effective mode of professional development was 85.16% and the median number of respondents who disagreed was 8.59%. The survey responses relating to single event programs are presented as Table 4.5 and Figure 4.3.

**Table 4.5**

*Response to effectiveness of single event programs (%) (n=64)*

Single Event Program	SA	A	N/A	D	SD
Added Knowledge	40.63	46.88	6.25	6.25	0.00
Increased Skills	37.50	50.00	3.13	9.38	0.00
Direct Impact	40.63	45.31	9.38	4.69	0.00
Expanded Networks	43.75	42.19	1.56	7.81	0.00
Enabled Reflection	45.31	39.06	7.81	7.81	0.00
Sustained Impact	34.38	35.94	15.63	14.06	0.00
Enhanced Status	18.75	45.31	15.63	20.31	0.00
Heightened Collaboration	18.75	45.31	18.75	17.19	0.00

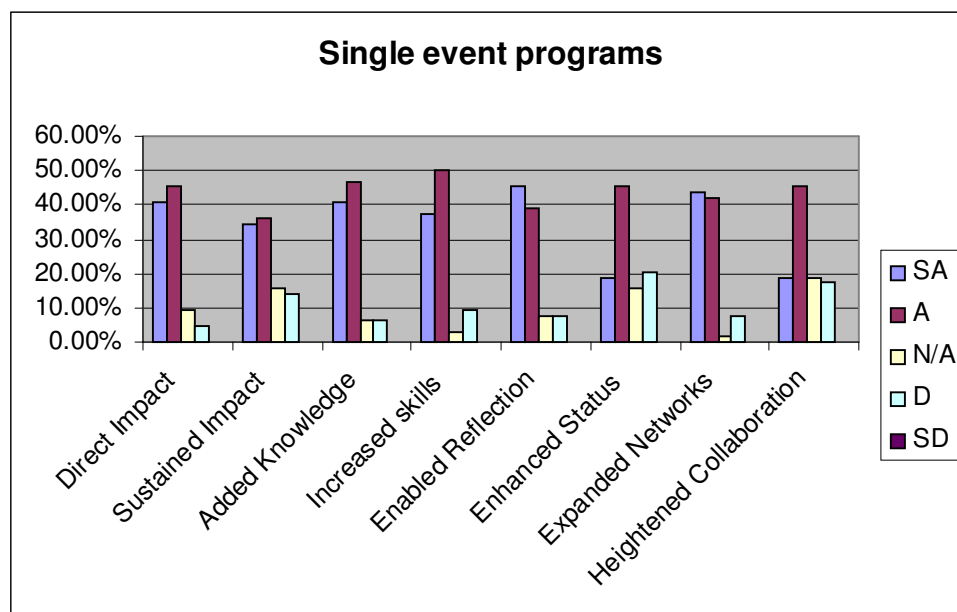


Figure 4.3 Response to effectiveness of single event programs

[Online curriculum projects](#)

Online curriculum projects include initiatives such as *Oz-TeacherNet* and *Project Atmosphere*. The Oz-TeacherNet (OTN) was developed to assist teachers in using the Internet to support professional development and curriculum design. The OTN projects

and communities are managed and developed by the RITE (Research in Information Technology Education) Group based at QUT. Project Atmosphere, hosted by OTN and managed by Sel Kerans, is run by teachers as an online project for school communities in Australia and overseas. It is operated using a collaborative web site and email discussion lists to enhance communication between teachers and meteorologists.

The overall response to this model of professional development was very positive, with survey respondents reporting that online curriculum projects had a direct impact on their teaching practice (90.47%), increased their ICT skills (90.48%) and enabled them to reflect on their practice (90.48%). There was also strong agreement that online curriculum projects added to their personal knowledge of ICT integration (85.72%), had a sustained impact on their teaching practice (80.95%) and expanded their professional networks (80.96%). However, in terms of enhanced professional status and heightened collaboration, 28.57% of respondents in both cases either disagreed or felt these criteria were not applicable.

Approximately one third of the total number of survey respondents ( $n=22$ ) had participated in this model of professional development. The average number of respondents who agreed that online curriculum projects were an effective mode of professional development was 83.93% and the average number of respondents who disagreed was 12.50%. The median number of respondents who agreed that online curriculum projects were an effective mode of professional development was 83.33% and the median number of respondents who disagreed was 11.90%.

This result is seemingly at odds with the results of the section of the survey concerned with the elements of effective professional development (Section 4.1) in which respondents rated being ‘online’ poorly. In that instance, ‘online’ was given a meaning of social interaction or delivery by being placed in the same phrases as ‘face to face.’ This apparently inconsistent result suggests that there are different ‘online’ experiences with some being more passive and less effective than others. The survey responses relating to online curriculum projects are presented as Table 4.6 and Figure 4.4.

**Table 4.6**

*Response to effectiveness of online curriculum projects (%) (n=22)*

Online Curriculum Project	SA	A	N/A	D	SD
Increased Skills	38.10	52.38	0.00	9.52	4.76
Enabled Reflection	42.86	47.62	4.76	4.76	4.76
Direct Impact	57.14	33.33	0.00	9.52	0.00
Added Knowledge	47.62	38.10	4.76	9.52	4.76
Expanded Networks	38.10	42.86	14.29	4.76	4.76
Sustained Impact	57.14	23.81	9.52	9.52	0.00
Enhanced Status	33.33	42.86	9.52	14.29	4.76
Heightened Collaboration	33.33	42.86	14.29	9.52	4.76

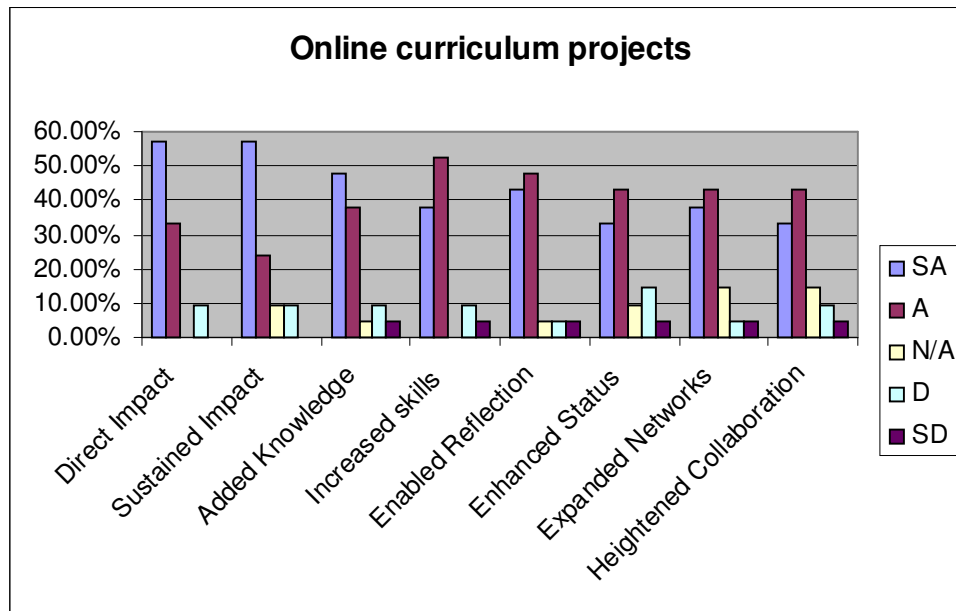


Figure 4.4 Response to effectiveness of online curriculum projects

[Serial Courses in Hybrid Mode \(F2F and online\)](#)

Serial courses in hybrid mode can include both F2F and online components. Examples of these are BCE (Brisbane Catholic Education) / QUT Online professional development

and the Computer Literacy In-service Course (CLIC) program developed by BCE. The small group of survey respondents ( $n=11$ ) who had participated in this model of professional development reported that serial courses in hybrid mode did increase their ICT skills, add to their personal knowledge of ICT integration and enable them to reflect on their practice (72.73% in each case), however compared to the previous models of professional development discussed here, the ratings for the other criteria were all markedly lower.

A total of 63.63% of respondents believed that this model had a direct impact on their teaching practice, enhanced their professional status or heightened collaboration, and many disagreed that it had a sustained impact or expanded their professional networks, with these criteria receiving the lowest rankings (54.54%). The average number of respondents who agreed that serial courses in hybrid mode were an effective mode of professional development was 64.77% and the average number of respondents who disagreed was 18.18%. The median number of respondents who agreed that serial courses in hybrid mode were an effective mode of professional development was 63.64% and the median number of respondents who disagreed was 18.18%. The survey responses relating to serial courses in hybrid mode are presented as Table 4.7 and Figure 4.5.

**Table 4.7**

*Response to effectiveness of serial courses in hybrid mode (%) (n=11)*

Hybrid Mode	SA	A	N/A	D	SD
Added Knowledge	18.18	54.55	18.18	0.00	9.09
Increased Skills	18.18	54.55	18.18	0.00	9.09
Enabled Reflection	18.18	54.55	9.09	9.09	9.09
Direct Impact	27.27	36.36	18.18	9.09	9.09
Enhanced Status	18.18	45.45	9.09	18.18	9.09
Heightened Collaboration	18.18	45.45	18.18	9.09	9.09
Sustained Impact	18.18	36.36	18.18	18.18	9.09
Expanded Networks	18.18	36.36	27.27	9.09	9.09

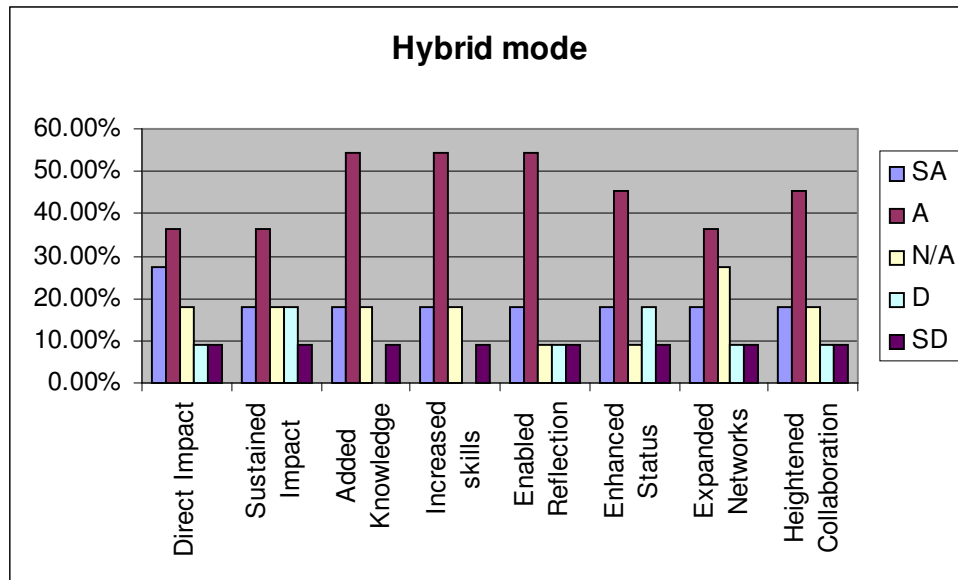


Figure 4.5 Response to effectiveness of serial courses in hybrid mode

### [Serial courses in F2F mode](#)

Serial courses include those run by institutions such as TAFE community education where students are required to attend lectures and tutorials as opposed to TAFE Online which offers courses externally. Survey respondents reported that serial courses in F2F mode had direct (88.24%) and sustained (76.47%) impact on their teaching practice and increased their ICT skills (94.12%).

There was less agreement as to whether it enabled them to reflect on their practice or added to their knowledge of ICT integration (both 70.59%) or enhanced their professional status (64.70%), while 29.41% disagreed that it expanded their professional networks. In terms of heightened collaboration more than half (52.94%) either disagreed or felt that it was not applicable. Less than one third of all survey respondents ( $n=17$ ) had participated in this model of professional development.

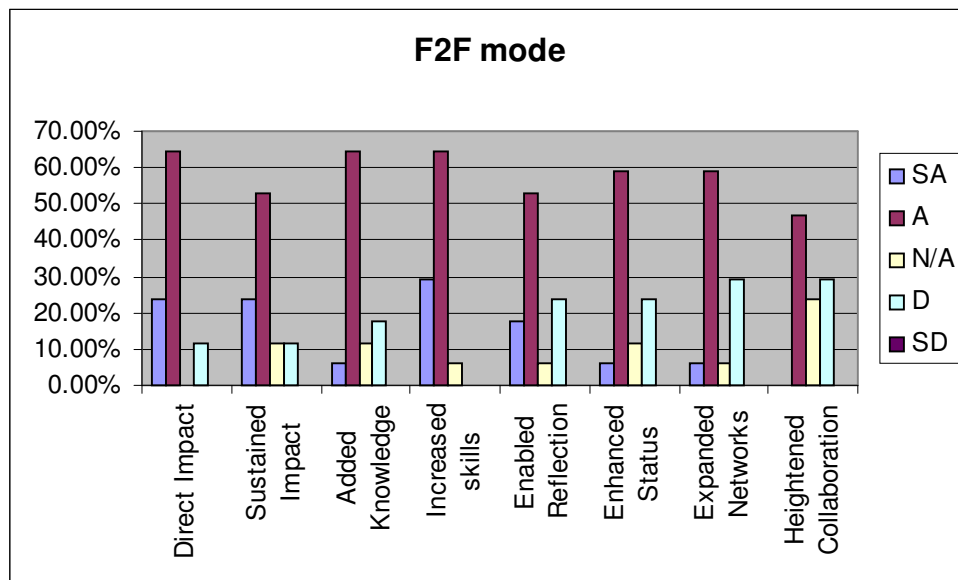
The average number of respondents who agreed that serial courses in F2F mode were an effective mode of professional development was 72.06% and the average number of

respondents who disagreed was 18.38%. The median number of respondents who agreed that serial courses in F2F mode were an effective mode of professional development was 70.59% and the median number of respondents who disagreed was 20.59%. The survey responses relating to serial courses in F2F mode are presented as Table 4.8 and Figure 4.6.

**Table 4.8**

*Response to effectiveness of serial courses in F2F mode (%) (n=17)*

F2F Mode	SA	A	N/A	D	SD
Increased Skills	29.41	64.71	5.88	0.00	0.00
Direct Impact	23.53	64.71	0.00	11.76	0.00
Sustained Impact	23.53	52.94	11.76	11.76	0.00
Added Knowledge	5.88	64.71	11.76	17.65	0.00
Enabled Reflection	17.65	52.94	5.88	23.53	0.00
Enhanced Status	5.88	58.82	11.76	23.53	0.00
Expanded Networks	5.88	58.82	5.88	29.41	0.00
Heightened Collaboration	0.00	47.06	23.53	29.41	0.00



*Figure 4.6* Response to effectiveness of serial courses in F2F mode

### Professional Learning Communities

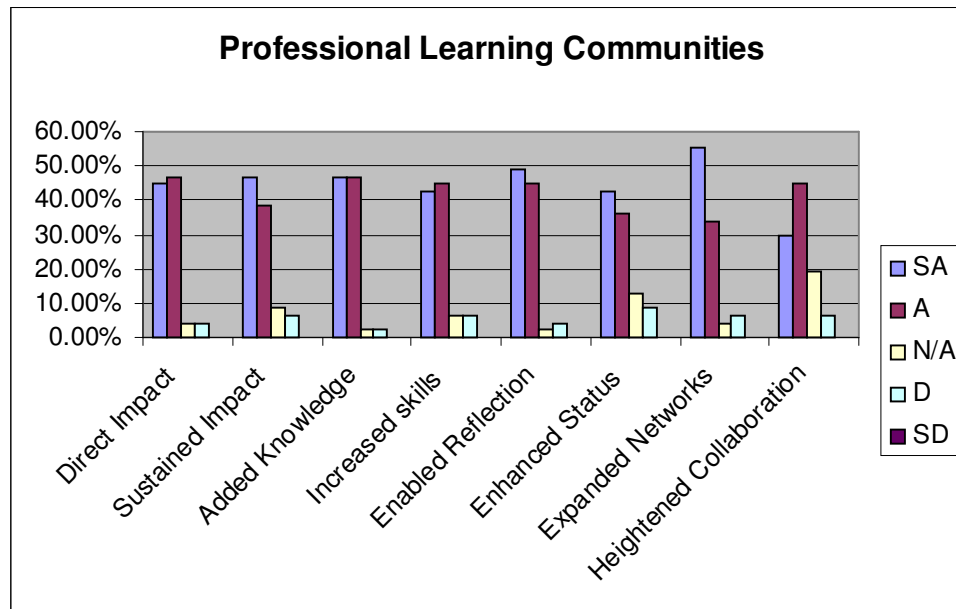
Professional learning communities include groups and programs such as QSITE, a voluntary professional association for teachers to encourage sharing of ideas and resources in order to promote best practice in curriculum development, *Reinventing Practice*, a program developed by QSITE to enable teachers to revisit basic concepts of teaching and learning in order to facilitate the use of ICT in schools, and the Learning Place, Education Queensland' s online learning resource for teachers.

Almost three quarters of the survey respondents ( $n=47$ ) had participated in professional learning communities, with the overall response to this model of professional development being very positive. Respondents reported that it had a direct impact on their teaching practice (91.49%), enabled them to reflect on their practice (93.62%) and added to their personal knowledge of ICT integration (93.62%). There was also strong agreement that this model of professional development expanded their professional networks (89.36%), increased their ICT skills (87.23%) and had a sustained impact on their teaching practice (85.11%). A slightly lower, but still favourable, ranking was given in terms of enhanced status (78.72%) and heightened collaboration (74.47%).

The average number of respondents who agreed that professional learning communities were an effective mode of professional development was 86.70% and the average number of respondents who disagreed was 5.59%. The median number of respondents who agreed that professional learning communities were an effective mode of professional development was 88.30% and the median number of respondents who disagreed was 6.38%. The survey responses relating to professional learning communities are presented as Table 4.9 and Figure 4.7.

**Table 4.9***Response to effectiveness of professional learning communities (%) (n=47)*

Prof Learning Communities	SA	A	N/A	D	SD
Added Knowledge	46.81	46.81	2.13	2.13	0.00
Enabled Reflection	48.94	44.68	2.13	4.26	0.00
Direct Impact	44.68	46.81	4.26	4.26	0.00
Expanded Networks	55.32	34.04	4.26	6.38	0.00
Increased Skills	42.55	44.68	6.38	6.38	0.00
Sustained Impact	46.81	38.30	8.51	6.38	0.00
Enhanced Status	42.55	36.17	12.77	8.51	0.00
Heightened Collaboration	29.79	44.68	19.15	6.38	0.00

*Figure 4.7* Response to effectiveness of professional learning communities[Action learning/Action research](#)

Action learning is a process involving a group of people who meet regularly to share their learning experiences whereas action research is more cyclical and includes phases of critical reflection. Survey respondents (n=17) reported that action learning/action

research had a direct (94.11%) and sustained (82.35%) impact on their teaching practice, enabled them to reflect on their practice (88.23%) and added to their personal knowledge of ICT integration (82.35%). A slightly lower ranking was given in terms of expanded professional networks (76.47%), while 70.58% of respondents thought action learning had increased their ICT skills, enhanced their professional status and heightened collaboration within their school.

Approximately one quarter of all survey respondents ( $n=67$ ) had participated in this model of professional development. The average number of respondents who agreed that action learning was an effective mode of professional development was 79.41% and the average number of respondents who disagreed was just 1.47%. The median number of respondents who agreed that action learning was an effective mode of professional development was 79.41% and the median number of respondents who disagreed was 0. The survey responses relating to action learning projects are presented as Table 4.10 and Figure 4.8.

**Table 4.10**

*Response to effectiveness of Action learning/Action research (%) (n=17)*

Action Learning/Research	SA	A	N/A	D	SD
Direct Impact	35.29	58.82	94.11	5.88	0.00
Enabled Reflection	35.29	52.94	88.23	11.76	0.00
Sustained Impact	35.29	47.06	82.35	17.65	0.00
Added Knowledge	29.41	52.94	82.35	17.65	0.00
Expanded Networks	17.65	58.82	76.47	23.53	0.00
Enhanced Status	23.53	47.06	70.59	23.53	5.88
Increased Skills	11.76	58.82	70.58	23.53	5.88
Heightened Collaboration	11.76	58.82	70.58	29.41	0.00

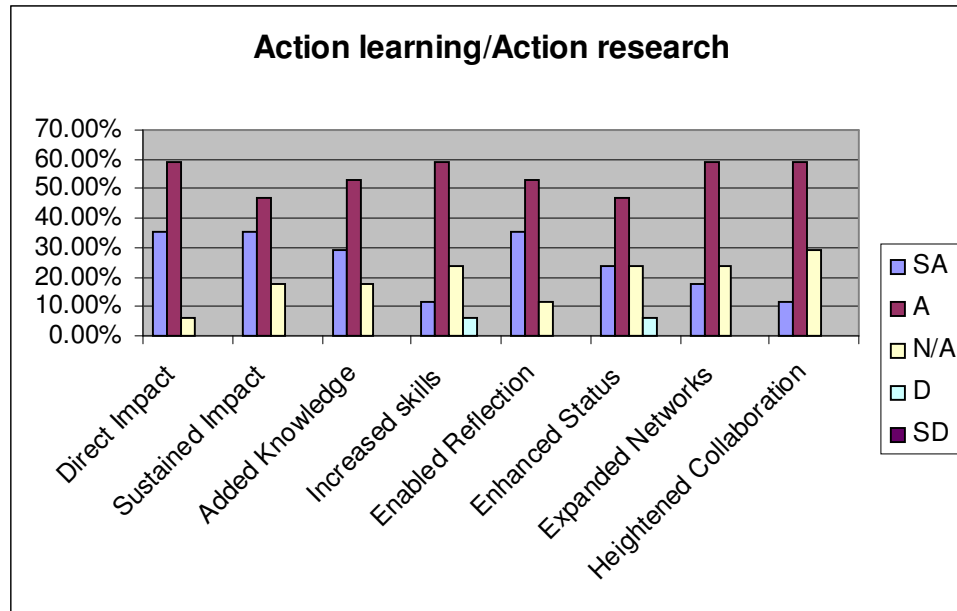


Figure 4.8 Response to effectiveness of Action learning/Action research

### Analysis in terms of impacts

This analysis revisits the data presented in the previous section and reinterprets its findings in terms of impacts rather than through the categories represented by the eight models of professional development. This approach was considered to be important in matching a model of professional development to an expected outcome. These impacts (repeated here for convenience) were:

- i. direct impact on teaching practice
- ii. sustained impact on teaching practice
- iii. added to personal knowledge of ICT integration
- iv. increased ICT skills
- v. enabled participant to reflect on practice
- vi. enhanced professional status
- vii. expanded professional networks
- viii. instigated heightened collaboration within school

For each of the models survey respondents had experienced, they were asked to rate the impacts on a 5 point Likert scale (from Strongly Agree (SA) to Strongly Disagree (SD)). The results of the rating scales presented in this section list the outcome when each impact was cross referenced against the eight models of professional development proffered, and is presented in percentage values.

### Direct Impact

Survey respondents reported that of the eight models of professional development listed, action learning had the greatest direct impact (94.11%). Professional learning communities and online curriculum projects were also rated strongly, with 91.49% and 90.47% respectively, with online curriculum projects had a notably high “strongly agree” rating (57.14%).

The only model, which ranked poorly in terms of direct impact, was serial courses in hybrid mode, with 36.36% of respondents either disagreeing or stating it was not applicable. The survey responses relating to direct impact are presented as Table 4.11 and Figure 4.9.

**Table 4.11**

### *Direct Impact*

Direct Impact	SA	A	NA	D	SD
Action Learning/Research	35.29	58.82	5.88	0.00	0.00
Prof Learn Communities	44.68	46.81	4.26	4.26	0.00
Online Curriculum Projects	57.14	33.33	0.00	9.52	0.00
F2F Mode	23.53	64.71	0.00	11.76	0.00
Single Event Programs	40.63	45.31	9.38	4.69	0.00
Tertiary Study	46.30	38.89	7.41	7.41	0.00
School-based/Focused	37.50	43.75	12.50	6.25	0.00
Hybrid Mode	27.27	36.36	18.18	9.09	9.09

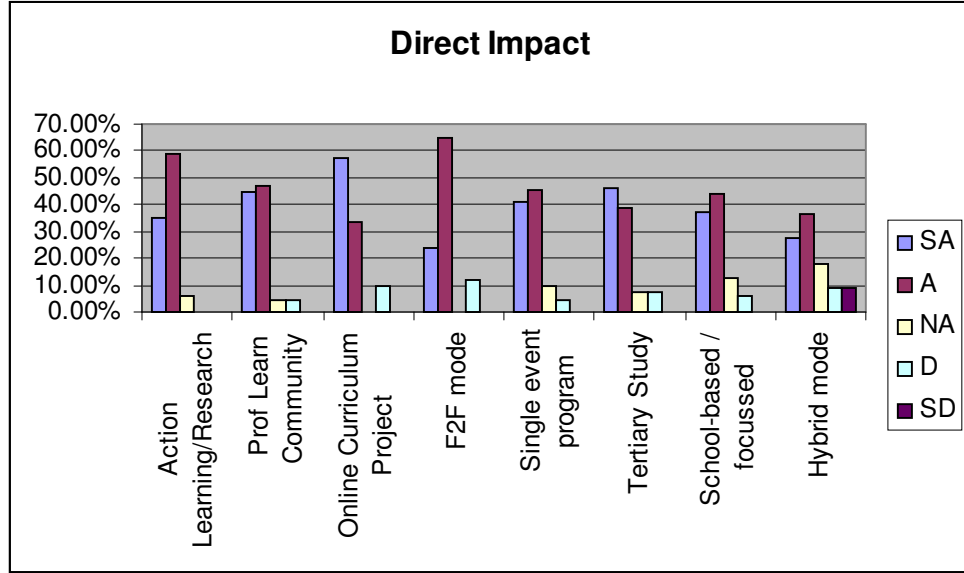


Figure 4.9 Direct Impact

Sustained Impact

Survey respondents reported that professional learning communities (85.11%) and action learning (82.35%) had the greatest sustained impact. It is of interest that online curriculum projects had a very high “strongly agree” rating (57.14%). Single event programs were ranked second last in terms of sustained impact (70.32%), with serial courses in hybrid mode again ranked far lower than all other criteria, with only 54.54% of respondents agreeing and 27.27% disagreeing. The three lowest ranked models, viz. serial courses in F2F or hybrid mode and single event programs, received a relatively high number of “not applicable” and “disagree” responses. The survey responses relating to sustained impact are presented as Table 4.12 and Figure 4.10.

**Table 4.12**

*Sustained Impact*

Sustained Impact	SA	A	NA	D	SD
Prof Learn Communities	46.81	38.30	8.51	6.38	0.00
Action Learning/Research	35.29	47.06	17.65	0.00	0.00
Online Curriculum Projects	57.14	23.81	9.52	9.52	0.00
Tertiary Study	38.89	40.74	11.11	9.26	0.00
School-based/Focused	34.38	43.75	12.50	9.38	0.00
F2F Mode	23.53	52.94	11.76	11.76	0.00
Single Event Programs	34.38	35.94	15.63	14.06	0.00
Hybrid Mode	18.18	36.36	18.18	18.18	9.09

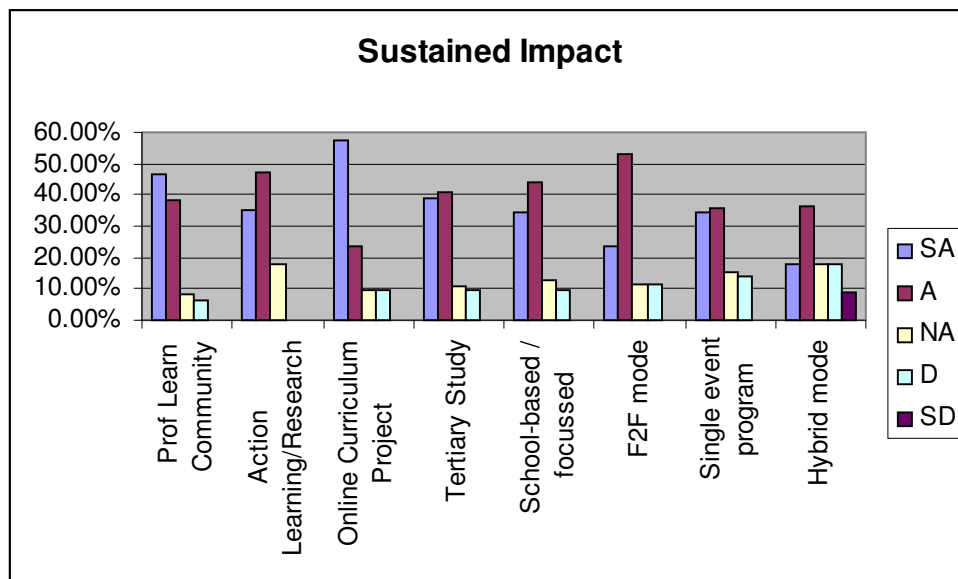


Figure 4.10 Sustained Impact

Added Knowledge

Survey respondents reported that professional learning communities added to their personal knowledge of ICT integration to a much greater extent than any of the other seven models of professional development listed, with 93.62% agreeing. Single event programs (87.51%) and online curriculum projects (85.72%) also rated well, however serial courses in either hybrid mode or F2F mode were both ranked much lower, at just

over 70%. In the case of tertiary study, more than 35% of respondents either disagreed or felt that it was not applicable. The survey responses relating to added knowledge are presented as Table 4.13 and Figure 4.11.

**Table 4.13**

*Added Knowledge*

Added Knowledge	SA	A	NA	D	SD
Prof Learn Communities	46.81	46.81	2.13	2.13	0.00
Single Event Programs	40.63	46.88	6.25	6.25	0.00
Online Curriculum Projects	47.62	38.10	4.76	9.52	4.76
Action Learning/Research	29.41	52.94	17.65	0.00	0.00
School-based/Focused	34.38	43.75	12.50	9.38	0.00
Hybrid Mode	18.18	54.55	18.18	0.00	9.09
F2F Mode	5.88	64.71	11.76	17.65	0.00
Tertiary Study	29.63	35.19	18.52	9.26	7.41

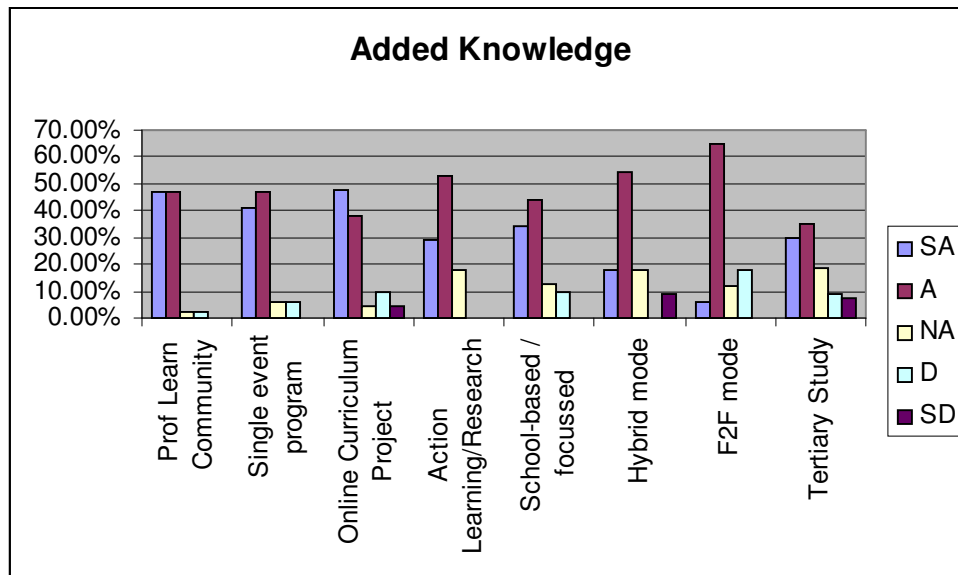


Figure 4.11 Added Knowledge

*Increased Skills*

In contrast to the results for adding to personal knowledge, survey respondents reported that serial courses in F2F mode had by far the greatest impact in terms of increasing their ICT skills, with 94.12% agreeing. Online curriculum projects were ranked second highest, but tertiary study was once again considered to have relatively little impact, with 14.81% of respondents disagreeing.

Action learning was ranked lowest in this instance with almost one quarter of respondents not thinking it was applicable perhaps because it is not seen as having a skills focus. The survey responses relating to increased skills are presented as Table 4.14 and Figure 4.12.

**Table 4.14**

*Increased Skills*

Increased Skills	SA	A	NA	D	SD
F2F Mode	29.41	64.71	5.88	0.00	0.00
Online Curriculum Projects	38.10	52.38	0.00	9.52	4.76
Single Event Programs	37.50	50.00	3.13	9.38	0.00
Prof Learn Communities	42.55	44.68	6.38	6.38	0.00
School-based/Focused	37.50	40.63	12.50	9.38	0.00
Hybrid Mode	18.18	54.55	18.18	0.00	9.09
Tertiary Study	31.48	40.74	12.96	7.41	7.41
Action Learning/Research	11.76	58.82	23.53	5.88	0.00

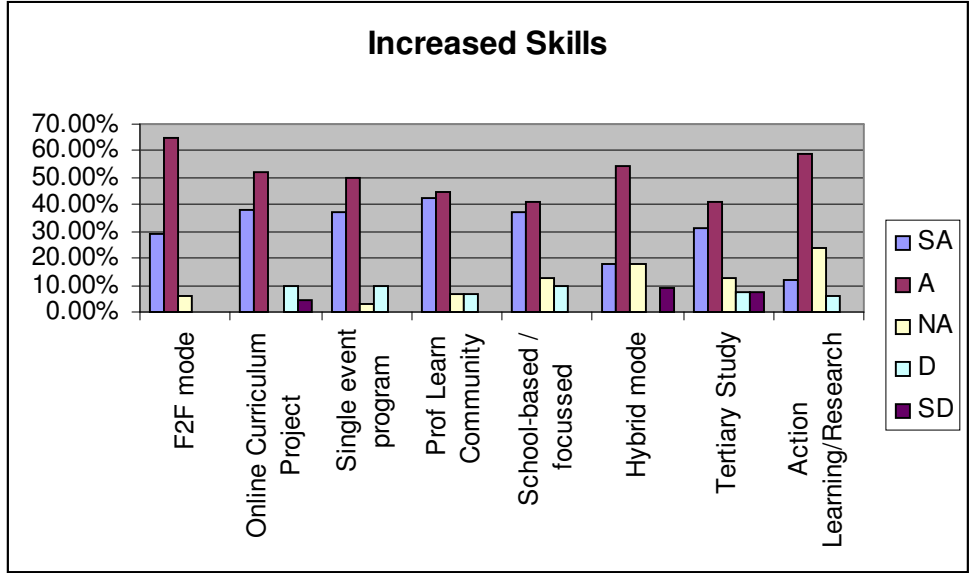


Figure 4.12 Increased Skills

Enabled Reflection

Of the eight models of professional development listed, survey respondents reported that professional learning communities gave them the greatest opportunity to reflect on their practice with 93.62% agreeing. As with the results presented in Section 4.3.4, online curriculum projects were again ranked second highest.

Also reflecting a recurring trend in the data, serial courses in either hybrid mode or F2F mode were both ranked much lower, with 23.53% of respondents disagreeing that the latter had had an impact here. The survey responses relating to enabling reflection are presented as Table 4.15 and Figure 4.13.

**Table 4.15**

*Enabled Reflection*

Enabled Reflection	SA	A	NA	D	SD
Prof Learn Communities	48.94	44.68	2.13	4.26	0.00
Online Curriculum Projects	42.86	47.62	4.76	4.76	4.76
Action Learning/Research	35.29	52.94	11.76	0.00	0.00
Tertiary Study	38.89	46.30	9.26	3.70	1.85
School-based/Focused	28.13	56.25	9.38	6.25	0.00
Single Event Programs	45.31	39.06	7.81	7.81	0.00
Hybrid Mode	18.18	54.55	9.09	9.09	9.09
F2F Mode	17.65	52.94	5.88	23.53	0.00

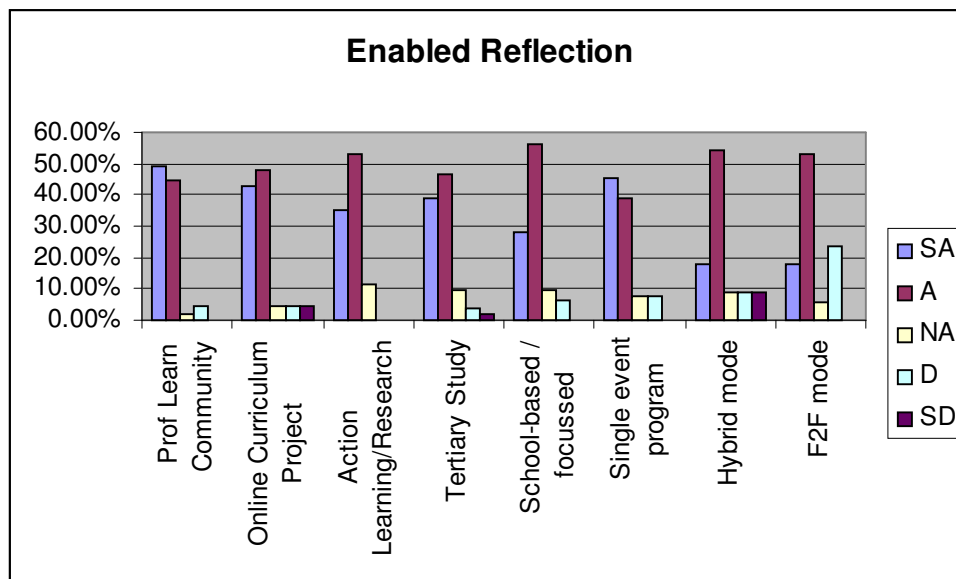


Figure 4.13 Enabled Reflection

Enhanced Status

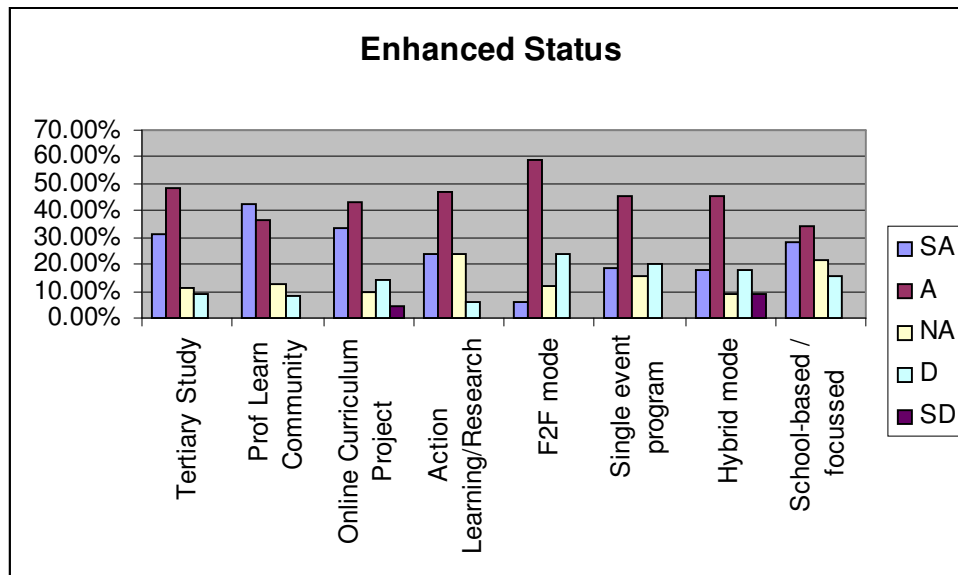
Survey responses were fairly consistent when it came to ranking the eight models of professional development listed in terms of enhancing participants’ professional status. Tertiary study (79.63%) and professional learning communities (78.72%) were rated highest, followed closely by online curriculum projects (76.19%). Serial courses in either hybrid mode or F2F mode were both ranked slightly lower, with approximately one

quarter of respondents disagreeing that either had enhanced their professional status, while school-based programs were ranked last (62.51%). The survey responses relating to enhanced status are presented as Table 4.16 and Figure 4.14.

**Table 4.16**

*Enhanced Status*

Enhanced Status	SA	A	NA	D	SD
Tertiary Study	31.48	48.15	11.11	9.26	0.00
Prof Learn Communities	42.55	36.17	12.77	8.51	0.00
Online Curriculum Projects	33.33	42.86	9.52	14.29	4.76
Action Learning/Research	23.53	47.06	23.53	5.88	0.00
F2F Mode	5.88	58.82	11.76	23.53	0.00
Single Event Programs	18.75	45.31	15.63	20.31	0.00
Hybrid Mode	18.18	45.45	9.09	18.18	9.09
School-based/Focused	28.13	34.38	21.88	15.63	0.00



*Figure 4.14* Enhanced Status

*Expanded Networks*

Survey respondents reported that participation in professional learning communities (89.36%) and single event programs (85.94%) gave them the greatest opportunity to expand their professional networks. Notably, professional learning communities received a very high ‘strongly agree’ rating (55.32%).

Reflecting a continuing trend in the data, serial courses in either hybrid or F2F mode were both ranked much lower, with almost 30% of respondents disagreeing that the latter had had an impact here. The responses relating to expanded networks are presented as Table 4.17 and Figure 4.15.

**Table 4.17**

*Expanded Networks*

Expanded Networks	SA	A	NA	D	SD
Prof Learn Communities	55.32	34.04	4.26	6.38	0.00
Single Event Programs	43.75	42.19	1.56	7.81	0.00
Online Curriculum Projects	38.10	42.86	14.29	4.76	4.76
Action Learning/Research	17.65	58.82	23.53	0.00	0.00
School-based/Focused	37.50	34.38	12.50	15.63	0.00
Tertiary Study	31.48	37.04	12.96	16.67	1.85
F2F Mode	5.88	58.82	5.88	29.41	0.00
Hybrid Mode	18.18	36.36	27.27	9.09	9.09

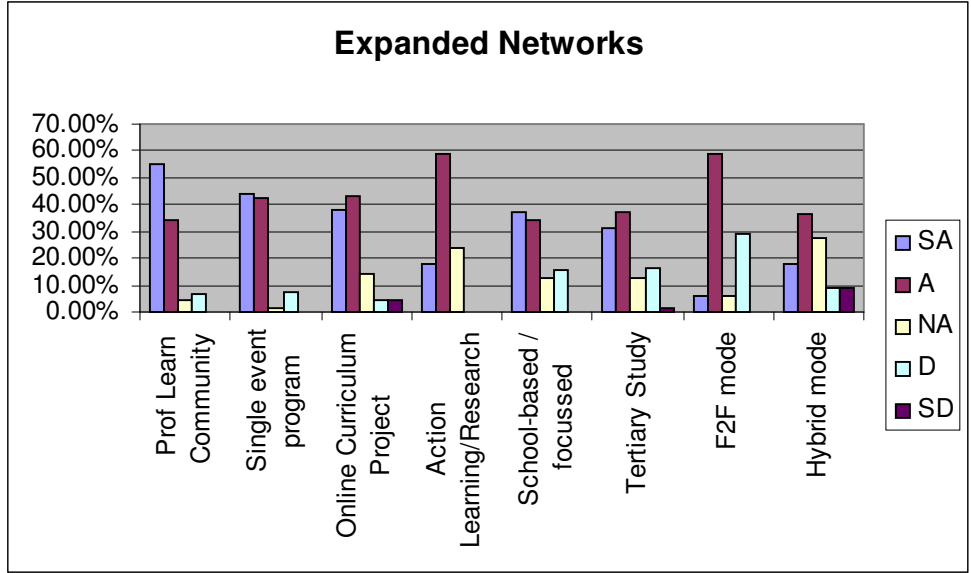


Figure 4.15 Expanded Networks

Heightened Collaboration

In terms of which models of professional development encouraged heightened collaboration within the school, survey respondents reported that online curriculum projects (76.19%) and professional learning communities (74.47%) had the greatest impact. Serial courses in either hybrid mode or F2F mode were both ranked much lower, with fewer than half of respondents agreeing that the latter had had an impact in this area. Tertiary study was rated lowest, with more than 25% of respondents disagreeing that it had heightened collaboration in their experience. The survey responses relating to heightened collaboration are presented as Table 4.18 and Figure 4.16.

**Table 4.18**

*Heightened Collaboration*

Heightened Collaboration	SA	A	NA	D	SD
Online Curriculum Projects	33.33	42.86	14.29	9.52	4.76
Prof Learn Communities	29.79	44.68	19.15	6.38	0.00
School-based/Focused	25.00	46.88	21.88	6.25	0.00
Action Learning/Research	11.76	58.82	29.41	0.00	0.00
Single Event Programs	18.75	45.31	18.75	17.19	0.00
Hybrid Mode	18.18	45.45	18.18	9.09	9.09
F2F Mode	0.00	47.06	23.53	29.41	0.00
Tertiary Study	20.37	20.37	33.33	18.52	7.41

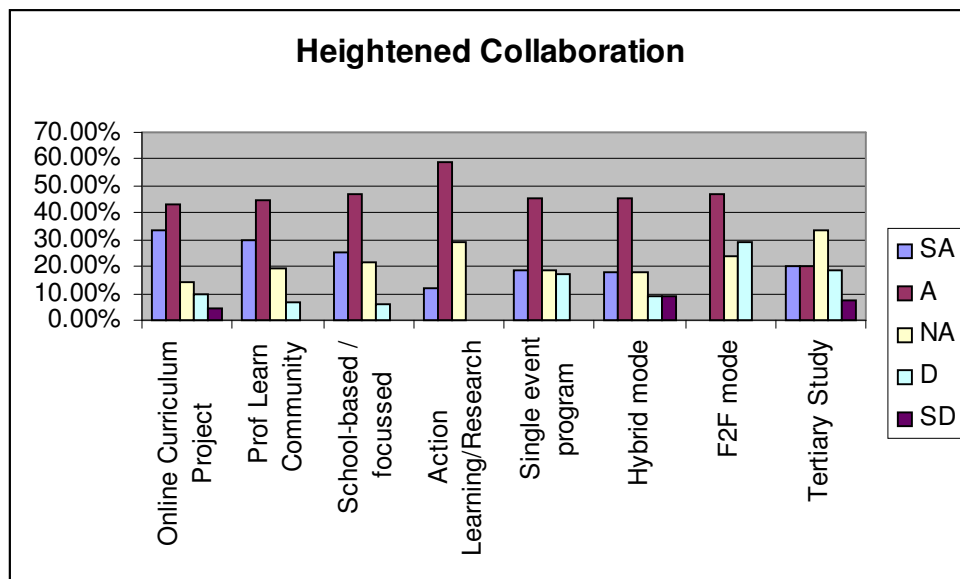


Figure 4.16 Heightened Collaboration

**Open-ended comments and semi-structured interviews**

Survey respondents were asked to provide comments based on a list of six questions, which were intended to allow open-ended responses, giving them an opportunity to provide additional information, which may not have been covered in the earlier sections of the survey. The aim of this section of the survey was to elicit anecdotal evidence

about which actual professional development events respondents felt had been successful or unsuccessful, and which characteristics of professional development (in their opinion) contributed to effective professional development.

Further data was collected from semi-structured interviews conducted with leaders in teacher professional development in Queensland ( $N=10$ ). People who had been identified as leaders in professional development in ICT in Queensland were interviewed individually in semi-structured interviews of approximately 15-20 minutes duration. These interview subjects were chosen to represent a cross-section of educational districts, systems and roles (including lecturer, Deputy Principal and ICT Curriculum Officers) within Queensland. Together they formed a representative sample of all educational systems (state, Catholic and independent) and professional associations, including executive members of the QSITE (Queensland Society for Information Technology in Education) Board. The interviews were based on the same six open-ended questions posed in the survey.

This section will present a summary of the findings of the survey and interviews by identifying key themes, which emerged through analysis of the responses. A fuller analysis of these comments is discussed in Part 5, Interim Recommendations. Where comments are cited in this section, these comments will be acknowledged using the codes allocated to survey and interview subjects (see Table 3.1). The questions posed in both the survey and the semi-structured interviews were:

1. List professional development event/s you thought were particularly useful or effective - you might include such events as "lighthouse" school visits, learning circles, train the trainer, provision of equipment for teacher use, expert in residence programs, or PLOT.
2. What elements made the professional development listed above effective?
3. What do you think are the characteristics of effective professional development?  
For example, time to participate and practice, participant involvement, collegiality and collaboration, and accessible and inclusive activities.

4. List professional development event/s you did NOT think were particularly useful or effective.
5. What elements made the professional development listed above INeffective?
6. What do you think are the characteristics of INeffective professional development? For example, exclusive focus on skills, lack of time to participate and practice, failure to account for prior knowledge, fragmented, unrelated to practice, lacking in intensity or follow up.

In response to the question (Question 1), which asked participants to list specific examples of professional development events which had been particularly useful or effective, the named events included QSITE Reinventing Practice, LDC-ICT Practicums, Learning Circles, Mentoring, QSITE Conferences, professional learning communities and network groups. In particular, learning communities and network groups were singled out, being mentioned 38 times in total, which is meaningful in a population of 67 respondents, and this will be discussed in more detail below.

Effective modes of professional development were deemed to be sustained, with "small doses" over long periods of time, as well as being sustained in terms of ongoing community. They were also described as practical, contextualised, relevant and meaningful. Respondents emphasised the importance of professional development being in context and taking account of the prior knowledge, individual needs and the different learning styles of participants.

Various respondents described the LDC-ICT practicums in detail as an illustration of professional development, which has worked extremely well, with comments such as "what is really effective is 2 to 3 day teacher practicums, the kind run in LDC-ICT. Teachers are so brimming with confidence and enthusiasm by the end of it, and ready to use it in the classroom" (L10/O14) and:

From the point of view of observing things that work, like the LDC practicums, there is a structure but there is a great deal of freedom within that, which is why

they start to work, because they have got discernable outcomes, pre-stated aims and goals, but there is a fair bit of space and movement within that, and that is not easy to achieve. I think it is impossible to achieve when you get to large systemic projects, but I think it's a critical part. (L6)

The ineffective modes were described as “one shot skill training with no follow up” (O5), “one shot then over” (P8), “sit and listen” (S25), in “large groups [which create a] very impersonal situation” (P14), cover content “just in case” (S24) and involve prescriptive sessions with “all talk, little interaction” (S23). In terms of context, professional development which was not “related to actual practice” (P7) and which did not incorporate “opportunity for reflection” (L3) was felt to be ineffective and a waste of “teachers’ valuable spare time” (L10/O14).

Rodriguez and Knuth (2000) described “high-quality professional development... as an ongoing process, not a one-shot approach” (paragraph 21). According to Kessell and Gaynor (2002):

A significant problem faced by full-time educators attempting part-time postgraduate study is lack of time; they have no time for obtuse theory, “busy work” or “just in case” ICT skills training. Therefore all course content, all online discussions, all activities and all assessment derive from the actual classroom use of ICT by the teachers and their colleagues. (Abstract)

In describing ineffective professional development events, one respondent stated that “Intel master training was the worst thing I have ever been to. There was no professional growth, no interrogation of practice, we didn't learn anything new, no recognition of prior knowledge, of where people were at or where they wanted to go, and the equipment didn't always work” (L3).

Where teachers are the participants in professional development, they are critically aware of the teaching practice of presenters, mentors and leaders. Throughout the survey,

observations of the pedagogy in terms of presenter characteristics, group formation, content sequencing and activity planning were made.

The ‘presenter’ was rarely mentioned in descriptions of effective professional development but was one of the main themes, which emerged when participants listed characteristics of ineffective professional development they had experienced. An effective presenter is ‘knowledgeable’ (S28), ‘authoritative’ (L6) and ‘moved thinking by challenging my understandings’ (L2/O13). Respondents described the need to have presenters who can ‘encourage people’ (L5), ‘judge your level’ (P14) and ‘understands how adults learn’ (L9).

Education Queensland (1998, p. 9) has identified a number of attributes which should be considered when selecting presenters for teacher professional development, including:

- Presenters must be suitably qualified for the activity and mode of delivery.
- The presenter should have credibility with the audience – that is, demonstrated knowledge of, and expertise in, curriculum, people, the school and the system – and be competent in adult education principles.
- Presenters should customise the topic for the context and acknowledge the reality of classrooms and schools.
- Presenters should be skilled learning facilitators, energetic, organised and able to motivate participants through a variety of approaches.
- Presenters should involve participants through positive interactions, treat participants with respect, and build opportunities for participants to identify their own needs and make decisions about their own learning.
- Real-life case studies, including videotaped and/or peer-critiqued role-playing, should be used where appropriate and feedback given to the participants.

It is perhaps not surprising then, that ineffective presenters were described by respondents as lacking in many of these qualities, notably:

- unprepared or poorly prepared
- rushed

- not interesting; not inspiring
- not comfortable with adult audiences
- not considering audience needs or background
- having no passion for learning or knowledge of the context of schooling
- alienating participants
- being a ‘preacher’ or ‘lecturer’
- wanting to sell you something (rather than educate or share)
- being a poor communicator – ‘talks at or reads to participants (from overheads or slides)’ (O9)
- using ‘esoteric’ language, jargon, overused or cliché d
- talking too much and allows insufficient time for ‘hands on’
- not allowing play, experimentation or creativity
- providing no feedback or sustained support

The complex nature of the characteristics of effective professional development was acknowledged, with respondents citing a ‘blended model’ incorporating a ‘patchwork of approaches’ as part of a ‘holistic program’ being the best approach (L5). Professional development which caters for a ‘variety of learning styles’ (P1) and ‘input from the learners’ (L1), and which provided a ‘real reason for learning’ (P7) with ‘relevance to current needs’ (S15) was described in both the survey responses and interviews as being the most effective.

References from literature about professional development support these views, acknowledging, ‘professional development models are complex’ and ‘need to have an adequate mix of strategies based on known principals of effective professional development’ (Downes et al., 2002, p. 3). What is required is a range of strategies which ‘include combining courses or workshops with in-school support, having school-based components, and creating on-going networks for participants’ (Downes et al., 2002, p. 3).

According to Education Queensland (1998), ‘growth occurs through a variety of activities, such as action research, participating in study groups or small-group problem

solving, observing peers, planning lessons with colleagues and journal writing. Even staff meetings can become sites for substantive conversations” (p. 3). Effective professional development should be designed to “cater for different learning styles of participants, for example, by using a variety of approaches and activities” (p. 8).

Williams (2000) noted, “much more holistic professional development programs are needed to enable teachers to practise professional knowledge work in the context of connected communication networks” (p. 11). Sherman and Kutner (n.d. b) also suggested “it is preferable for multiple approaches to be integrated with one another and address the complex and dynamic characteristics of specific program contents and learner needs. Success rests on finding the optimal combination of approaches for different situations” (p. 2-1).

The purpose of professional development is to “challenge thinking” (L2/O13) and according to many of the respondents, an “exclusive focus on skills” was not able to provide an environment for this. Comments in this regard included criticism of “skills professional development without the focus on pedagogy” (P7) which didn’t “relate well to the classroom” (P1) and which was “without suggestion for application” (S16). Respondents stated that “learning a piece of software without its curriculum uses” (P14) was not useful, nor was professional development which was “skills based, not linked to classroom practice” (L3) and with “no opportunity for reflection on how it fits in with what you do” (L3).

Conversely, professional development events which have “high impact usually are in context [and] they are directly related to practice” (L2/O13) and make “the activity as authentic as possible, catering for the wide variety of needs of participants” (L1). Effective professional development was deemed to provide a “real reason for learning” (P7) and according to one respondent “moved thinking by challenging my understandings” (L2/O13).

In order to “stimulate reflective practice that is grounded in the teaching context”, Grant (1996) maintained that “professional development approaches that can introduce and support collegial, ongoing, and informal contexts for teacher learning overall and engagement with technology in particular” are needed (paragraph 7), and that “the most promising forms of professional development engage teachers in the pursuit of genuine questions, problems, and curiosities, over time, in ways that leave a mark on perspectives, policy, and practice” (Little, 1993, p. 133 in Grant 1996). This observation is also made by Rodriguez and Knuth (2000) who stated that a “good professional development program is job embedded and tied to learning goals; it provides activities in the context of practice” (paragraph 16).

Education Queensland (1998) suggested that professional development developers should ask themselves “are all materials used of a high quality, relevant, recent and appropriate? (p. 8) Does it use participants’ voices, narratives and stories where appropriate? Does the service engage participants in concrete practical tasks related to their work? Are participants engaged in observation and reflection that illuminate the processes of learning and development and are directly related to their work?” (p. 5)

Amongst survey responses there was also strong support for professional communities (which do not have a presenter or designated mentor) and action learning. This was expressed in terms of learning communities and network groups, as well as incorporating notions of sharing and collaboration. Respondents felt that “the teachers’ stories from the classroom are more powerful” (L10/O14), and professional development which encouraged “collaboration and peer support has been enormously successful” (L1). Teachers enjoyed “meeting other teachers [and] swapping ideas” (P11) and “share best practices” (P14), and through this “shared expertise” it was felt there should be a community for “supporting them to change their practice” (L2/O13) and “supporting them to integrate online technologies” (L1). In other words, the “creation of an ongoing professional community” (L1) enabled professional development to be “backed up with ongoing support from colleagues” (S9).

Education Queensland (2004d) has observed that “teachers learn most effectively in professional learning communities” (paragraph 2), whilst Hord (1997) agreed that professional learning communities contribute to “powerful learning that defines good teaching and classroom practice and that creates new knowledge and beliefs about teaching and learners” (paragraph 32).

What respondents did not want was professional development in which they were “forced to participate” (P22) or that was “compulsory irrespective of background of participants” (S24) and which was “one size fits all’ without any variations” (S24). Effective professional development occurs when participants “wanted to be there” because “self initiated professional development is much more fulfilling” (L9). Respondents talked about “taking responsibility for learning” (O11) and the notions of “personal selection” and “self direction” (L6) being powerful motivators.

According to Education Queensland (1998), effective professional development should “assist learners to set their own goals and monitor their own progress towards these; take place over time; and include opportunities for participants to share experiences and reflections with others” (p. 7). McGhee (1998) also noted that when “teachers can take control of their own professional development” in effective models of professional development (p. 13), she observed that they are able to “go through stages of survival, mastery, impact and innovation in their adoption and use of technology in their teaching activities” (p. 15).

The four dimensions of productive pedagogies identified by Education Queensland (2004b) are “intellectual quality, connectedness, supportive classroom environment and recognition of difference” (paragraph 2). The Productive Pedagogies report also notes “an emphasis on basic skills ... may in fact have counterproductive effects” (paragraph 5). Therefore, professional development designed for adult learners should also “consider and understand the backgrounds and preferred learning styles of their students” (Education Queensland, 2004c, paragraph 3) and take into account the “value and

importance of being informed of the hopes, interests and abilities of the participants” (Webb et al., 2004, paragraph 1).

Professional development should also “acknowledge different levels of expertise of participants by including recognition of prior experience and current competency, and incorporating multiple entry and exit points” (Education Queensland, 1998, p. 7). Professional development presenters need to take into account the ‘highly diverse ICT background knowledge, skills and experience of the teachers’ in order to develop professional development which is capable of ‘productively meeting a diversity of teachers’ needs, and enabling everyone to learn at a level and point of readiness appropriate for them” (Phelps et al., 2004, paragraph 52).

### Summary

This section has described the findings of the report. A profile of effective professional development is emerging but it is clear that differing models have different impacts and each has some measure of effectiveness in meeting particular needs. Similarly, and perhaps more emphatically, a profile of ineffective professional development is emerging with particular emphasis on the behaviour and approach of the presenter. Part 5, will present the conclusions of the report in terms of recommendations for effective professional development in ICT for teachers.