



Stage 3

Interim research and evaluation report 17

## **Professional Learning Facilitators: Activities as at end of Term 1/2, 2008**

A research report for the Australian Academy of Science

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## Introduction

Teachers' practice is strongly influenced by their beliefs (Keys, 2003) and self-efficacy (Riggs & Enocks, 1990) and confidence (Yates & Goodrum, 1990), and their pedagogical content knowledge (Appleton, 1995). To improve practice teachers need the support of quality professional learning and curriculum resources (Goodrum, Hackling & Rennie, 2001). Research with professional learning programs at secondary and primary schools (Goodrum, Hackling & Trotter, 2003; Goodrum, Hackling & Sheffield, 2003; Hackling & Prain, 2005; Lewthwaite, 2006; Peers, Diezmann & Watters, 2003) indicates that the provision of professional learning workshops and exemplary curriculum resources, successful pedagogical experiences, opportunities for collegial interaction and reflection on practice, support of the principal and strong leadership by leader teachers are required for successful implementations of new initiatives.

Research on teacher professional learning indicates that it needs to be ongoing, make connections to the teachers' knowledge, experience and professional needs, provide modelling of new practices, supported with curriculum resources, focussed on building teachers' pedagogical content knowledge and provide time for reflection and collegial sharing and support (Goodrum, Hackling & Trotter, 2003; Hall & Hord, 1987; Hewson, 2007; Keady, 2007; Loucks-Horsley, Hewson, Love & Stiles, 1998).

Little research has been reported in the literature on facilitators of professional learning. Previous research conducted as part of the *Primary Connections* project has shown that facilitators' confidence and self-efficacy for facilitation is enhanced when they are provided with professional learning workshops that build the facilitators own knowledge of effective teaching and learning and are supported with curriculum and professional learning resources (Hackling, 2006a; Hackling, 2006b). Facilitators have reported that a position with an established communication network, support from their line manager, time for facilitation, high teacher interest in the program and their own knowledge of *Primary Connections* and their skill as a facilitator enabled them to be effective in their role (Hackling, 2006b). Teachers have expressed a high level of satisfaction with the workshops facilitated by the *Primary Connections* professional learning facilitators (Hackling & Prain, 2007) which suggests that the training of the facilitators and the professional learning resources are effective.

Further data are required to determine the level of activity of facilitators and the factors that are enabling or constraining their roles and effectiveness as facilitators.

## Purpose

The purpose of this study was to elicit from professional learning facilitators (PLFs), at the end of Term 1 of 2008, information about: their professional learning activities; factors enabling or inhibiting their effectiveness; and, what further support they need in their role.

## Method

A questionnaire based survey method was adopted to gather information from the PLFs. Questionnaires are effective and economical for gathering information from large numbers of participants and the data gathered are relatively easy to code and analyse.

The questionnaire included a mix of open response questions and closed objective items. A copy of the questionnaire is attached as Appendix 1.

The questionnaire was sent to PLFs as an email attachment at the end of Term 1/beginning of Term 2 and completed surveys were faxed back to the research team.

## Population

The population of PLFs that were surveyed included those trained in Canberra, New South Wales, South Australia, Queensland and Western Australia. The numbers of PLFs trained at these workshops are summarised in Table 1.

Table 1: Number of PLFs trained by workshop and jurisdiction

PLF training workshop	Number of PLFs trained
Canberra 2006	88
Canberra 2007	119
NSW	34
SA	41
QLD	67
WA	34
Total	383

## Data analysis

Objective items were coded and data entered into SPSS so that simple descriptive statistics could be calculated. Responses to open ended questions were read and re-read until categories of responses were identified. The frequency of responses in each category was calculated.

## Results

This section of the report presents demographic information about the participants, information about their professional learning activities, the level of demand for workshops, factors enabling or constraining their effectiveness as facilitators and any needs for further support.

### Demographic data

The survey was sent to all Professional Learning Facilitators recorded on the Australian Academy of Science PLF database. This included PLFs that had been trained in Canberra in 2006 and 2007 and also those trained in Queensland, New South Wales, South Australia and Western Australia. Of the 383 who were sent the survey, 130 returned completed surveys representing a return rate of 34%.

The sample included PLFs from all jurisdictions and sectors. There were large numbers from SA, WA, NSW and QLD and from the government sector (Tables 2 and 3). Sixty per cent of the sample was trained in the 2006 and 2007 Canberra workshops.

Table 2: State of origin and year of training as a PLF for respondents to Term 1/2 2008 survey

State	Number of respondents by PLF training workshop				
	Canberra 06	Qld 06	Canberra 07	Other 07/ 08	Total
WA	9	0	8	9	26
SA	5	0	7	20	32
NT	1	0	1	0	2
QLD	3	10	8	2	23
NSW	7	1	9	9	26
ACT	1	0	2	0	3
VIC	6	0	7	0	13
TAS	3	0	2	0	5
TOTAL	35	11	44	40	130

Table 3: Origin of respondents by sector (n=130)

Sector	Number	Per cent
Government	95	73
Catholic	20	15
Independent	9	7
Other	6	5
TOTAL	130	100

Almost 70% of the sample of PLFs was based in schools and of these most were classroom teachers (Table 4). Further details of the professional roles of the PLFs in 2007 and 2008 are provided in Table 5.

Table 4: Proportion of PLFs who are school-based and teaching

Role	Number	Per cent
Located in a school	89	69
Classroom teachers	60	46
Not in a school	40	31
Not a PLF now	1	1

Of the PLFs based in primary schools, the largest group (41) were *Primary Connections* Trial Teachers followed by deputy principals (16) and science coordinators (12). Of the PLFs not based in primary schools, most were education department advisors/consultants or advisors attached to professional associations or science organisations. The data indicate that there were changes in roles for some PLFs between 2007 and 2008 (Table 5).

When asked "Given your current role and responsibilities are you still able to perform the role of PLF?" 116 of the 130 (89%) indicated that they could still act as a PLF. It would be expected that a higher proportion of the sample of 130 facilitators who responded to the survey would be active than the non-returned group of 253 facilitators.

Table 5: Workplace and role of PLFs

Role	Number in role	
	2007	2008
PLFs based in primary schools		
PC trial teacher in a school	41	35
Specialist science teacher	2	2
Science coordinator	12	16
Teacher librarian	2	2
Counselor	1	1
Deputy principal	16	17
Deputy and teaching	6	4
Principal	5	9
<b>TOTALS</b>	<b>85</b>	<b>86</b>
PLFs not based in primary schools		
District/central office adviser	16	18
Literacy adviser	5	3
Science adviser	10	9
Cluster coordinator/consultant	4	1
Professional association / Science organisation adviser	6	6
University lecturer/tutor	1	2
Relief teacher	1	2
Secondary teacher	1	1
<b>TOTALS</b>	<b>44</b>	<b>42</b>
<b>Totals</b>	<b>129</b>	<b>128</b>

### Activity of the PLFs

To get an indication of the level of activity of the PLFs they were asked to report the number of each type of workshop they had facilitated in 2007 and in 2008. Given that the PLFs were surveyed at the end of Term 1/beginning of Term 2 of 2008 it was expected that the number of workshops facilitated in 2007 would be much greater than 2008. These data are summarised in Table 6.

Table 6: Facilitation of PC professional learning workshops in 2007 and 2008 (n = 130)

Workshop	Number of workshops facilitated by these facilitators									
	2007					2008				
	Canberra 06	Canberra 07	Qld 06	Other 07/08	Total	Canberra 06	Canberra 07	Qld 06	Other 07/08	Total
Presented an information session about <i>Primary Connections</i>	74	195	15	27	<b>311</b>	29	77	18	25	<b>149</b>
Facilitated an introduction to <i>Primary Connections</i> workshop	115	194	13	74	<b>396</b>	48	84	7	55	<b>194</b>
Facilitated an Investigating workshop	46	135	8	41	<b>230</b>	22	60	5	29	<b>116</b>
Facilitated an Assessment or Assessment and Questioning workshop	31	82	9	29	<b>151</b>	13	26	5	19	<b>63</b>
Facilitated a linking science with literacy workshop	42	125	8	8	<b>183</b>	30	49	6	26	<b>111</b>
Facilitated a 5Es workshop	36	119	10	14	<b>179</b>	21	50	6	25	<b>102</b>
Facilitated a Cooperative Learning workshop	17	88	8	6	<b>119</b>	6	29	6	15	<b>56</b>

Tables 6 and 7 indicate that there has been an extraordinary number of workshops conducted (2360) in the period covered by the survey by the sample of 130 PLFs. The most frequently conducted workshops were: an introduction to *Primary Connections* (590); an information session about *Primary Connections* (460); investigating (346); linking science with literacy (294) and the 5Es workshop (281). Given that this survey only captured data from the sample of 130 PLFs drawn from the population of 383, there would have been far more *Primary Connections* workshops conducted in the surveyed period than the 2360 workshops reported by the sample.

A large proportion of the workshops were facilitated by the PLFs trained in the 2006 and 2007 Canberra workshops (Table 6). The data in Table 7 show that more workshops were conducted by PLFs who were not based in classrooms (78% of workshops) than by PLFs based in classrooms (22%), i.e., one-third of the PLFs, those not based in classrooms, conducted four-fifths of all workshops. In 2007, PLFs not based in classrooms conducted on average 27.5 workshops compared to 4.2 for the classroom-based PLFs. These levels of facilitation activity reported by the sample of 130 PLFs would be expected to be higher than for the 253 PLFs who did not respond to the survey.



Table 7: Facilitation of PC professional learning workshops by PLFs in 2007 and 2008 split by professional role (in classroom or not)

Workshop	Number of workshops facilitated by these facilitators					
	2007			2008		
	In classroom	Not in classroom	Total	In classroom	Not in classroom	Total
Presented an information session about <i>Primary Connections</i>	89	222	311	48	101	149
Facilitated an introduction to <i>Primary Connections</i> workshop	100	296	396	38	156	194
Facilitated an Investigating workshop	43	187	230	10	106	116
Facilitated an Assessment or Assessment and Questioning workshop	29	122	151	8	55	63
Facilitated a linking science with literacy workshop	43	140	183	27	84	111
Facilitated a 5Es workshop	35	144	179	15	87	102
Facilitated a Cooperative Learning workshop	19	100	119	10	46	56
<b>TOTALS</b>	<b>358</b>	<b>1211</b>	<b>1569</b>	<b>156</b>	<b>635</b>	<b>791</b>
<b>Number of PLFs</b>	<b>85</b>	<b>44</b>	<b>129</b>	<b>86</b>	<b>42</b>	<b>128</b>
<b>Workshops per PLF</b>	<b>4.2</b>	<b>27.5</b>	<b>12.2</b>	<b>1.8</b>	<b>15.1</b>	<b>6.2</b>

### Demand for *Primary Connections* Professional Learning Workshops

The PLFs were asked for their perceptions about the demand for workshops on the Term 1, 2008 survey. The most common responses were increasing (37% of PLFs) and staying the same (35%) while 15% indicating that demand was decreasing (Table 8). PLFs were also asked to give a reason for any change in demand. These data are reported in Table 9.

Table 8: Responses to the question “Is demand for *Primary Connections* workshops changing?”

Demand for workshops is...	Number	Per cent
Increasing	48	37
Staying the same	45	35
Decreasing	19	15
Not sure	3	2
My role has changed, Not applicable	10	8
No response	5	4
Total	130	

The two most common reasons given for an increase in demand were an increasing awareness of *Primary Connections* in their jurisdiction/district (27% of PLFs) and the increasing priority given to science in their jurisdiction (16%). Reasons given for a perceived decrease in demand included the

fact that many schools have completed workshops, there are other curriculum area priorities for PD and that industrial issues are limiting the amount of out of school time PD.

Table 9: Reasons given for answer to question above.

Reason	Number	Per cent of respondents
<b>Increasing demand</b>		
Increasing awareness of <i>Primary Connections</i>	35	27
Increasing priority of science in department/jurisdiction policy	21	16
<b>Decreasing demand</b>		
Most schools close by have done workshops	10	8
Many in school have already done the workshops	8	6
Schools have other priorities or curriculum changes	8	6
System is less encouraging of PD in school time	3	2
Money/funding lacking	3	2
Union directives limit PD out of hours	2	2
Not promoted enough (by department)	2	2
<b>Other</b>		
Do regular workshops for school/department/jurisdiction	7	5
Other commitments limit time available to present workshops	6	5
More PLFs are available	5	4
Schools not interested	4	3
Education department/jurisdiction presenters are doing all the workshops	4	3
In a new school this year	2	2
New staff in school still need it	2	2
Schools want training only when science is essential/required	1	1
My role has changed	1	1
Many small schools still in need	1	1
Preparation for national student testing takes priority	1	1
Teachers are using PC without training	1	1
Teachers not aware of training	1	1
Not acting as a PLF	10	8
No reason given	8	6

### Factors limiting and enabling PLFs' effectiveness

The PLFs were asked to identify any factors that were limiting or enabling their effectiveness as PLFs. These data are reported in Tables 10 and 11. The most common limiting factor was finding time within their overall workload for conducting workshops (46% of PLFs). Other limiting factors included schools finding time for the workshops (8%), science being a low priority in schools (8%), the high demand for workshops on pupil free days (6%) and travel time between schools (6%).

Only two of the 178 responses related to a lack of confidence, knowledge or skills of presenting workshops.

Finding time to be released from classroom responsibilities for facilitating workshops was a problem faced by PLF772:

*“Does the system having PLFs that are classroom teachers affect the deployment of PC? In my case it is a huge problem as I can’t be released very easily. Could funding be made available for schools so this could occur?” (PLF772)*

Table 10: Facilitators’ responses to the question “What factors are limiting your effectiveness as a *Primary Connections* professional learning facilitator?” (n=130)

<b>Factors limiting</b>	<b>Number</b>	<b>Per cent of PLFs</b>
Finding time to facilitate/workload high/other duties	60	46
Schools have trouble finding time (conflicts with other programs)	10	8
Science a low priority in schools	10	8
High demand on student free days	8	6
Distances between schools - lots of travel	8	6
Lack of funds for PD	7	5
Schools not giving work time release for teachers	7	5
Unwilling to leave own class for long	6	5
Fitting in with other initiatives/programs	5	4
Schools' not seeking facilitators	4	3
Union action	4	3
Not enough facilitators	3	2
Department running PD now, PLFs not used	3	2
Preparation time and schools tend to cease PD after introduction to PC	2	2
Support from admin	1	1
Lack experience presenting	1	1
Don't know units (haven't taught)	1	1
Too much after school PD	1	1
Apathy in district	1	1
Changing schools	1	1
Not in a school this year/not facilitating	12	9
Nothing	21	16
<b>TOTAL</b>	<b>178</b>	

The most commonly cited enabling factors were: the flexibility afforded by their professional role which made it possible to conduct workshops (17% of PLFs); high quality of the program and its resources (15%); support from their line manager at school (12%) or district level (10%); and, their experience as a teacher of *Primary Connections* (9%).

Table 11: Facilitators' responses to the question "What factors are enabling you to be effective in your role as a *Primary Connections* professional learning facilitator?" (n=130)

Factors enhancing	Number	Per cent of PLFs
My position/role allows me time/flexibility to do more training	22	17
High quality resources, they are easy to sell	20	15
Support from principal, admin	16	12
Support from district coordinator/Ed Dept	13	10
Experience as a PC trial teacher/with PC	12	9
A grant /more money	11	8
Knowledge of the pedagogy / scientific knowledge	10	8
Skill as presenter	9	7
Links/meeting with other facilitators	9	7
Time (prepared/ release)	8	6
Co-presenting	7	5
Support for own PD/from Canberra	6	5
Ranking of science/school region priorities, more uptake	5	4
Have more facilitators	4	3
Resourcing	3	2
Established communication structures	3	2
Feedback from participants	3	2
Consultants used for training	1	1
Web access to resources	1	1
Not facilitating	10	8
Nothing	11	8
<b>TOTAL</b>	<b>184</b>	

### Need for further support

The PLFs were asked to indicate if they had any needs for further support in their roles as PLFs. The most common response was "None" (34% of PLFs) followed by a request to maintain networking through current communications and updates and catch-up meetings (24%), provide copies of new publications (15%), and, for further PD (14%).

Table 12: Facilitators' responses to the question "What further support (resources, training etc) do you need for your role as a *Primary Connections* professional learning facilitator?" (n=130)

<b>Support needed</b>	<b>Number</b>	<b>Per cent of respondents</b>
Continue the networking/catch-up meetings/updates	32	24
Send new publications	20	15
Ongoing PD please	18	14
More units	9	7
More copies of units	5	4
Ongoing funding for project	4	3
Science by doing info and PD	3	2
Training in interactive whiteboard use for presenting PC	3	2
Visits to other PC schools	2	2
Inform principals of PC	2	2
A new training DVD	1	1
Link units to web based support materials	1	1
Help with design of new PD	1	1
More PD on investigating and assessing	1	1
Not currently facilitating	7	5
None	44	34
<b>TOTAL</b>	<b>154</b>	

### **Other Comments**

When asked for any other comments, almost 40% gave a positive comment about *Primary Connections* or about their role as a PLF and there was a small number of comments reflecting a wide range of viewpoints of individuals.

Table 13: Responses to “Any other comments”

Comment	Number	Per cent
None	53	41
Positive comment about PC and PLF	49	38
Implications of national curriculum on PC	3	2
Concern over attrition of PLFs – train more	2	2
Kits for units for sale to schools by AAS	1	1
Increased confidence in public speaking	1	1
More emphasis on general learning – not KLA specific	1	1
More money to AAS for resources	1	1
Training too long for time available in schools	1	1
Future of PC – tell us	1	1
Later units not as interesting/exciting	1	1
Would like support and recognition from dept/AAS	1	1
Need to promote science more	1	1
Not facilitating	2	

Typical of the complimentary remarks about *Primary Connections* were:

*“I really believe in Primary Connections. The units are fabulous and the answer to the initial problems raised by staff (good resources, confidence, skills, training, etc) training offers brilliant grounding for developing site/local area units based on 5Es” (PLF1125)*

*“I can honestly say that PC is an excellent resource. It validates good practice and informs and supports teachers who are not confident.” (PLF1054)*

*“I think indigenous perspective is a great idea. I have worked with a couple of Kimberley schools lately and the students at these schools have a real science interest. We should capitalise on that interest.” (PLF325)*

Some comments linked *Primary Connections* to national curriculum:

*“The material is excellent. I am concerned that it should be the national curriculum.” (PLF589).  
“(There should be) representation to the national curriculum board to ensure the K-7 science component for the new national curriculum is based on PC.” (PLF1128)*

## Summary of Key Findings

Number	Key finding	Evidence
1	Of the 383 who were sent the survey, 130 returned completed surveys representing a return rate of 34%. The sample included PLFs from all jurisdictions and sectors. There were large numbers from SA, WA, NSW and QLD and from the government sector. Sixty per cent of the sample was trained in the 2006 and 2007 Canberra workshops.	Tables 2 and 3
2	Almost 70% of the sample of PLFs was based in schools. Of those based in primary schools, the largest group (41) were <i>Primary Connections</i> Trial Teachers followed by deputy principals (16) and science coordinators (12). Of the PLFs not based in primary schools, most were education department advisors/consultants or advisors attached to professional associations or science organisations. Of the sample of 130, 89% were able to maintain their role as a PLF.	Tables 4 and 5
3	There has been an extraordinary number of workshops conducted (2360) in the period covered by the survey. The most frequently conducted workshops were: an introduction to <i>Primary Connections</i> (590); an information session about <i>Primary Connections</i> (460); investigating (346); linking science with literacy (294) and 5Es workshop (281).	Table 6
4	A large proportion of the workshops were facilitated by the PLFs trained in the 2006 and 2007 Canberra workshops. More workshops were conducted by PLFs who were not based in classrooms (78% of workshops) than by PLFs based in classrooms (22%), i.e., one-third of the PLFs, those not based in classrooms, conducted four-fifths of all workshops. In 2007, PLFs not based in classrooms conducted on average 27.5 workshops compared to 4.2 for the classroom-based PLFs.	Tables 6 and 7
5	Most PLFs believed that the demand for <i>Primary Connections</i> workshops was increasing (37% of PLFs) or staying the same (35%), however 15% thought that demand was decreasing.	Table 8
6	The two most common reasons given for an increase in demand for <i>Primary Connections</i> workshops were an increasing awareness of <i>Primary Connections</i> in their jurisdiction/district (27% of PLFs) and the increasing priority given to science in their jurisdiction (16%). Reasons given for a perceived decrease in demand included the fact that many schools have completed workshops, there are other curriculum area priorities for PD and that industrial issues are limiting out of school time PD.	Table 9
7	The most commonly cited factor limiting PLFs' effectiveness was finding time within their overall workload for conducting workshops (46% of PLFs). Other limiting factors included schools finding time for the workshops (8%), science being a low priority in schools (8%), the high demand for workshops on pupil free days (6%) and travel time between schools (6%). Only two of the 178 responses related to a lack of confidence, knowledge or skills of presenting workshops.	Table 10

8	The most commonly cited factors enabling PLFs' effectiveness were: the flexibility afforded by their professional role which made it possible to conduct workshops (17% of PLFs); high quality of the program and its resources (15%); support from their line manager at school (12%) or district level (10%); and, their experience as a teacher of <i>Primary Connections</i> (9%).	Table 11
9	When asked to indicate if they had any needs for further support in their roles as PLFs, the most common response was "None" (34% of PLFs) followed by a request to maintain networking through current communications and updates and catch-up meetings (24%); provide copies of new publications (15%); and, for further PD (14%).	Table 12



## Discussion and Conclusions

The main purpose of this survey of PLFs was to determine the level of activity of PLFs in terms of workshop facilitation, their perception of demand for *Primary Connections* professional learning workshops, factors enhancing or constraining their effectiveness as PLFs and any needs for support. Previous research with the PLFs has demonstrated that: their initial training was effective in terms of enhancing their confidence and self-efficacy for facilitation and the PLFs gave positive evaluations of the *Primary Connections* professional learning resources (Hackling 2006a). Earlier research also indicated that PLFs that were based in schools and those not based in schools had different profiles of professional learning activity (Hackling, 2006b).

Of the population of 383 PLFs, 130 (34%) completed the survey and it would be expected that the sample of 130 is not representative of the population. Those whose careers have brought about changes in their professional roles so that they no longer are able to be active PLFs are less likely to respond to the survey than those who are active. The sample is therefore likely to comprise the more active of the PLFs and 89% of the sample indicated they were active. The sample was broadly representative of jurisdictions and sectors (KF 1 and 2).

The data indicate a high overall level of workshop facilitation activity by the PLFs in the period covered by the survey (KF 3). A total of 2360 workshops had been conducted with most being information sessions about or an introduction to *Primary Connections* (1050). Large numbers of workshops were also conducted on investigating (346), linking science and literacy teaching (294), the 5Es model (289) and on cooperative learning (175). Given that it would be expected that many schools would only find time in their crowded teacher professional learning schedule for one *Primary Connections* workshop, the number of workshops conducted indicates a widespread penetration of the professional learning program in primary schools across Australia.

The level of activity of individual PLFs varied considerably, one PLF had conducted 80 workshops. PLFs based in classrooms were far less active than those not based in classrooms (KF 4) and this finding is consistent with the factors identified by the PLFs that enable or constrain their effectiveness as PLFs. The most commonly cited enabler was flexibility within their professional role and the most commonly cited constraint was finding time within their professional roles for facilitating workshops (KF 7 and 8). Classroom teachers have the least flexibility and time for leaving their school to conduct workshops at other schools and as indicated by the PLFs these activities need the support of the school principal or line manager (KF 8). Other important enablers are the quality of the program and its resources and experience of teaching with *Primary Connections*.

A majority of the PLFs were of the view that the demand for workshops was either increasing or remaining the same (KF 5). The two most common reasons given for an increase in demand for *Primary Connections* workshops were an increasing awareness of *Primary Connections* in their jurisdiction/district and the increasing priority given to science in their jurisdiction (KF 6). Initiatives at the national level that include the increased requirements for accountability of schools for reporting student achievement to parents, the development of national statements for learning and national assessments of the scientific literacy of Year 6 students will have supported a higher priority for science in the primary school curriculum. The widespread science professional learning initiatives conducted in some jurisdictions as a result of science being a priority in these jurisdictions and the linking of these initiatives to *Primary Connections* would have increased awareness of *Primary Connections* curriculum resources and professional learning workshops and the availability of the resources and workshops. Some PLFs reported a decline in demand for workshops in their district as a result of saturation, changing priorities in their jurisdiction or as a result of industrial action (KF 6).

Many PLFs indicated that had no additional needs for support in their roles as PLFs while others indicated they required the ongoing support of networking with other PLFs through catch-up meetings or other mechanisms, supply of updated resources and new units and some requested further professional learning (KF 9). Only two PLFs indicated in their responses to the survey that

their effectiveness was limited by a lack of skills or confidence for facilitation, the requests from 14% of the PLFs for further PD may be an indication of an appetite for advanced professional learning to extend their existing knowledge and skills.

The findings of this study are very positive in the sense that the sample of PLFs who responded to the survey have reported that a very large number of *Primary Connections* workshops have been conducted representing a widespread penetration of the professional learning program in Australian primary schools. The findings remind us once more of the importance of awareness of the program within schools and districts and of the priority given to science at national and jurisdictional level. Communication about the program to schools and advocacy to governments about the importance of science must be sustained if we are to ensure that all Australian primary school children have the opportunity for a high quality science education. When all children have the opportunity to study science with *Primary Connections* we may be able to close the gap between low performing and high performing schools and between high and low performing students.

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Appendix 1

**Australian Academy of Science: *Primary Connections* Program**

**Term 1/2 2008 Professional Learning Facilitators Questionnaire**

*Dear Colleague*

*Would you please complete this very short survey. We seek information about your role as a professional learning facilitator, factors affecting your effectiveness, and needs for further support.*

*Data from this survey will be aggregated and summarised so that it will not be possible to identify any respondent in any reports of this research. Data will be used for research purposes only. We request your name for follow-up purposes only.*

*Please answer this questionnaire honestly and frankly. Respond in the way that it is, rather than portraying things as you would like them to be seen.*



*Professor Mark W Hackling  
Edith Cowan University*

ID number

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For office use only

**Your background**

Your name: \_\_\_\_\_

State/Territory: \_\_\_\_\_

Sector: Government / Catholic / Independent / Other \_\_\_\_\_

**Where** and **when** were you trained as a PLF?

Canberra January 2006

Canberra January 2007

Other: Place \_\_\_\_\_ Month/year \_\_\_\_\_

OFFICE USE	
var	code
plfnum	
state	
sector	
yrtrn	

Name of workplace for 2007 \_\_\_\_\_

Your professional role in 2007: \_\_\_\_\_

\_\_\_\_\_

Name of workplace for 2008 \_\_\_\_\_

Your professional role in 2008: \_\_\_\_\_

\_\_\_\_\_

Given your current role and responsibilities, are you still able to carry out the role of PLF? Yes  No  (tick one box)

**How many *Primary Connections* information sessions and professional learning work have you facilitated during 2007 and 2008?**

Information session or workshop	Number	
	2007	2008
Presented an information session about <i>Primary Connections</i>		
Facilitated an introduction to <i>Primary Connections</i> workshop		
Facilitated an Investigating workshop		
Facilitated an Assessment or Assessment and Questioning workshop		
Facilitated a linking science with literacy workshop		
Facilitated a 5Es workshop		
Facilitated a Cooperative Learning workshop		

Is the demand for *Primary Connections* workshops: (please tick one option)

1. increasing
2. staying the same
3. decreasing

Explain why?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

OFFICE USE	
var	code
Wp07	
Lprol07	
Wp08	
ProI08	
Plfnov	
Inws1	
Inws2	
Inws3	
Inws4	
Inws5	
Inws6	
Inws7	
Inws8	
Inws9	
Dempc	
demwhy A	
demwhy B	

**Feedback on your role**

Are there any factors limiting your effectiveness in your role as a *Primary Connections* professional learning facilitator?

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Are there any factors enabling you to be effective as a *Primary Connections* professional learning facilitator?

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Do you need any further support from the Australian Academy of Science to be an effective *Primary Connections* professional learning facilitator?

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Any other comments?

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OFFICE USE	
var	code
lim1	
lim2	
lim3	
Effplf 1	
Effplf 2	
Effplf 3	
sup1	
Sup2	
sup3	
Other 1	
Other 2	
Other 3	

Thank you for responding to this questionnaire