Chapter 7 Results and discussion of the process component

"Research is to see what everybody else has seen and to think what nobody else has thought

(Albert Szent-Gyorgyi, 1937 Nobel prize in medicine*)*

Aim of the chapter

The aim of this chapter is to describe the process of the continued professional development (CPD) programme by answering particular questions in this regard. The topics covered in this chapter are depicted in Figure 7-1.

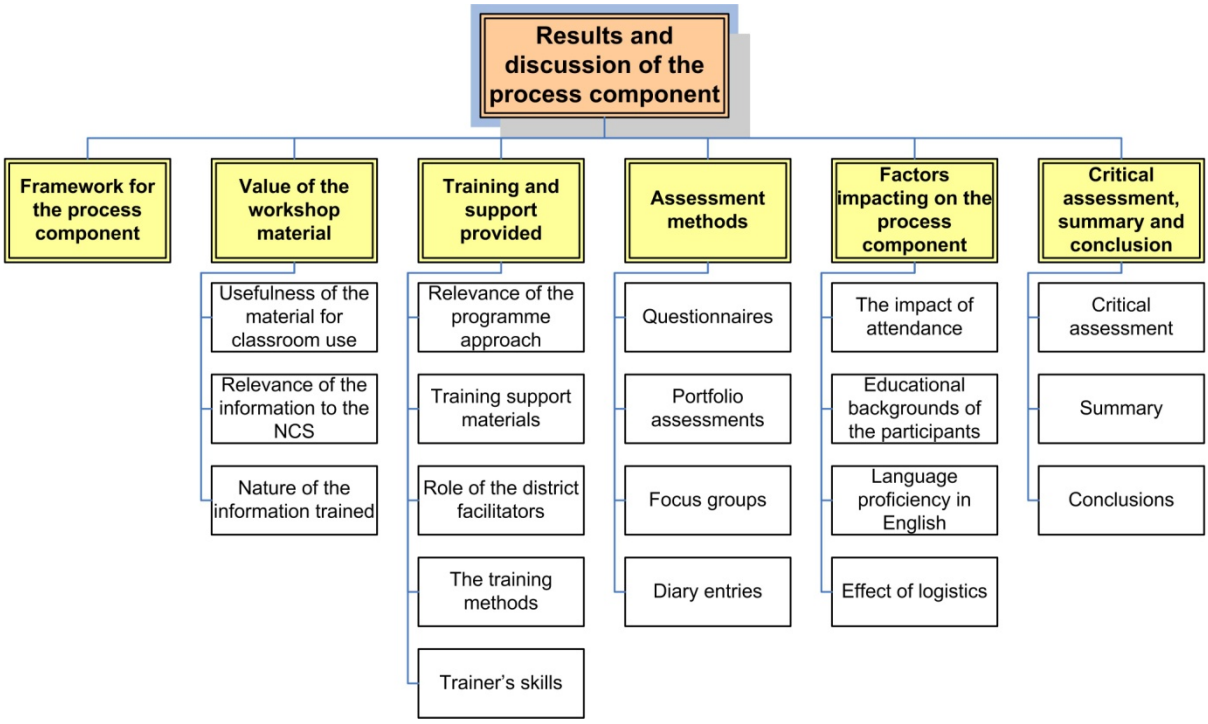

Figure 7-1: Outline of Chapter 7

7.1 Framework for the process component

The process component of the Logic Model in the development of the programme evaluated the effectiveness of the following aspects: the training material, the training approach and strategies, the assessment methods, and aspects that affected the process (attendance and aspects related to time, and logistics). The relevant research questions to be answered in this component are presented in Table 7-1.

Table 7-1: Research questions to validate the process component

Research question	Aspects addressed	Paragraph
Question # 3 What was the value of the workshop material for future use?	a. Usefulness of the information in the classroom b. Relevance to the NCS c. Nature of the information trained New or confirmatory information Omit necessary or include unnecessary information	7.2.1 7.2.10 7.2.3
Question # 4 How effective was the training and support?	a. Training approach b. Training methods c. Trainer's skills	7.3.1 7.3.4 7.3.5
Question # 5 How effective were the assessment methods used?	Assessment methods: - Questionnaires - Portfolio assignments - Focus groups - Research diary	7.5.1
Question # 6 Which factors affected the process?	Attendance: - Assessed by questionnaires - Assessed by portfolio assignments Language proficiency in English Educational backgrounds of the participants Logistics: Factors related to timing (duration and pace of training, scheduling) and selection of the venue	7.5 7.5.1 7.5.2 7.5.3 7.5.2 7.5.4 7.5.4(b)

7.2 Value of the workshop material

7.2.1 Usefulness of the material for classroom use

Both the qualitative and quantitative strands of the research addressed the results

regarding the usefulness and relevance of the information. Reference to the *'usefulness'* of the material in the QUAL strand was minimal (n=4) (refer to code "information useful' in Table 3, Appendix 6B) and therefore could not provide an answer to this research question. Notwithstanding, the 'word cruncher' option in ATLAS-ti (Thomas Muir Scientific Software Development, 2003-2004) identified the expression *'helped a lot'* 120 times across the data. The participants reported that they had learnt how to implement specific strategies in class, which is an indication of the usefulness of the material.

The usefulness of the material was confirmed by the quantitative results obtained from questionnaire data, as shown in Table 7-2.

Table 7-2: Usefulness of the material

Aspect evaluated	Workshop 1		Workshop 2		Workshop 3		Average	
Usefulness of the material	Semi-rural	Urban	Semi-rural	Urban	Semi-rural	Urban	Semi-rural	Urban
	100%	100%	100%	100%	97%	100%	99%	100%

It is clear from Table 7-2 that almost all the participants (>98%) across contexts considered the training material to be useful. In this case the inference quality was high as similar results were obtained between the two contexts and both strands of the research corroborated the finding (Johnson & Christensen, 2004:249).

7.2.2 Relevance of the information to the NCS

The relevance of the training material to the NCS was confirmed by 97% of the items in the QUAN strand[24,25] (n=33) (refer to category 'information relevant' in Table 1,

[24] You can see the progression, and they don't forget the phonemes that you have taught them before. I was using the sound "thl" and then I made "Thlaba" made the what, what,…they can make that word. "Thlela, thlega.." oh, it was so interesting. Very much (Line 30, Focus group 1, 2005)

[25] …"you know, we teachers have never done stories, songs and rhymes in class. We thought all of that in the RNCS - it was for nothing. I feel our children ....their minds were caged in. We have since opened the screws, and the children came flying out like birds (Line 45, Diary entry 16 on 13 Oct 2005,Focus group 1,)

Appendix 6B).[26] Such inferences regarding the relevance of the material were supported by the results obtained from the QUAN strand (refer to Table 7-3).

Table 7-3: Relevance of the material to the NCS

Aspect evaluated	Workshop 1		Workshop 2		Workshop 3		Average	
Relevance of the material with regard to RNCS	Semi-rural	Urban	Semi-rural	Urban	Semi-rural	Urban	Semi-rural	Urban
	90%	88%	90%	81%	86%	86%	89%	85%

From Table 7-3 it is evident that an average of 87% of the participants across contexts regarded the information included in the workshop material as relevant to the NCS. The slight difference (4%) between the opinions of the two contexts increased the validity of the inferences that were drawn (McMillan & Schumacher, 2006:194). The material developed for teachers to facilitate skills in listening, speaking, reading, and language was viewed to be important in the effective delivery of the curriculum (Chief Directorate: Quality Assurance, 2002).

The inclusion of these skill areas and the collaboration of the district and GDE officials in the development of the material (refer to Section 6.2.3(a)) ensured the relevance of the information. In order to answer the research question the inferences obtained from the two strands of the research are converged in Table 7-4. The QUAN and QUAL results in Table 7-4 confirm the usefulness and relevance of the material to the NCS, which indicates high inference quality (Onwuegbuzie & Johnson, 2006:59). As the material developed for the workshops was found to be useful and relevant to the NCS, it equipped the participants "…to deal with the many challenges and opportunities they are likely to face in tomorrow's complex world" (Spady & Schlebusch, 1999:39).

[26] T: Yes, the way you are presenting, especially when you integrate. It is very relevant. It fits in nicely with the assessment standards (PD11, Line 282, Focus group on WS 3, 2006 new)

Table 7-4: Convergence of results with regard to the usefulness and relevance of the programme

Research question	Aspects included	QUAL	QUAN
Material useful and relevant to the NCS	Information useful (n=4) "helped a lot" (n=120)	100%	99.5%
	Information relevant (n=33)	87%	82.5%
	Will recommend the programme to colleagues		100%

The participants were 'life-centred', 'task-centred', problem-centred', 'solution-driven', 'skill-seeking' adult learners (Ference & Vockell, 1994:25) and therefore appreciated the material, which in turn may have motivated them to learn and to participate (Cyr, 1999:6).

7.2.3 Nature of the information trained

The 'nature of the information trained' encapsulates two aspects, namely whether the information was new or a confirmation of previous knowledge, as well as whether the information was necessary or redundant.

(a) New information or confirmation of previous knowledge

Prior to training, the level of previous support and knowledge had to be determined to provide insight into the existing knowledge base to which new knowledge could be added. In the QUAL strand this aspect can be linked to the *'previous support'* provided to the participants (refer to Section 7.2.3). The participants from a specific school referred to *'previous support'* (n=7) by the GDE on related topics (refer to PD 6, Focus group 1, 2006, line 103-105 in Appendix 6A), while others referred to *'commercial programmes'* purchased by their schools, which addressed similar issues (n=16) as these programmes were designed in accordance with the NCS. This aspect can be related to a *'gap in participants' knowledge'* (refer to Table 3 in

Appendix 6B, them 'Process', category 'material', code 'gap in teachers' knowledge') where 96% of the coded items (n=33) confirmed that the participants were not familiar with the information prior to training[27] and that the information was therefore new[28].

It may be assumed that the participants were aware of the requirements in the NCS as they had already confirmed that the material used in the workshop was relevant to the NCS (refer to Section 7.2.2). However, they did not necessarily know how to implement these requirements and therefore may have ignored them in their teaching[29]. Some participants reported that the workshops clarified certain aspects in the NCS that they were previously unfamiliar with and consequently tended to omit.[30] Such revelations emphasize the importance of teacher support, which in turn empowers teachers to adequately support their learners to develop the necessary skills for literacy and numeracy (Motseke, 2005:119).

The QUAN strand confirmed that the information was new to some of the participants although this aspect was not specifically addressed in the questionnaires. As 71% of the participants received formal training (refer to Table 5-7) and 91% attended prior workshops (refer to Section refer to Section 6.2.2), some of them may have been introduced to such information before, either during their pre-service training or through previous support. Some of the participants in the core group (26%) were not adequately trained (refer to Section 5.3.3), and 9% of them had not received any prior support (refer to Section 6.2.2), which may signify that the

[27] I asked her, "do you really think that it is the programme that made the difference? Is it not that you would have done it anyways?" She replied, ".. Yes, it is the programme. We did not know this before. We never thought those things (in the RNCS) meant

[28] …"you know, we teachers have never done stories, songs and rhymes in class. We thought all of that in the RNCS - it was for nothing. I feel our children ....their minds were caged in. We have since opened the screws, and the children came flying out like birds

[29] "We knew about the skills, but we did not know about the strategies. These workshops gave us the strategies" (PD doc 16)

[30] I will be able to teach some of the concepts that I did not know how to tackle (Line 111, Open questions Form 5, ws 3)

information trained in this programme was new to some participants. The inferences drawn from the two strands of the research are converged in Table 7-5.

Table 7-5: Corroboration of results related to new or confirmatory information

Aspect assessed	Categories/codes consulted	QUAL	QUAN
New information or confirmation of previous knowledge	Commercial programmes	96% (n= 24)	
	Confirmation of 'previous support'/workshops	100% (n=7)	68%
	Gap in participants' knowledge (code) (N=25)	89% (n=25)	
	Formal qualifications (degree, diploma, certificate)		71%
	Less formal qualifications		29%
	No prior workshops in these skill areas		32%

The participants with no former exposure to this information came from a lower knowledge base and therefore required more support than those previously exposed to the information and consequently more familiar with the terminology. The latter group had an advantage as their previous knowledge could be used as a scaffold for new knowledge.

(b) Information included: necessary or unnecessary

In order to design the workshop material, the trainer/researcher needed to determine whether unnecessary information was included or necessary information omitted. This aspect was addressed by qualitative data only. As the pilot study initially indicated that unnecessary information was included,[31] the trainer/researcher reduced the content. The GDE officials and the district facilitators assigned to the

[31] The workshop is too long. I need to trim down on the content. Much of the information is relevant but not crucial. What appears important to me, may not be crucial for them in order to do their job (Line 30, Diary Entry 15 on 8 Oct 2005 Pilot Workshop 3)

learning areas of literacy and numeracy were of the opinion that all the information included in the workshop material was relevant and did not want any of the content to be excluded (refer to PD13, Line 32, Diary entry 2, 19 June 2005). With reference to Table 1 in Appendix 6B, there was 100% confirmation that no unnecessary information was included, and the number of items coded as 'information unnecessary' was too small to make inferences (n=2).

One particular listening strategy included in Workshop 1 ('Listening for learning')) was identified by a focus group as inappropriate for this context[32] and needs to be omitted from future programmes (refer to PD 9, line 205, focus group interview 2006). This strategy aimed to obtain the attention of the learners by simulating the listening posture of an owl, but the participants in the focus group was of the opinion that learners did not know what an owl looked like. This is probably because owls are scarce and being nocturnal are only seen during times when young children are kept indoors (sleeping), and also because learners in low socio-economic schools (SES) may not have access to books or excursions (e.g. to zoos or museums) (Mullis *et al.*, 2003:9; Nancollis *et al.*, 2005:326). According to cultural belief in this particular context, an owl is considered a bad omen and is therefore not discussed with young children, which makes this exercise inappropriate in this context (E. Ngulele, personal communication, June 27, 2009). Future programmes need to introduce new vocabulary within a naturalistic environment (Beukelman & Mirenda, 2005:302; Owens, 2001:215; Paul, 2001:314; Wolf-Nelson, 1998:62) because young children learn through their experiences.

The second workshop addressed issues related to literacy and the results obtained from the codes 'literacy' and 'story' were therefore combined (refer to Outcomes in

[32] "… the course, the idea of the owl could not be captured, because we do not get owls anywhere and everywhere like we did in the past. It is difficult to do the owl, unless children have seen it on TV and so on. So if you have to explain what an owl is' (P 9, line 205, focus group interview 2006)

Table 3, Appendix 6B). From 18 items coded, all the items for 'literacy' and 70% of the items coded as 'story' were categorized as positive. This confirmed that the participants viewed the information included to be important[33] and therefore necessary to be included. A few of the participants in a focus group, being familiar with a specific commercial programme for literacy purchased by their school, particularly valued the 'balanced approach'[34] to literacy teaching (refer to Section 3.2.3. (d)) (Justice & Kaderavek, 2004:212).

Both the participants and the GDE officials therefore confirmed the relevance and importance of the information presented. It contributed to both the specific content knowledge and to pedagogical content knowledge, which are required for teacher competency (Galusha, 1998:8; Lebeta, 2006:23).

7.3 Training and support provided

The training and support provided were evaluated in terms of the relevance of the training approach, the training methods used, and the trainer's skills.

7.3.1 Relevance of the programme approach

The training approach consisted of a training component (workshops), a practical component (implementation of strategies in the classroom as part of a portfolio assignment), and a mentoring component (feedback on lesson planning and the portfolio assignments). Both strands of the research were used to evaluate the '*training approach'*. The QUAL strand indicated that 82% (n=247) of the items coded with regard to the training approach were categorized as positive (refer to category

[33] 'Language is important in communicating, reading and writing' (Line 31, Un-tabled reflection of teachers in the 2006 listening & language assignment 2006)

[34] The 'balanced approach', which was advocated in the workshop, combines contextualized and de-contextualized language and firstly teaches understanding, and then uses the understanding in the teaching of discreet skills. This approach was adopted by a particular commercial programme purchased by a school, which made the participants familiar with the underlying concepts

'*Training approach'*, Table 2, Appendix 6B).

(a) Training component

(i) QUAL strand: Value of the workshops

Data from the QUAL strand indicated that the participants were *"feeling positive"* about the workshops as 99% of 94 items were coded to confirm it (refer to theme 'training', category 'training approach', Table 3 in Appendix 6B). Across contexts the participants testified to how much they had *'enjoyed'*[35] the workshops (94%, n=17) (refer to phase 'output, category 'attitude' in Table 3, Appendix 6B). The participants considered the workshops to be well presented as they valued the information and considered it to be presented clearly.

The participants could relate to the materials used to demonstrate the strategies because they were constructed from everyday items found in all homes[36] (e.g. string, paper, glue, scissors, crayons, etc.). The handouts were found to be well organized and useful, specifically as a resource for lesson planning and to train other colleagues.[37] The availability of resources in schools in these specific contexts was limited (Adler *et al.*, 2003a:58) (refer to Section 6.2.3(b)).

The handouts were valued as a reference to provide practical examples for the classroom and the participants also used them to train their colleagues at school.

[35] I think I am very happy in this workshop. I will like to recommend this to my colleagues (Line 95, Open questions, form 4)

[36] T: Do with the resources. It is as if you are learning yourself. Because you create all the materials, which make it easier for us to understand. To see each and every step. It was perfect. All the resources that you create, which makes it easier for us (PD 7, Line 323, Pilot focus group 2)

[37] T: The handouts we used very much. We made copies for everybody to use in their classrooms. But before they start, we have a meeting and we share what we got from the workshop.

A: Do you mean you do the demonstrations as well?

T: Exactly, so that they can implement in their class as well

A: Is that the case in all the schools

All: Yes, yes (PD 5, Line 79, Focus group 1, 2005)

(ii) QUAN strand: Value of the workshops

The results from the workshop evaluations are summarized in Table 7-6 to present a holistic overview of the training across contexts (to be discussed in following sections), where 'Y1' relates to the semi-rural context and 'Y2' to the urban context. According to Table 7-6 almost all the participants in both contexts rated the training component positively. Almost all the participants (98%) also agreed that they would recommend the programme to their colleagues (question no. 7).

Table 7-6: Feedback by participants after each workshop

Question	Workshop 1		Workshop 2		Workshop 3		Average	
	Y1	Y2	Y1	Y2	Y1	Y2	Y1	Y2
1. Do you want to use the information taught in the workshop in your class?	100%	100%	100%	100%	97%	100%	99%	100%
2. Do you think it is necessary to support the workshop by a follow-up visit?	75%	92%	97%	76%	79%	84%	83%	84%
3. Did you find that there was sufficient time for discussion in the workshop?	63%	76%	81%	58%	71%	75%	71%	70%
4. Did you find the information presented during the workshop clear and easy to understand?	100%	92%	97%	88%	97%	95%	98%	91%
5. Did you understand the terminology and language used throughout this workshop?	91%	100%	97%	77%	93%	94%	93%	90%
6. Do you think that the video material clarified the strategies taught in the workshop?	100%	96%	90%	96%			95%	96%
7. Will you recommend this programme to your colleagues?	100%	100%	97%	100%	97%	94%	98%	98%
8. How relevant was the information covered in this workshop with regard to RNCS?	90%	88%	90%	81%	86%	86%	89%	85%

The credibility of the results was increased by additional feedback provided by an external evaluator (Onwuegbuzie & Johnson, 2006:48) (refer to Section 5.3.4c). Such feedback was provided in terms of a five-point scale as depicted in Table 7-7 and shows how the external evaluator described all aspects in the workshops favourably, but recommended that the pace of training be reduced to accommodate the language proficiency and levels of qualification of some of the participants.

Table 7-7: External evaluation of the programme

Aspect related to the workshop	Excellent	Competent	Average	Below average	Weak
1.Clarity of information in workshop	X				
2. Relevance of information in workshop	X				
3. Organization of information in workshop	X				
4. Presentation style in workshop	X				
5. Rate and pace of presentation in workshop			X		

The external evaluator's opinions were supported by the feedback obtained from the participants (refer to question 3 in Table 7-6), which indicated that approximately 30% of the participants required more time for discussion. The question is whether this number relates to the 29% of participants who were not formally trained?

(iii) Convergence of results: Value of the workshops

The results depicting the participants' perceptions about the workshops are converged in Table 7-8.

Table 7-8: Participants' perceptions about the workshops

Aspect assessed	QUAL	QUAN
Feeling positive about the workshops	99%	98%
Enjoyed the workshop	99%	
Recommend the workshop to colleagues		98%

The inferences obtained from the two strands of the research corroborate in terms of the degree to which the participants valued the workshops. The inference quality was high as the data were obtained from several data sources in two contexts.

Positive feelings about the workshops were described as the 'happiness factor' by Pike (in Mervin, 1992:3) and do not reflect the actual knowledge gained. This level of programme evaluation can easily be manipulated (e.g. fun activities, good food, etc.), or be contaminated by personal values, which in turn threaten reliability and validity (Agochyia, 2002:322; Holton, 1996:5). However, such positive feelings and enjoyment contribute to learning of adult learners as they motivate people (Cyr, 1999:3; Pike, 1989:23).

(b) Practical component

The practical component provided the participants with the opportunity to 'implement the strategies' in their classrooms as part of the portfolio assignment. The QUAL strand indicated that 70% of the items coded in this regard (n=125) were positive (refer to phase *'outcomes'* in Table 1, Appendix 6B). The assignments provided the participants the opportunity to reflect upon their practices[38] and to assess their own understanding of the focus area (Vella, 1994:87).[39,40]

The implementation of strategies was determined by the participants' compliance to complete the portfolio assignment. The portfolio assignment, however, elicited mixed feelings among the participants (refer to 'main critique' Table 3, Appendix 6B). Many were unable (or unwilling) to complete the assignments (to be discussed) because of the added workload.

The qualitative data revealed an appreciation of practical activities that were

[38] T: It makes us think of what we are doing. It changes the mind set. Change the mindset (Line 332, Focus group 1, 2006)

[39] T: It force us to assess ourselves whether we understand. And to be innovative and to implement these different activities. So we write an assignment that is right, so that the person who is helping us with this programme, can also see if we understand (Line 327, Focus group 1, 2006)

[40] They felt that they have learnt valuable information and have gained skills. The training made them think before they start to plan a lesson. The assignments made them go back and review the handout from the workshop. They now understand the content of the workshop better as they had to read it again (Line 28, Diary entry 18 on 3 Nov 2005 Pilot Focus group 2)

demonstrated and practised in the workshops.[41] The participants appreciated the use of real objects in the demonstrations during the practical sessions,[42] especially because they were also accessible in their own homes. They valued the small group planning sessions at their schools where they could share ideas with other participants.[43] The programme taught them valuable skills[44] and helped them to design their own lesson plans without being dependent on commercial programmes,[45] which they found empowering.

Some participants requested class visits to observe an expert teaching in their own classrooms.[46] Classroom sessions as a means of support provide the opportunity to model good teaching practice (Marojele, Selikow & Welch, 1997:349). In this case, classes were visited by the district facilitators, but they were unable to visit all the schools included in the study. To accommodate such requests it may be necessary to provide additional support to the district facilitators. This aspect further relates to the tension previously identified between theory and practice.

The question arises as to whether training should be focused on principles of

[41] A.M: Why is the workshop so important? (Line 354, Pilot Focus group 1, 2005)

T: The practical examples (Line 354,Pilot Focus group 1, 2005)

T: Yes the practical - and then you go to the video and the manual to see that you are doing it right (Line 354, Pilot Focus group 1, 2005)

T: I think that workshops are so important. Then educators can see. And also the assignment. The way that the teachers must sit and plan it together. Our way of our culture. And also how we are coping with our strategies - we give examples from our class (Line 362, Pilot Focus group 1, 2005)

[42] T: The way you facilitated us, with the pictures, when you use examples, you can see how you can implement those examples. And you showed us the real object and how can we use them. The blocks and the bottle caps (Line 209, Focus group 3, *, 2006)

[43] Sharing ideas with other teachers (support from colleagues) (planning phase each week) (Line 422, Pilot Focus group 1 2005)

[44] It enriched me with lot of activities to be done in class and the strategies to achieve learning outcomes (Line 99, Open questions form 4)

[45] Teachers were very positive about the entire programme. The HOD of the foundation phase told me that all four of them have benefited to such an extent that they are no longer dependent on “bought programmes”. They can now generate their own lesson planning that would meet the requirements of the NCS. They got so many new ideas - “those strategies, …we can now go on all day and forget about the time” (Line 49, Diary entry 29 on 30th May 2006, Focus group 3, (b))

[46] T: I think, I don’t know, if it is possible for one to come to present a lesson, where you have some problems. Maybe I have a problem, because …someone can come in class and give a lesson (Line 175, Focus group 3 *, 2006)

teaching and learning or on direct experience in classrooms, and also whether training should be provided by educational institutions or gained through own experience (Adler *et al.*, 2003a:155; Welch, 2003).

(c) Mentoring component

The mentoring component was provided through portfolio assignments, training support materials, and follow-up visits by district facilitators. The portfolio assignments had a two-fold purpose: They were intended as a means to provide support (mentoring) (Campbell & Brummett, 2007:53) and to a lesser extent, to be used as an assessment procedure (to be discussed).

(i) QUAN strand: Portfolio assignments

The use of portfolio assignments as a means to provide support (mentoring) were categorized positively (100% n=28) (refer to category "assessment methods', code '*assignment positive'*, Table 3, Appendix 6B). The evaluation of the participants' lesson plans provided the opportunity for them to be mentored (Campbell & Brummett, 2007:53).

Feedback on lesson plans is regarded as the prominent feature of mentoring in the professional development of teachers (Kwan & Lopez-Real, 2005:275). In this case it could only benefit those participants who submitted lesson plans as part of their portfolio assignments (refer to Table 7-9), and therefore was related to the level of attendance (refer to Section 7.5.1(b)). To ensure a higher submission rate so that all participants may benefit, future programmes need to minimize attrition and ensure higher attendance rates of the same group of participants throughout the entire programme.

As group work enhances learning (Killen, 2007:229) the participants were required to support each other with resources and ideas within school-based support groups.

The results showed that *'peer support and group learning'* were valued as 83% of the items coded (n=42) were positive (refer to Table 3, Appendix 6B). The participants indicated a preference for completing the portfolio assignments as a group,[47] rather than being assessed individually. Such group support allowed the participants to support each other in the completion of the assignments and allowed them to reflect (Facteau et al, 1995, Tracey et al 1995 in Salas & Cannon-Bowers, 2001:489; Tannenbaum, 1997:440).

The results suggested a preference of participants to sit around a table "…in a small group, because we can talk about the problems we encounter" (P11, line 163, Focus group 3b, Appendix 6A), but the sample size (n=5) of the items coded in this regard was too small to draw strong inferences. The small group work method appealed to the participants,[48] indicating a 'communal learning preference' (Boyle, 2005:115) which could be ascribed to the participants in this study coming from community settings where collaborative relationships are important (Mbigi, 2005:26; Snowman & Biehler, 1996:143).

(ii) QUAN strand: Mentoring

Answers to the value of the mentoring component were also sought in the QUAN strand, which evaluated the value of the training support materials and participation in completing the portfolio assignments. The training support materials included a manual with examples of prepared lesson plans and a compact disc (CD) with video material of strategies being implemented in classrooms. Although these were not a substitute for traditional mentoring, the training support materials contributed to the mentoring function by providing the participants with additional guidance for the implementation of strategies in the classroom. Table 7-9 compared the submission

[47] T: Ma'm can we have a small group, not like the real focus group. Just to do it (Line 311, Focus group 1, 2006)

[48] The way that the teachers must sit and plan it together. Our way of our culture.(Line 362, Pilot Focus group 1, 2005)

rate of the entire group to that of the core group, and also between contexts. The submission rate of at least one portfolio assignment for the core group was high (93%), which enabled the participants to apply their knowledge in class and allowed the trainer/researcher to provide feedback on their lessons plans.

Table 7-9: The submission rate of portfolio assignments

Group	Sub-group	Total	Ass1	Ass2	Ass3	At least 1
Total group	Semi-rural	56	68%	55%	45%	73%
	Urban	66		45%	15%	56%
	Total	122	31%	50%	29%	64%
Core group	Semi-rural	31	81%	68%	52%	87%
	Urban	25		76%	24%	100%
	Total	56	45%	71%	39%	93%

The difference in submission rate between the two groups (29%) could be attributed to higher attendance and commitment to participate by members of the core group in contrast to that of the total group (refer to Section 7.5.1(b)). The input challenges previously identified in the input component (refer to 6.2.3(b)), however, also have to be acknowledged as being more prevalent in the semi-rural context.

(iii) Convergence of results: Portfolio assignments

The results from the QUAN and QUAL strands are converged in Table 7-10.

Table 7-10: Corroboration of results re portfolio assignments

Aspect assessed	QUAL	QUAN
Mentoring and support	75% (n=45)	
Portfolio assignments	100% (n=28)	93% (n=56)
Group support and peer learning	83% (n=42)	

The results in Table 7-10 concur that the portfolio assignment contributed to learning and was a valuable means of support.

7.3.2 Training support materials

(a) QUAL strand: Training support materials

In general, the mentoring and training support materials were considered valuable as 75% (n=45) of items coded were of a positive/confirmatory nature (refer to Table 1 in Appendix 6B). The participants considered the manual to be a valuable resource to "…fall back on when we get stuck" (PD6, Line 258, Focus group 1, 2006, Appendix 6A). A previous study that applied innovative instructional and curriculum strategies to enhance physical education teacher practice (Bomna, Wallhead & Ward, 2006:397) emphasized the importance of providing resources to support teachers in the integration of new curricula and instructional skills into their existing contexts. However, this study *(Ibid)* was performed in a developed country with formally qualified teachers.

In this study, the training support materials were generally underutilized (Line 415, Pilot Focus group 1, 2005), which may be attributed to participants' unwillingness to read or write outside the classroom, as became apparent from the following quote:

> *T: "….there is this thing about too much writing. Teachers have a problem with too much writing and reading. They keep that so nicely in the file. And then when maybe some of the facilitators come, and then they tell them they have been trained in this or that, and then they have not read it. So I think the video will help a lot (Line 84, Focus group 1, 2005)".*

The participants' preference to rather view a video than to read a manual may be related to their own literacy levels and educational backgrounds. Such findings are in accordance with those obtained by Pile and Smith (1999:176) who found that, in spite of teachers valuing support materials, there was an underutilization thereof because their reading levels did not allow them to comfortably access such resources. It is also possible that this could be attributed to what Du Plessis and

Louw (2008:70) described as a “passive approach to learning”, where the preference is to be told by others what they need to know rather than a self-discovery approach. Either way, the results in this study suggest that it would be better to apply resources for the development of video material rather than manuals in the support of teachers.

The manual was better utilized in the urban context where it was used by several participants to complete the assignments.[49,50] Some participants shared that they intended to use it again for new ideas to be implemented in the classroom, which support similar findings by Farrell (1993: 33 in Christie *et al.*, 2004:169) that teachers’ guides were effective in supporting poorly trained teachers. It therefore appears as if the context determined the kind of support preferred.

The participants in the semi-rural context preferred the video to the manual as they thought it could help them provide feedback to their colleagues at school and 'to workshop those who could not attend the training' (P9, Line 125, Focus group 2, 2006).[51] The participants preferred to 'look and do' rather than to 'read and do' as a learning strategy (Dennison & Kirk, 1990:2).

(b) QUAN strand: Training support materials

The results obtained from the QUAN strand (refer to Table 7-6) indicated that almost all the participants (96%) in both contexts were of the opinion that the video material clarified the strategies taught in the workshop and that it was a valuable addition to the workshops. The value of the learning support materials was also confirmed by the feedback provided by the external evaluator, who described the learning support materials as ‘excellent’ (refer to Table 7-7).

[49] T: It did help us with the assignments (Line 115, Focus group 2(b) 2006 *)

[50] T: Yes, it will. After I have done my assignment, the manual I will get some light of what to do (Line 164, Focus group on WS 3 2006 new)

[51] “And we want to use it to teach our colleagues” (Line 74, Focus group 1, 2005)

(c) Convergence of results: Training support materials

The results from the two strands of data are converged in Table 7-11. From the results (refer to Table 7-11) it is concluded that the support materials were valued, but depending on the specific context, would not necessarily be utilized optimally, and that the video material would most likely be better utilized than written manuals.

Table 7-11: Value of the training support materials

Aspect assessed	QUAL	QUAN
Value of the training support materials	75%	96%

7.3.3 Role of the district facilitators in the CPD programme

The 'role of the district facilitator' in providing follow-up support to the participants (specifically with the portfolio assignments) was considered to be an advantage, as was indicated by 75% of the items being positive (n=45) (refer to Table 3, Appendix 6B). The support of teachers was a collaborative process where the facilitators were included as 'partners' in the CPD process. The effect of their support was, however, dependent on their availability and individual qualities.

The district facilitators were requested to hand out the training support materials during school visits following each workshop and to support the participants with their portfolio assignments. The school districts in this study covered large geographical areas and included many schools. School visits were difficult to fit into the facilitators' own busy work schedules, which resulted in the training support materials not being handed out in time to complete the portfolios in some cases.[52]

Lack of access to the manuals during the implementation period may have impacted negatively on the quality of the assignments, which in turn may have affected the general performance of these participants (especially when compared to those who

[52] DF: No, I will do it but there are only three schools here today (Line 299, Focus group on WS 3, 2006 new)

did receive the manuals in time). This lack of control affected the methodological rigor of the research and may have affected the outcomes.

The two strands of the research corresponded with regard to the value of the three components within the training approach, which make the inferences trustworthy and credible. In this case the external validity of the results was increased by implementing the research in two contexts (Leedy & Ormrod, 2005:100) and by obtaining multiple measurements (Johnson & Christensen, 2004:141). The training approach was therefore considered to be effective and beneficial to the participants. The next aspect to be evaluated is the methods of training.

7.3.4 The training methods

The *'training methods'* were addressed by the QUAL strand only of the research. The appropriateness of the training methods used was confirmed by 74% of the 42 items coded ('Training methods', Table 2, Appendix 6B). The fact that the participants were "feeling positive about workshops or training programme" (Table 3, Appendix 6B), including the training methods used, was confirmed by 99% (n=94) of the items.

In this case direct instruction (lectures and practical demonstrations) was alternated with practical group learning activities and role play, all of which were perceived as positive (85%, n=15). Direct instruction is regarded to be the most appropriate method of training when learners are introduced to new material as it develops basic knowledge and skills that are required before learners can be expected to discuss or critically reflect on the information (Killen, 2007:109).

Role-play activities were enthusiastically supported (refer to code *'training methods'* Table 3, in Appendix 6B) and gave the participants confidence to experiment with the

strategies in their classrooms[53] From observing the role play it was evident that the participants re-enacted their classroom situations and problems, which enhanced their learning and created the opportunity to reflect (De Beer & Swanepoel, 1996:47). The participants also participated enthusiastically in small group discussions.[54]

The practical activities were characterized by "a buzz of participation in the air" (Silberman, 1996:4) (Line 27, Diary entry 25 on 22 March 2006 Training 1&26) and the participants enjoyed the demonstrations (Line 27, Diary entry 7 of 23 July 2005). Such a mix of teaching methods appeals to most learning styles (Dennison & Kirk, 1990:29; Munro & Rice-Munro, 2004:23) (refer to Appendix 2A in Chapter 2). It is in accordance with experiential models of learning, specifically the 'Do, Review, Learn and Apply' (DRLA) model (Dennison & Kirk, 1990:29) for instructional design (refer to Figure 3-9 in Section 3.1.3).

It can be concluded that the participants in this study considered the training methods as appropriate and adequate to enhance learning, making these methods suitable for use in future programmes. The trainer/researcher is also of the opinion that the relevant and practical nature of the workshops made the participants more enthusiastic about their teaching (Line 111, Diary entry 28 on 25th May 2006, Focus group 3(a)). In order to determine the effectiveness of the training process, it was also necessary to evaluate the trainer's attitude and skills in the presentation of the material.

7.3.5 Trainer's skills

To determine whether the trainer's attitude and skills were of such a nature that it

[53] Several teachers came to me during the lunch to thank me as they felt to have gained significantly from the workshop. One lady said: "I feel I now have confidence - I have gained the skills to make me confident with this".

[54] They voiced their opinions, laughed, and argued about several issues such as the language policy, the LoLT vs. L1 issue etc. They enjoyed all the demonstrations and turntaking activities (Line 27, Diary entry 7 of 23 July 2005)

encouraged learning, it was necessary to consider the results obtained from both QUAL and QUAN vantage points.

(a) QUAL strand: Trainer's skills

The participants regarded the trainer as competent and expressed appreciation of her presentation style.[55,56] From the 16 items coded under the category 'trainer's skills' (refer to Table 3, Appendix 6B), 94% were of a positive nature. The participants reported that the trainer motivated them to implement the strategies in class (85%, n=13) (refer to Output, category 'attitude' in Table 3, Appendix 6B).[57,58] Brumfit (2001:115) is of the opinion that "…the trainer's ability to relate to participants, the role of enthusiasm for the subject and the interaction of these with a sense of purpose and organization was as relevant in 1500 as in 2000". The effectiveness of the CPD programme therefore also depended on individual qualities (Byram, 1997:32) (e.g. the ability of the trainer/researcher to build and maintain human relationships), which emphasized the role of the trainer in the process of teaching and learning.

Testimonials regarding the trainer's skills were received from the Teaching Support Educators (P44, Open questions form 4, line 107, in Appendix 6A), and although they were not included in the study,[59] such reports increased the inference quality. Motivational processes contribute significantly to intellectual processes (Do & Schallert, 2004:620) and therefore the trainer's ability to motivate the participants contributed to their learning.

[55] I like the way the facilitator encouraged us to implement it because she is very active (Line 113, Open questions Form 5 workshop 3)

[56] I would like to thank our facilitator because she was active and using clear English (Line 116, Open questions Form 5 ws 3)

[57] The facilitator....the workshop motivates the educators (Line 107, Open questions form 4)

[58] I like the way the facilitator encouraged us to implement it because she is very active (Line 113, Open questions Form 5 ws 3)

[59] The facilitator....the workshop motivates the educators (Line 107, Open questions, Form 4)

In the event of unforeseen occurrences which could potentially reduce the effectiveness of the CPD programme, the trainer/researcher demonstrated the ability to problem solve, which is a virtue "…without which the scientific part of research cannot take place" (Ebrahim, 2004:32). On several occasions during the fieldwork the trainer/researcher had 'to make things work', which is in accordance with the pragmatic approach to the research.

In the semi-rural context it was necessary to deal with faulty power supply, to improvise a screen for the data projector, and to gain entry to training venues when the person responsible for opening up arrived later than expected. On one occasion it was necessary to manage an intoxicated individual who was threatening to disrupt the workshop, and at another time it was necessary to deal with a district facilitator who elicited negative attitudes from the participants by her derogatory manner of addressing the participants. In the data collection it was necessary to add portfolio assessments when the questionnaires proved to be unreliable in the pilot study, and to fax post-training questionnaires after they had temporarily been discontinued. Managing large amounts of data was extremely challenging and required extensive problem solving to organize the data in a manageable format.

Challenges and problems encountered were documented in a research diary, which proved a helpful tool for reflection. It also allowed the trainer/researcher to communicate the various challenges experienced by sharing diary entries with knowledgeable others who provided valuable feedback. Such reflection is associated with evidence-based research (Ebrahim, 2003:21).

(b) QUAN strand: Trainer's skills

In the QUAN strand the trainer's skills were evaluated by determining whether the information was presented clearly and in a manner that was easy to understand, as

well as how well the terminology was explained. Table 7-12 provides a comparison between the results obtained in two contexts.

Table 7-12: Comparison of participants' perception of the trainer's skills between the two contexts

Issue	Semi-rural context (2005)		Urban context (2006)		Difference
	No	*Yes*	*No*	*Yes*	*Change*
Clear & easy to understand	1%	99%	6%	94%	-4%
Understand terminology	6%	94%	9%	91%	-4%

The results in Table 7-12 show that >94% of the participants in both contexts felt that the trainer presented the information in a clear and easy-to-understand manner and >91% items indicated that the terminology was adequately explained.

(c) Convergence: Trainer's skills

Similar opinions were obtained from both contexts and the two strands of the research corroborated, which increased the inference quality (refer to Table 7-13).

Table 7-13: Convergence of inferences with regard to trainer's skills

Aspect evaluated	Category	QUAL	QUAN
Trainer's skills	Motivate participants	85% (n=13)	87%
	Presentation of the workshops	99%	94%
	Clarity of terminology used in training	n.a	95%
Average		96%	91%

According to Killen (quoting France (1997) in 2000:xi) trainers "…should be judged on their ability to encourage insight and self-confidence and to provide moral support" to trainees. The teaching was based on the educational principles required by the University of Pretoria (2006:787) (refer to Section 3.1) and was supported by the results obtained from the research.

It is concluded that the trainer was considered competent in presenting the material in a manner that encouraged learning. The next section evaluated the assessment methods used in the evaluation.

7.4 Assessment methods

Data from both strands of the research were used to evaluate the assessment methods. However, some of the assessment methods are discussed according to observation and experience as no data were collected in this regard.

7.4.1 Questionnaires

Questionnaires were used for various purposes, namely to determine knowledge gains (recall of information), to collect demographic data for descriptive statistics, and to determine opinions and values (South African Qualifications Authority, 2001:30). Qualitative data were also collected by means of open-ended questions. However, the suitability of using questionnaires in this particular context is questioned as there were many factors that could have affected the reliability of the data (Leedy & Ormrod, 2005:210).

Questionnaires proved to be an unreliable tool in this context for several reasons. Firstly, the number of participants who attended each workshop did not correspond with the maximum number of questionnaires completed (either pre- or post-training). Table 7-14 shows a comparison of the number of trainees at each workshop with the number of questionnaires completed in both contexts.

It is evident from viewing Table 7-14 that the lower ratio of 71% for the core group in the semi-rural context reflects the change in data collection procedure where post-training questionnaires were faxed two weeks following training (refer to Section 5.5.2(b)), which resulted in a lower return rate. In several cases participants

completed only one questionnaire per workshop.

The completion rate for questionnaires was similar in both contexts, which increases the validity of these findings. When comparing the completion rate of the core group with that of the entire group the core group in the urban context completed 13% more questionnaires. This indicates that those trainees who attended as substitutes probably were not motivated to complete the questionnaires.

Table 7-14: Maximum number of questionnaires completed compared with attendance per workshop

Group		Semi-rural			Urban		
		Participants	Questionnaires	Ratio	Participants	Questionnaires	Ratio
Core group	WS1	31	59	95%	25	47	94%
	WS2	31	22	71%	25	47	94%
	WS3	31	59	95%	25	48	96%
	Total	93	140	90%	75	142	95%
All participants	WS1	46	86	93%	51	94	92%
	WS2	36	27	75%	55	100	91%
	WS3	39	74	95%	55	69	63%
	Total	121	187	91%	161	263	82%

Table 7-15 compares the number of participants who completed a specific number of questionnaires across contexts.

Table 7-15: Comparison of questionnaires completed across contexts

Number of questionnaires	Number of participants who completed specific questionnaire in the semi-rural context	Number of participants who completed specific questionnaire in the urban context	Total (n)	Cumm %
1	4	2	6	5%
2	2	5	7	6%
3	6	6	12	10%
4	6	6	12	10%
5	5	18	23	20%
6	13	7	20	17%
7	17	18	35	30%
Totals	**53**	**62**	**115**	**100%**

There were only 30% (n=35) participants from the entire sample of 96 who completed all 7 questionnaires, and 67% (n=78) completed 5 or more questionnaires. The number of questionnaires completed depended on proficiency in English, literacy levels of the participants, aspects related to timing, as well as attendance. Secondly, questionnaires proved to be an unreliable tool for the purpose of evaluating knowledge gains.

According to Figure 7-2 between 22% and 29% of the participants who attended workshops 1 and 3, and 50% who attended workshop 2, showed a decrease in knowledge after training.

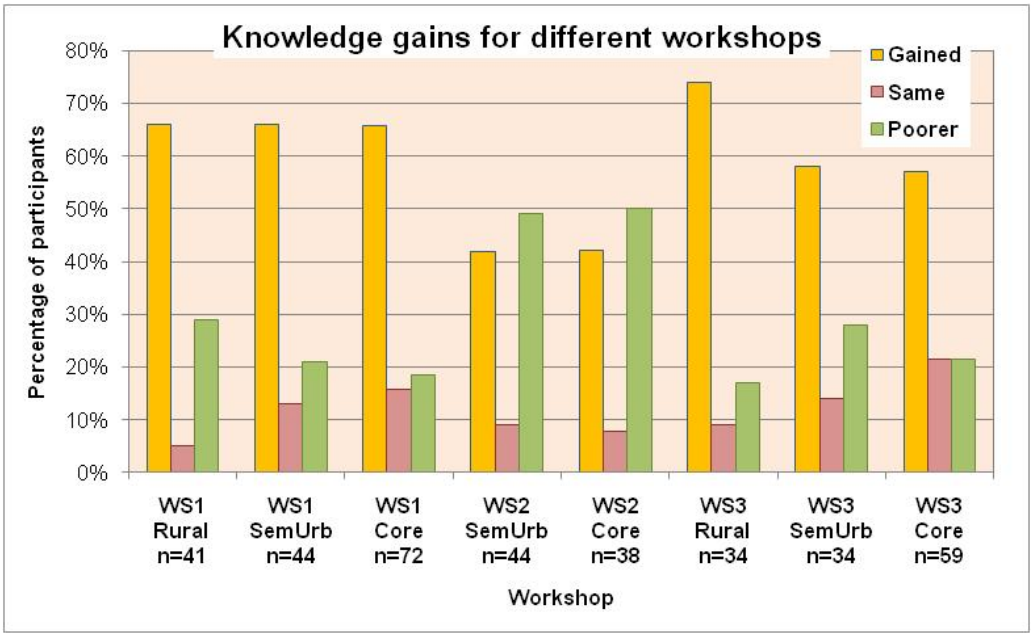

Figure 7-2: Gains in knowledge as indicated by questionnaires

Several factors (to be discussed at the end of this section) that may have affected the reliability of the results were identified. It is therefore questionable whether the questionnaires were reliable measuring instruments in these contexts, which indicates a limitation in the research. Thirdly, the questionnaires were not suitable tools to assess the participants' applied knowledge. The format of the questions

(e.g. alternative response questions and structured questions, as well as assertion/reason questions) mainly assessed recall of factual information (South African Qualifications Authority, 2001:30-33). Factual knowledge is necessary when trainees are being introduced to new information, but is considered at the lower levels of the knowledge domain (Bloom *et al.*, 1956) and therefore can be considered 'shallow learning'. It was more important to assess the development of insight and understanding that would allow the participants to apply their knowledge, for which portfolio assessments proved more appropriate.

After the results of the first pilot workshop in the semi-rural context became known, the trainer/researcher, in consultation with two research experts (refer to Section 5.5.2(b), realized the limitations of the questionnaires and decided to discontinue their use for the assessment of knowledge gains (refer to results depicted for Workshop 2 in Figure 7-2). The decision was taken to assess the application of the information trained by means of portfolio assessments and focus group discussions, whereas the questionnaires would be used to collect data regarding attitudes, values, interests, opinions, and demographics (McMillan & Schumacher, 2006:194). Shortly thereafter this decision was reversed when the statistical advisor to the study thought it best for statistical reasons to continue using the questionnaires (C Smit, personal communication, September 10, 2005). The post-training questionnaires were faxed to the participants two weeks following training, which consequently resulted in a low return rate (refer to Figure 7-2).

The questionnaire data were augmented with other assessment methods. The use of the mixed methods approach increased the validity of the questionnaire (McMillan & Schumacher, 2006:316) and allowed inferences to be made. The results obtained from questions that assessed knowledge gains were used within a triangulation conversion design (Creswell & Plano Clark, 2007:138; Onwuegbuzie & Collins,

2006) with data obtained from portfolio assessments, as well as with qualitative data.

Despite the questionnaires being problematic in this research, the evaluation thereof as assessment method was considered constructive because it contributed to the evaluation procedure used in the development of the CPD programme. It provided new insights that could be shared with the research community in the form of recommendations.

7.4.2 Portfolio assessments

The original aim of the portfolio assignments was to contribute to the learning experience of the participants, but as direct observation of the implementation of strategies was not possible, the assignments were also used to assess the application of strategies in the classroom (South African Qualifications Authority, 2001:34). The value of the portfolio as assessment method was determined by both the QUAN and QUAL strands of the research.

(a) QUAL strand: Portfolio assessments

In general, the portfolio assignments were prepared with care and several were comprehensive, which bore evidence of the time and thought that went into preparing them (refer to photographs no. 21 – 30 in Appendix 6E). However, some participants in a focus group acknowledged that the assignment was not a true reflection of their teaching and that it was submitted[60] without implementing the strategies.[61,62] These participants stated that they did not need the assignments to

[60] T: There is no use to writing. You know writing, for the sake of a due date (Line 130, Focus group 2(b) 2006 *)

[61] A. So some of you did the assignment without implementing it in the class. So you feel the assignment is not a true reflection of what is going on in the class? Oh, Ok.

T: That was my problem, it came out. So at least somebody did raise it. (laughter) (Line 139, Focus group 2, (b) 2006 *)

[62] But you …..you don't implement that what you have written on the assignment, you just write it to submit it to the lecturer. It is like studying for a degree (Line 200, Focus group 2, (b) 2006 *)

ensure that they implement the strategies in class. Such revelations indicated negative feelings (n=35) (refer to category 'assignment negative', Table 3, Appendix 6B) and because these individuals were from specific schools, their attitudes were probably school related.

There were also indications that participants from specific schools copied their portfolio assignments from each other, which was counterproductive as these participants did not benefit from this exercise (Line 10, Un-tabled individual complaints from Assignment 2). In this respect the portfolio assessment was not an effective measuring instrument as their scores were not a true reflection of their understanding and skill.

Incomplete portfolios were scored poorly.[63] The components most often omitted by the participants were their 'personal reflection' and 'self-assessments', both of which were of a reflective nature.[64] It is possible that the participants (and district facilitators) had little prior experience of reflective practices (Kolb, 1984:4, 38; Vella, 1994:87) and did not know how to apply this technique. Due to the recentness of the introduction of these practices with the implementation of the OBE approach (Killen, 2007:25), the majority of the participants in this study may have not been trained in reflection and self-assessment.

Reflection is the basis for the successful implementation of OBE (Schwahn & Spady, 1998:45). The participants' inability to reflect on their own practices indicates that they have not yet mastered the basic skills required by an OBE approach. Reflection (from a technical or moral perspective) is an acquired skill that needs to be developed by practice and guidance (Killen, 2007:105) and therefore this practice

[63] Incomplete assignments: Many submitted their portfolios but did not do all three the tasks/sections that were included in the assignment. Some educators also facilitated only a single aspect in the listening assignment (e.g. an auditory discrimination strategy) (Line 6, Summary of the portfolio assessments and reflection of the trainer)

[64] T: Implementation is very good, the problem is this assignment. To know,… to write it. But it helps us. It really helps us. When we start planning again for those…..for your….compiling everything. But I don't like the assignment (Line 12, Focus group 2, in 2005)

needs to be addressed in future programmes.

The peer assessments with feedback (Rooth, 1995:8) were intended to contribute to training transfer (Facteau et al, 1995, Tracey et al 1995 in Salas & Cannon-Bowers, 2001:489; Tannenbaum, 1997:440). The results provided an indication of how well the strategies were implemented in the classroom. The feedback documented in the peer review was superficial, and could not be regarded as constructive for learning. Their unwillingness to criticize their colleagues may be ascribed either to observers not wanting to offend their colleagues who were being observed, or, alternatively, to a lack of insight.

An interval scale with designated values may have guided the participants in their peer assessment. Despite the lack of constructive feedback to peers, the peer assessment process may have contributed to participants' learning as Phillips and Glickman (1991:23) reported increased conceptual levels, reduced teacher isolation, and the development of more positive experiences towards CPD experiences through peer assessments.

Several participants reported that they found it difficult to write the assignments..[65,66] Such problems may be ascribed to the language used in the CPD programme (refer to Section 6.2.3(b)(iii)) and/or the participants' educational levels (refer to Section 5.3.3(a)) inhibiting their ability to complete the portfolio. The prospect of being assessed through portfolio assignments made some participants feel anxious about failing. Adult learners often do not want to be criticized and fear humiliation (Knowles, 1990 in Cyr, 1999:6).

The feelings of resentment or helplessness were particularly evident in the Gr. R

[65] T: To write it is difficult (Line 25, Focus group 2 in 2005)

[66] The writing part of assignment was difficult but the implementation was very easy (Line 58, Un-tabled reflection and self-evaluation of teachers in the numeracy assignment)

participants, who generally were inadequately qualified and were not part of a school-based support group because they were teaching in preschools that were not part of a primary school.

Although the use of rubrics made the portfolio assessment less subjective (McMillan & Schumacher, 2006:193), it was not necessarily a reflection of the participants' true competence. The portfolio assessments provided only a glimpse of how the participants implemented the strategies in the classrooms and possibly their attitudes towards their work, but the trainer/researcher gained insight into classroom practices and the context. As an assessment method standing by itself, it cannot be regarded as a valid method for assessment. When the results were confirmed by information obtained from focus groups, however, the trustworthiness of the inferences was increased.

(b) QUAN results: Submission rate of portfolio assignments

With reference to Table 7-9 the average submission rate for at least one portfolio assignment for the core group was 93%, which was considered adequate as it indicated that a sufficient number of participants could be evaluated with the portfolio assessment to draw valid inferences. The submission rate for the urban context was 100% and for the semi-rural context 87%. The challenge would be to increase the submission rate as high as possible in future programmes in order to make the portfolio as assessment method more effective.

(c) Convergence of inferences: Portfolio assessments

The two strands of the research contributed different perspectives of the inferences as they did not address similar aspects. The results obtained from the two strands of the research are converged in Table 7-16.

Table 7-16: Convergence of inferences with regard to the portfolio as assessment procedure

Portfolio assessment	Qualitative strand (categories)	Quantitative strand
Feelings about the portfolio assessment	57% positive 40% negative	None
Submission rate	NA	93% (n=56)

Table 7-16 shows a satisfactory submission rate of portfolio assignments for the core group, indicating that the results were representative. The ambiguous feelings displayed by the participants may be due to a lack of support. A high submission rate is required for portfolio assignments to be an effective assessment method. The portfolio assignment was an appropriate tool for assessment in this context as it was not possible for the trainer/researcher to observe the implementation of strategies in the classroom.Despite criticism that portfolio assessments are of a subjective nature, it is an acceptable evaluation method when used in combination with other more conventional assessment methods (McMillan & Schumacher, 2006:193).

7.4.3 Focus groups

Eight focus groups that provided rich data with thick descriptions were conducted and allowed for comparisons to be made between the two contexts. Although unique information was obtained from each, Morgan and Krueger (1998:77) suggested that a smaller number of four focus groups would have been equally sufficient in obtaining data saturation.

The focus group discussions were found to be a suitable assessment method as they provided information on the workshops and allowed participants to discuss their opinions and share their feelings,[67,68] which provided more insight into the context

[67] They opened their hearts to me. I also heard about their frustrations and challenges with inclusion (Line 97, Diary entry 28 on 25th May 2006, Focus group 3(a))

and culture. The trainer/researcher could also engage with the participants on a more personal and subjective level than with any of the quantitative methods (e.g. questionnaires or portfolio assessments).

The participants reported that they enjoyed the small group context around a table talking to each other. The researcher experienced these discussions as opportunities that allowed the participants to express their personal opinions and feelings (refer to photos no. 2, 6, and 13 in Appendix 6E) Do and Schallert (2004:619) were of the opinion that follow-up small group discussions after a training event (which are similar in nature to focus groups) contribute a 'socio-affective component' to programmes that have motivational value to trainees. In answer to the research question, the focus groups proved to be an appropriate assessment method for the context and provided sufficient information to understand the context and to draw conclusions for the evaluation of the CPD programme.

7.4.4 Diary entries

The research diary was not primarily intended as an assessment tool, but rather as a means to aid reflection on the development of the entire programme[69] and the research process (McMillan & Schumacher, 2006:329). The trainer/researcher used the research diary to document events, describe situations,[70] explain occurrences,[71] and question specific issues.[72] By reflecting on the various components of the

[68] I received much pleasure from getting to know the participants, and to hear their stories, and to talk to them about their lives. I came to understand what their challenges and problems were, and realized that in many ways they were similar to one's own (Line 100, Diary entry 28 on 25th May 2006, Focus group 3(a))

[69] QB6: Why do they indicate "teaching English Additional Language" as the only option in which teachers should be knowledgeable? Is the question wrongly asked? (Line 120, Diary entry 7 of 23 July 2005)

[70] I feel as if they are starting to open up to me, and to trust me (Line 15, Diary entry 10 23 & 25 August 2005 follow-up of workshop 1)

[71] The workshop section after lunch is crucial - but they are tired by that time and want to go home (Line 30, Diary Entry 15 on 8 Oct 2005 Pilot Workshop 3)

[72] I am still skeptical. How can two training sessions with assignments have made such a dramatic difference to

programme (e.g. meetings, workshops, focus group sessions, and assignments) the actual events were confirmed. Although this data source by itself did not provide sufficient information to draw conclusions, it confirmed data generated by other assessment methods and so contributed valuable information to the assessment process.

With the exception of the questionnaires, the assessment methods used were all determined to be suitable for evaluation purposes. It was not possible for any one of the assessments methods to stand on its own, and therefore the use of the mixed methods approach (where multiple methods were used) proved to be most suitable in this context as it strengthened the inference quality. Next, it is necessary to address the factors that impacted on the process component, as they could also affect the output.

7.5 Factors impacting on the process component

Evaluation of the process component indicated specific factors that may have affected the results:

7.5.1 The impact of attendance

Attendance of the workshops was included in the evaluation of the CPD programme as it was a crucial factor in the learning process.[73] The effect of attendance was evaluated using both qualitative and quantitative data.

(a) QUAL strand: Attendance

Attendance was not particularly addressed by the QUAL strand, but from the data

the way they teach? (Line 59, Diary entry 16 on 13 Oct 2005 focus group 1)

[73] T: " …attending all workshops…..Getting all the material" (P50, line 259, Pilot focus group).

obtained 50% (n=26) of the items coded in the category *'attendance*' (refer to Table 2 in Appendix 6B) were negative. The qualitative results indicated a relationship between attendance, timing (see category *'scheduling'* in Table 1, Appendix 6B), and the choice of '*venue'* (refer to Section 7.5.4(b)) (to be discussed).

The participants regarded full participation in the programme (consisting of attendance of workshops and completion of portfolio assignments) as prerequisites to benefit from the programme[74,75] (refer to code 'attendance' in category 'participation' in Table 1, Appendix 6B). They were of the opinion that they became more skilled as they attended more workshops and completed the assignments.[76]

It became apparent that aspects related to the category 'scheduling' (refer to theme *'Factors affecting the process'* in Table 3, Appendix 6B) played a crucial role in attendance as 95% of the 145 items coded were categorized negatively. Participants in the semi-rural area continually expressed their discontent with being trained on Saturdays because of personal commitments (Line 162, Focus group 2 in 2005).[77] In the urban context the participants resented giving up their public and school holidays to participate in training. In the former case the dates for training were determined by the district facilitator without consulting the participants, whereas in the urban context the dates for training were selected by the majority of participants together with the district facilitators.

When the training schedules were discussed (refer to Section 5.5.1(b)) it was not possible to obtain full consensus in this regard. There were many participants in the urban contexts who were not in favour of the training dates, which may have caused

[74] I should use the language strategies continuously, so that I could get used to them because I have realized that they really improved my teaching (Line 40, Reflection and self-evaluation of teachers in the numeracy assignment 2006 (WS 3))
[75] Many of the participants could not do the assignment because they did not attend the workshop.
[76] It was not difficult because of the last experience but the continuation of the previous workshops (Line 59, Un-tabled reflection and self-evaluation of teachers in the numeracy assignment (WS 3), 2005)
[77] Funerals are common, and one of the factors to take into account with attendance. The devastating effect of the AIDS pandemic has an effect on all educational programmes (Line 6, Diary entry 6 on the 21 July 2005)

attrition.

Apart from the attendance of workshops, the focus groups meetings were well attended[78] probably because the participants valued the opportunity to meet in small groups to discuss their problems. The exception was a single occasion in the urban context when the district facilitators failed to notify the schools long ahead of time and fewer participants could attend on short notice.

The high attendance of focus group meetings suggests that participants had no objections to being engaged in CPD activities during weekday afternoons, which makes such scheduling for workshops a preferable option. The key to solving the problem with attendance is to obtain consensus with regard to training dates. The trainees, district facilitators, as well as the trainer need to reach consensus in a collaborative manner, which may be a challenge as people differ in their preferences in terms of training dates.

(b) QUAN strand: Attendance

Table 7-17 depicts the number of participants who attended the three workshops, as well as the attrition. The results show that of the 97 participants trained in the programme, 46 were from the semi-rural context, and 49 from the urban context. The original sample who signed informed consent did not necessarily attend all three workshops.

Of the total group (consisting of both semi-rural and urban contexts) 78% participants attended all three workshops, but did not necessarily sign informed consent. Attrition already occurred between the briefing session and the first workshop as only 56 of the 96 participants who signed informed consent at the initial briefing meeting attended the first and following workshops (core group).

[78] There was a 100% attendance (Line 11, Diary entry 16 on 13 Oct 2005 Focus group 1)

Table 7-17: Attendance and attrition of workshops

Context	Workshop (WS)	Total	% Attrition		New or substitutes	
		n	n	%	n	%
Semi-rural	All workshops	33(72%)				
	WS1-total	46				
	WS1only		9	9%		
	WS3only		3	3%		
	WS1-2		11	24%	1	3%
	WS2-3		0	0%	0	0%
Urban	All workshops	43(84%)				
	WS1-total	51				
	WS1only		7	15%		
	WS3only		0	0%		
	WS1-2		4	8%	8	15%
	WS2-3		0	0%	3	5%
Total	All workshops	76(78%)				
	WS1-total	97				
	WS1only		2	4%		
	WS3only		3	6%		
	WS1-2		15	15%	9	10%
	WS2-3		0	0%	3	3%

There were 24 replacement participants in the first workshop and further attrition occurred between workshops 1 and 2 in both contexts, but no attrition between workshops 2 and 3. It is possible that participants considered the requirements of the programme after the briefing meeting and decided to withdraw without notifying the trainer. Fewer participants from the semi-rural context (72%) attended all three workshops, probably because their programme was scheduled for the last term in the school calendar, which is a period when teachers have many other commitments (e.g. university examinations), and because they were trained on Saturdays. Additional trainees joined the programme as substitutes for those who originally signed informed consent, which made the workshops appear well attended. These replacement participants were excluded from the research because they did not sign informed consent. Poor and inconsistent attendance also impacted on participants'

completion of the questionnaires (refer to Section 7.4.1).

In the urban context there were 12 additional trainees (consisting of district facilitators, GDE officials, and Learning Support educators) who attended the programme on invitation of the district facilitators without notifying the trainer beforehand.[79]

(c) Convergence of results: Effect of attendance

The convergence of the QUAN and QUAL strands of the research is shown in Table 7-18. Attendance and attrition affected data collection and the sample size and are some of the challenging realities of doing research in this particular context (Adler, 2003:3; African National Congress, 1995). The core group consisted of 56 participants, which was much lower than the intended sample of 96. From a research viewpoint it would have been ideal if the participants showed more commitment to full participation in the programme.

Table 7-18: Convergence of QUAL and QUAN results with regards to attendance

Category	QUAL	QUAN
Submission of portfolio assignments		Semi-rural 64% Urban 93%
Completion of questionnaires		95%
'Attendance'	50% negative (n=26)	78%
Core group		56

It can be questioned whether one can expect more in terms of 'participant ethics' (e.g. notifying the trainer in advance in order to arrange for informed consent from substitutes). However, participation was voluntary, and participants were given the

[79] I was worried that people will not turn up because of the holiday. To my surprise, we had a 100% attendance with all 48 teachers present. An unexpected additional 12 people came which included some of the GDE facilitators from other regions, and some learner support educators (Line 9, Diary entry 25 on 22 March 2006 Training 1&26)

option to withdraw at any time (refer to Section 5.3.2(a)(ii)).

As the study was conducted in a real-life context, it was not possible to control all the variables. The real-life context was less predictable and adaptations had to be made. Attendance may have been affected by several factors such as funerals, illness, and poverty, which are common within the South African context (Khan, 2005:20).

7.5.2 Educational backgrounds of the participants

The quality of questionnaires and portfolio assignments was dependent on the literacy levels of the participants. Their responses to both assessments reflected varying levels of competence in reading and writing skills. Such a variation could be related to their educational backgrounds (refer to Section 0), which reflected their qualifications. The reading and writing skills and/or insufficient qualifications of some participants rendered the use of questionnaires unsuitable for determining knowledge gains in these particular contexts. However, these were not the only reasons for the questionnaires not being effective as an assessment method in this research.

7.5.3 Language proficiency in English

The use of language in the CPD programme was identified as an input challenge (refer to Section 6.2.3(b)(iii)) as it had an effect on assessment (see Section 6.2.3(b)) and on the participation by the participants. The questionnaires, portfolios, and focus groups revealed that none of the participants was fully proficient in English as errors, omissions, and scant expressions were common.[80] Language proficiency in

[80] A limited language proficiency inhibited the participants' ability to express themselves freely in the questionnaires, focus groups, assignments, and classrooms (PD 55, refer to Line 12, Untabled Individual complaints from assignment 2).

English may have been one of the reasons for the low response, as it probably required too much effort to complete the portfolio assignments, and may have accounted for participants misinterpreting some of the questions in the questionnaires (McMillan & Schumacher, 2006:194) or for expressing themselves poorly in the open-ended questions.

Although the participants were encouraged to use their language of choice, only six portfolios were compiled in an indigenous language and on just two occasions the participants in a focus group responded in their L1. To prevent discrimination against participants, assessment tools that place high demands on reading and writing, especially in an additional language, should not be used in these contexts, unless provided with additional support.

When participating in the workshops, the participants found it difficult to express themselves (e.g. they struggled to find the appropriate vocabulary when referring to terminology or strategies).[81] Although examples in Northern Sotho were provided for phonological awareness training, the participants required more demonstrations.[82] As the trainer/researcher was not competent in any of the indigenous languages, it was not possible to provide impromptu examples in demonstrations of rhyming.[83] The district facilitator who acted as translator was equally unable to translate rhymes from English to any of the indigenous languages represented in the workshop, because she was not familiar with the concept of rhyming (refer to PD 23, Diary entry

[81] T: I am talking about, I forgot the thing that you showed us,…The….the - when you taught the kids the heavy, heavier?

A.M: The scale? (Line 114, Focus group 2 in 2005)

T: The scale. Yeah (Line 114, Focus group 2 in 2005)

[82] T: Yeah, but it was in English (Line 275, Focus group 1 2006)

A: So you want it in Northern Sotho?

T: And in Zulu, and Pedi, and….So that you can say, “Zulus, have your preparation” and then eh… that is what it is going to teach for the activity (Line 275, Focus group 1 2006)

[83] T: But maybe what I can advise you, make use of the LoLT because we are teaching in the African languages

A: So the whole course should be taught in the African languages.

T: Only the examples (Line 266, Focus group 1 2006)

12 on Pilot workshop 2, ME 08/02/01).

The fact that not enough examples in indigenous languages were available to demonstrate the concepts in phonological awareness was a limitation in the training component. According to V. Ramsing (personal communication on September 27, 2007) all support currently provided by the GDE is in English, which may be limiting. Additional prior-workshop support to district facilitators to become co-presenters in future programmes will allow them to support the trainer with code switching and impromptu examples when necessary.

7.5.4 Effect of logistics

The effect of logistics included the effect of timing in the workshops and in assessment procedures, as well as the choice of training venues.

(a) Effect of timing

The effect of timing was obtained from both strands of the research. The focus was on the effect of timing on workshops, the length of the workshops, as well as scheduling.

(i) Effect of timing in workshops

- *QUAL strand: Effect of timing*

The theme '*aspects related to time'* was prominent (n=47) in the QUAL strand and was mostly (62%) regarded negatively (refer to category 'timing' in Table 3, Appendix 6B). The trainer/researcher was under pressure to present specified material within less time than planned. Several of the workshops started later than planned because the participants were not punctual[84,85] and they were anxious to go

[84] Teachers were still arriving "by drips and drabs" till 10h00. The (district) facilitator literally scolded the teachers

home early (after lunch) when training was conducted on Saturdays or public holidays.

In an attempt to complete the presentation within less time than planned, caused too much emphasis on the transfer of information, resulting in the trainer/researcher becoming 'trainer-directed' in presenting all the workshop material. It would have been beneficial for learning if more time was allowed for review, discussion, and reflection, which are typical of learner-directed training (Killen, 2007:10, 78). The information was deemed to be excessive for the amount of time available and hence the request (n=13) was made for 'more time for training' (refer to category 'time' in Table 3, Appendix 6B). This may have been related also to the 'length of the workshop' (n=17), where 76% of the items indicated that full-day workshops were experienced as too tiring.[86] There was a discrepancy between the scope of information that the districts and GDE officials wanted the participants to receive, and the amount of time that the participants were willing to spend in workshops.

Another time factor affecting the CPD programme was the time of closure of the workshops, which the participants considered as being too late (15h30). The participants did not like returning to the workshop after lunch to review the assignment, which was an important aspect of the workshop that subsequently had to be rushed. In order to attend the workshops at 08h00, some participants probably had to start their day at 05h00, which made them want to leave early to allow for time to commute and to spend time with their families.

'Scheduling' in terms of time of the year or specific days in the week for training was

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who arrived late. I thought she was a bit harsh and tried to calm her down - even though it was very disruptive when each tried to settle into their seats (Line 11, Diary Entry 9 on the 13th of August 2005)

[85] Others arrived late, and/or had to leave early (Line 69, Diary entry 28 on 25th May 2006 Focus group 3(a))

[86] Nothing, It was a very interesting workshop. I enjoyed it very much though it was tiring but all activities were interesting (Line 66, Open questions form 4)

considered by the majority of participants (95%) to be problematic (n=141) (refer to category 'scheduling' in Table 2, Appendix 6B. In Table 3 (Appendix 6B) the category 'scheduling' refers to aspects such as 'busy schedule', 'early in the year', 'not Saturdays', 'time of training', and 'train during the week'. There were many complaints (89%, n=47) (refer to category 'scheduling' in Table 3, Appendix 6B) about the time of training, with specific requests not to have it on public holidays[87] or on Saturdays (n=20) because of family commitments and other priorities.[88] Several requests (n= 26) were made for 'training during the week' rather than on Saturdays, which was later confirmed by other researchers in similar contexts (Lessing & De Wit, 2008). The training dates in the semi-rural context were decided on by the district facilitators to fit into their schedule. It was therefore a top-down decision and not agreed upon by consensus.

Participants seemed to prefer school holidays as their choice of training times (n=38),[89] especially the first two days of the school holidays.[90] The GDE, however, also uses this time for professional development activities, which limits the availability of training venues and participants. In addition, the Trade Union needs to approve training during school holidays, and obtaining permission from them may be problematic (refer to PD 13, Line 25, Diary entry 2, 19 June 2005). In both contexts, the scheduling was partly to blame for attrition as it may have affected attitudes and motivation to participate in the programme and to complete the portfolio assignments, and therefore was a limitation in the research.

[87] The training was helpful but my problem is that it was held on a holiday so it deprived me the opportunity to be with my family and celebrate the day (Line 25, Open questions form 4)

[88] Let the workshop be implemented during the week. Not on Saturdays. We use this day for home affairs (Line 49, Open questions Forms 2&3)

[89] T: Annemarie, how about this workshop we run in our vacation. Because it is on Saturdays, Monday to Friday we work. Saturday, we are very much committed. (Line 317, Pilot Focus group 2,)

[90] Eh, …the training should be during school holidays, preferably the first two days, not on public holidays like human rights day (Line 201, Focus group 2, (b) 2006 *)

- *QUAN strand: Effect of timing*

In the QUAN strand the pace of the presentation was considered too fast in both contexts, as shown in Table 7-19.

Table 7-19: Comparison of the results between the two contexts

Aspect evaluated	Urban context		Semi-rural context		Difference
	No	Yes	No	Yes	
Need for follow-up workshop	14%	86%	17%	83%	-3%
Sufficient discussion time	19%	81%	27%	73%	-8%

More than 83% of the participants indicated a need for some form of follow-up session on the information trained, probably because they required more time to master it. An average of 23% of the participants (n=96) indicated that they would have appreciated more time for discussion. An external evaluator (refer to Section 5.5.3.4c) also recommended that the pace be slowed down to accommodate the participants' English language proficiency (refer to Section 6.2.3(b)(iii)). In addition, the participants' limited prior knowledge (refer to Section 6.2.3(b)(ii)) and varying levels of education (see Table 5-8 in Section 5.3.4) required more time for review and discussion. Future programmes should therefore make allowance for more time to discuss the concepts being trained.

- *Convergence of results: Effect of timing*

Both strands of the research agreed that more time was required for discussion (refer to Table 7-20), which indicates that the pace of training was too fast and that more time should have been allowed for participants to process the information. In this case the inference quality was increased by conducting the research in two contexts and by obtaining multiple measurements (Johnson & Christensen,

2004:141). Timing is described as one of the inherent tensions in teacher development programmes (Adler, 2003:7). There is no clear answer to scheduling of training, as all options have advantages and disadvantages. Training dates require collaborative decision making between trainers, support structures and participants to coordinate programmes long ahead of time.

Table 7-20: Convergence of inferences with regard to pace of training

Aspect assessed	QUAL	QUAN
Not sufficient time	100% (n=14)	23% (n=96)
Scheduling (negative feelings)	95% (n= 153)	
Duration of the workshops too long	78% (n=18)	
Too much info for time	100% (n=13)	

(ii) Effect of timing in assessment procedures

Late arrivals at and early departures from workshops[91] resulted in high levels of non-response or, in some instances, partially completed questionnaires (refer to Section 7.4.1), which pointed to a limitation in the use of questionnaires as assessment method in these contexts.

With regard to portfolio assessments most of the complaints (n=15) (refer to codes *'excuses'* and *'explain'* in category *'assessment procedure'*, Table 3 in Appendix 6B) were about the lack of time[92] and the extra work created by the assignments. Some participants (mostly in the urban context) required more time to complete the assignments and continually requested extension of submission dates on account of busy schedules at school.[93] [94]

[91] One has to accept that there will always be those who arrive late, and therefore cannot complete the pre-training response form with the others (Line 25, Diary entry 25 on 22 March 2006 Training 1&26)

[92] T: Yeah, because of lack of time. We have been so busy (Line 303, Focus group 1, 2006)

[93] T: In the week it is difficult. I think we should work on it for another two weeks (Line 161, Focus group 1, 2005)

[94] T1: It has been so hectic, since the schools closing.
T2: Busy, very busy.
A.M: With what?
T: With meetings, some of the workshops (Line 15, Focus group 2, in 2006)

Factors related to timing highlighted some of the challenges of research in the specific contexts. As mentioned earlier timing is one of the existing tensions in teacher education programmes (Adler, 2003:7) for which no easy solution is available. It is concluded that timing had an effect on attitudes and motivation, which also affected participation and data collection.

(b) Selection of training venues

The selection of training venues may have affected the reliability of the results because the participants were dependent on public transport. The training venue in the semi-rural context was well equipped for training and also had a kitchen[95] (see Photograph 5 in Appendix 6E). Poor ventilation during the hot summer months made the participants feel uncomfortable during some of the sessions[96] and contributed to fatigue, which made them want to leave early. Although the venue selected by the GDE in the semi-rural area was regarded as a suitable training facility, the classroom was too small for such a large group and did not allow for specific arrangements of tables in order to facilitate action learning (De Beer & Swanepoel, 1996:57) or for moving around (refer to Photograph 2 in Appendix 6E), which may have affected learning to some extent.[97]

With reference to Table 3 (category '*logistics',* Appendix 6B) there were 32 items documented pertaining to training venues, of which 53% were categorized as being of a negative nature. The schools in the semi-rural area as well as in the urban areas (townships) were far apart and not within easy distance from the training

[95] I appreciated the facilities in the lecture room as I initially thought it was spacious, but it turned out to be very cramped once the teachers started filling it up. It had a large roll-down screen for the data projector (Line 12, Diary Entry 9 on the 13th of August 2005)

[96] The staff room allocated for our use was unbearably hot and stuffy (Line 15, Diary entry 16 on 13 Oct 2005 Focus group 1,)

[97] The room/lecture hall was small and crowded with chairs standing back-to-back which made it uncomfortable to find space to squeeze into their seats (Line 11, Diary Entry 13 on 17 Sept 2005 Workshop 2)

venue. Participants from these schools were dependent on public transport to reach the training venues and some of them had to hail as many as three taxis in each direction. Because of the geographical spread several participants arrived late or left early, resulting in high levels of non-response in the questionnaires as they had to rush through the completion thereof or did not complete them properly (refer to Section 7.4.1).

The training venue selected for the urban context was located at the Department Communication Pathology, University of Pretoria, and was much more suitable for teaching and learning. It had sufficient room to implement action learning techniques and for specific table arrangements that are known to be conducive to adult learning (refer to Photograph 11 in Appendix 6E). The schools in this particular district were situated in townships at two ends of the city and, because the University of Pretoria was considered to be halfway in between,[98] the district facilitators selected it as training venue[99]. The majority of the participants had to take two taxis in each direction, which was costly and cumbersome.

An advantage of using a central venue such as the University of Pretoria was that the trainer had more control over external factors than in the townships. This venue was well equipped for training as the facilities were of such a nature that the participants felt valued as adult learners (Pike, 1989:63; Silberman, 1996:10) (refer to photographs 10, 11, 12, and 14 in Appendix 6E).

The effort and financial implications to reach the training venues may have affected the participants' motivation to attend the workshops. Such results imply that the

[98] We had the workshops in the Department of Communication Pathology, University of Pretoria because the teachers and facilitators preferred it that way. It was a neutral setting, central to all (* and *), and on the main transport routes (Line 11, Diary entry 25 on 22 March 2006 Training 1&26)

[99] This time I did the training at our Department, on request of the district facilitators. The reasons they gave me was that people have to travel any way - they might just as well travel to a more neutral setting. At schools, the principals feel obliged to formally host the event, or to make a welcoming speech. V** (donor representative) questioned this matter and thought it was a pity that it was not in the schools. The teachers prefer it this way, (I think) - or I was told they do. They need to travel anyway.

choice of venue needs to be considered more carefully in future programmes. Table 7-21 compares the advantages and disadvantages of the centrally based option with the school-based option.

Table 7-21: Comparison of two options for training venues

	Option 1: Centrally based	Option 2: School based
Advantages	- Larger groups - More cost-effective - More control over the procedure (e.g. electricity supply, space) - Better facilities	- No transport required - More personal approach
Disadvantages	- Transport required - Less personal approach	- Cannot accommodate large groups - Is not cost- and time-effective - Does not necessarily have facilities

It is not easy to find a solution from the comparison in Table 7-21 as the advantages of the one option are the disadvantages of the other. Future programmes may need to consider these limitations and find a middle way, perhaps by selecting a central venue closer to where the participants live and within easy access to a smaller number of schools, but which can accommodate larger groups. The ideal for future programmes in these contexts appears to be shorter programmes with less information presented in each workshop, but an increase in the number of workshops to provide all the necessary information. Although this option may be more costly, it may be more effective, but needs to be explored first.

7.6 Critical assessment, summary and conclusion

7.6.1 Critical assessment

The evaluation of the process component included several aspects related to the training and support provided. Apart from the convergence of inferences from the

two strands of the research, confidence in the trustworthiness (Tashakkori & Teddlie, 2003b:41) was supported by feedback from an external evaluator, as well as the testimonials obtained from the external observers. The results were confirmed by multiple and independent measures obtained from several data sources across workshops, as well as in different contexts.

7.6.2 Section summary

Several aspects were evaluated in the process component, namely the training material, the training (approach, methods, and trainer's skills), the assessment methods, and the factors that affected the outcomes. The workshop material was found to be relevant and useful. The information was new to several of the participants, indicating limited prior knowledge. The training approach was appropriate for developing competence, and the training methods used were suitable to facilitate learning. The trainer was considered competent as she not only transferred the information clearly, but also motivated the participants. The combination of assessment methods provided trustworthy results. Aspects that affected the outcomes in this study were related to timing and the choice of training venue as they both determined the attendance, as well as language use and the level of prior knowledge. The following component of the Logic Model addressed by this evaluation is the output of the programme.

7.6.3 Conclusions

The process component is crucial to the outcomes. In order to design more effective CPD programmes, it is necessary to obtain extensive prior knowledge of the contextual barriers that exist within the context (Bomna *et al.*, 2006:411). By addressing the limitations in the process, the effect and effectiveness of future

programmes can be improved (Patton, 2002). In this case several challenges and limitations were identified, some of which can be addressed by making certain adjustments, while others may require systemic changes. Venues should rather be selected to be within comfortable distance for participants, as it will reduce travelling time and costs and may improve attendance. As none of the schools in these contexts has the facilities to host larger groups, it implies that smaller groups have to be trained at a time, particularly because learning in small groups is a suitable strategy for teaching and learning in these contexts. Full-day workshops may not be the most effective option and should rather be replaced with shorter sessions presented at regular intervals over a longer period of time.

Collaboration is a key aspect for effective support programmes. The collaborative role of the SLT in this CPD programme is to also support the district facilitators (Moodley *et al.*, 2005:40) apart from supporting the teachers. Collaboration with other professionals (e.g. district facilitators), however, has to be learned and worked at (Allan, 2004 in Forbes, 2008:142) to create positive outcomes.

District facilitators are responsible for the roll out of the programme and can also support the trainer in the presentation of the material. For district facilitators to assist the trainer in a co-trainer capacity in the workshops and to enable them to conduct workshops on their own, they need additional support. It will however, will increase the effectiveness of the CPD programme.

Chapter 8 Results and discussion of the output component

"Research serves to make building stones out of stumbling blocks"

(Arthur D. Little)

Aim of the chapter

The aim of this chapter is to describe the output component as part of a comprehensive evaluation of the continued professional development (CPD) programme. The topics covered in this chapter are depicted in Figure 8-1.

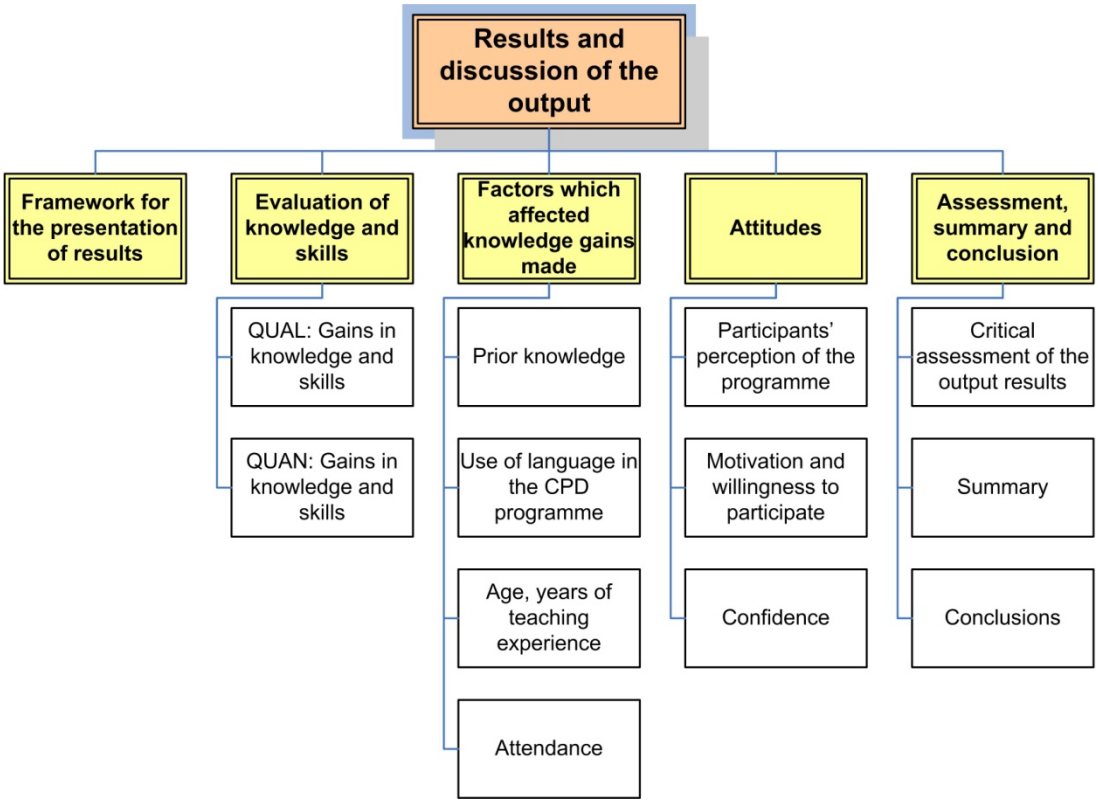

Figure 8-1: Outline of the chapter

8.1 Framework for the presentation of results

The research question to be answered in this component is presented in Table 8-1 with the relevant paragraph markers.[100]

Table 8-1: Research question in the output component

Research question	Aspect evaluated	Paragraph
Question # 5: What did the participants benefit from the training?	Knowledge and skills	8.2
	Attitudinal changes	8.4

The competency gains of the participants were evaluated by both the QUAL and QUAN strands of the research. In this case the knowledge and skills were interrelated because the knowledge obtained in the workshop was applied in the classrooms and therefore are discussed in an integrated manner, followed by a discussion of changes that occurred in attitudes.

8.2 Evaluation of knowledge and skills

The changes that occurred in knowledge and skills were documented in both the QUAL and QUAN strands of the research.

8.2.1 QUAL strand: Gains made in knowledge and skills

With reference to Table 2 in Appendix 6B (see theme 'competency gains') there was strong evidence (85%, n=184) that the participants made knowledge gains.[101] The results obtained on knowledge and skills are discussed according to the levels of knowledge acquisition as described by Miller and Watts (1990:61) (refer to Section 4.2.3(b)).

[100] Corresponding paragraphs are hyper-linked in the electronic version

[101] T: As I have more knowledge, I found it much easy to teach learners. And have more patient to help them learn and experiment to make lesson easier for them" (line 37 Reflection and self-evaluation of teachers in the language assignment (WS 2))

These include the use of terminology, understanding, implementation of strategies, adaptation of strategies, and training of others.

(a) The use of terminology

The code 'terminology' referred to the 'retention' of terminology taught in the workshops. Of the items coded, 53% (n=15) confirmed the acquisition of new terminology (refer to Appendix 6B, Table 3, theme 'competency gains') after the workshops,[102] but the limited sample size made it difficult to draw inferences in this regard. However, 90% (n=83) of the items confirmed the 'acquisition of knowledge', which included the use of terminology. The use of new terminology was, however, not generalized[103] during the training (line 15, Diary Entry 15 on 8 Oct 2005, Pilot Workshop 3) as became evident when 64% (n=14) of the items were coded as 'inability to recall the information'. There were several instances of confusion, e.g. the term 'auditory discrimination' was used interchangeably with the term 'rhyming'; as was 'identification' and 'auditory memory'.

The lack of understanding of these concepts became apparent early in the programme and therefore the term 'auditory discrimination' was specifically emphasized in the 'Listening for learning' workshop in the urban context, which appeared to be effective as no such confusion was noted in consequent sessions.

The participants' inability to recall the terminology may also have been related to their limited language proficiency in English (refer to 6.2.3(b)(iii)) as is evident from the following example (refer to line 121, Focus group 2 in 2005):

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[102] Language for Numeracy (WS3): "I'm thinking about the one-to-one correspondence, and the seriation, classification. That is what they are doing. So when they come to Gr 1 we expect them to know those things" (line 91, Focus group 2 in 2005).

[103] "T: Yeah, I think I benefited from it, because when I was trying this clapping method, ….so that the learners were enjoying it. They clapped two times, and then they clapped three times.

A.M: Yes - that was the segmentation. Yes…you will learn to say the terminology for these things soon…..but I understand what you are saying. It was one of the strategies we did" (Line 96, Focus group 2, in 2006).

T: I am talking about, …I forgot the thing that you showed us. The….the - when you taught the kids the heavy, heavier?

A.M: The scale?

T: The scale. Yeah!

When participants could not recall the correct terminology, they described the concepts in their own words.[104] This relates to the "awareness level" of knowledge acquisition, which is one level higher than the entry level (Miller & Watts, 1990:61). In this case the participants were aware of the information, but in several instances their knowledge was not applied in their classrooms. It may have been possible that some of the participants could not recall the terminology because they did not complete their portfolio assignments.

The confusion in terminology use was also detected in the discourses of the district facilitators (e.g. when the district facilitator referred to CALP (Cognitive Academic Language Proficiency) as "CLAP" (PD9, refer to line 209, Appendix 6A). Although not formally assessed, the depth of knowledge and understanding displayed by the district facilitators in this programme was a matter of concern as it may have implications for teacher support. It may be necessary to consider an enriched pre-training programme designed specifically for district facilitators to empower them in providing daily teacher support.

(b) Understanding of concepts

Of the items coded as *'understanding',* 93% (n=43) were categorized positively (refer to Table 3, code 'knowledge', Appendix 6B). As could be expected the participants had different levels of prior knowledge before the workshop (e.g. some of the participants admitted that they had never addressed the concept of "estimation" in

[104] Listening for Learning (WS1): "When I say "listen" they give attention. They fold their arms, they look at me" (line 57, Pilot focus group 1, 2005)

their numeracy lessons prior to training, because they did not understand the concept or how to teach it).[105] Teachers can only teach what they understand themselves.

Some participants demonstrated more in-depth prior knowledge than others, as can be seen from the following example (line 112, Pilot focus group 2):

> *"T: If I just think of the lady, who just thinks of "adjectives", but they are "prepositions".*

In the example provided above, one of the group was correcting a colleague which indicates that she had more prior knowledge about language form than her colleague. This is because not all the participants had similar qualifications (refer to Table 5-7 in Section 5.3.4), or were on similar levels of competence when they entered the programme, and therefore they differed in their understanding of the material during the programme.

(c) Implementation of strategies

The training of 'knowledge-in-practice' (Adler *et al.*, 2003b:137) which was realized by the portfolio assignments required the application of participants' knowledge in the classroom situation. The results were positive (88% of the 377 items coded) regarding skill gains (refer to Output phase, category *'skills'* in Table 2, Appendix 6B).

Once the concepts were explained in the workshops and participants understood the material, they were able to *'implement it in their classrooms'* (refer to Appendix 6B, Table 3, 'Outcome' phase, theme *'application of strategies in the classroom'*). The participants were convinced that these new skills would help them to improve their

[105]: "None of the group ever (before) asked the learners to "estimate", which is one of the assessment standards of LO1, 3. in numeracy. I explained it to them" (line 15, Diary Entry 15 on 8 Oct 2005 Pilot Workshop 3).

teaching and that their learners would benefit. From the results depicted in the 'skills' category, the *'implementation'* of the strategies in the classroom was described positively in 87% of the items coded (n=133) (refer to codes *'implement'* and *'implementing the taught lesson'*, Table 3, Appendix 6B). There was also evidence of a *'change in teaching practice'*, which was confirmed by 91% of the 44 items coded as such.

The particular skills that participants reported to have developed during the training are depicted in Figure 8-2 and are based on the results shown in the 'Output component' (refer to Appendix 6B, Table 3).

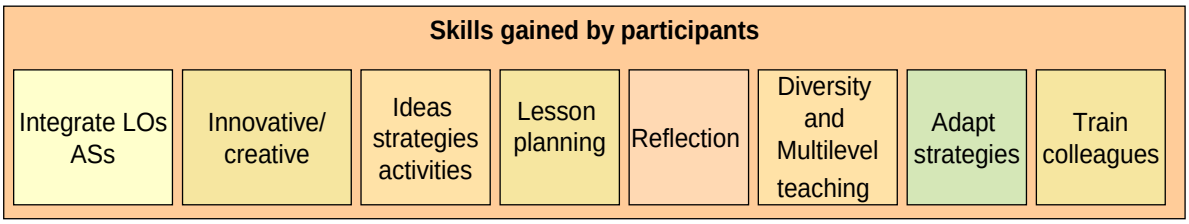

Figure 8-2: Skills gained from the training

The participants felt strongly (87%, n=45) that the training helped them to become more competent as they had learnt to integrate various assessment standards and learning objectives in one activity,[106] which some said they could not do previously. *'Integration'* of learning objectives and assessment standards is inherent to the NCS (Gauteng Department of Education, 1997).

There was also evidence that some of the participants found it easier to do their *'lesson planning'* (80%, n=25),[107] which they previously experienced as difficult.[108] The portfolio assessments (refer to Section 7.4.2) revealed that in several instances

[106] "Yeah, it covered many aspects in one. You can incorporate so many assessment standards in one activity (line 95, Focus group 1, 2005).

[107] Yes it helped me with planning of the lesson. Learners were participating and became more active in the class, through stories, songs, rhymes. Listening strategies were used, and in one case motivational charts were given to the learners (Line 191, Focus group 3 (b) 2006 *)

[108] Most of our teachers had problems with planning our lessons. Or creating LO's. I am so perfect now. I can now use the one LO and apply it to another - we kill two LO's. It also help us to be creative - because .....(all talk together) (Line 284, Pilot Focus group 1 2005)

the lesson plans were incomplete and did not take the needs of individual learners into account. Regardless of the teacher's level of expertise, thoughtful lesson planning is necessary to make the learning experience in the classroom purposeful, effective, and efficient. Incomplete and insufficient lesson planning may lead to ineffective teaching and learning.

A few participants experienced themselves as becoming more *'creative and innovative'*[109] (89%, n=9) as they had acquired new *'strategies'* and generated new ideas to implement in class (n=28). An example of them becoming more creative was documented in a diary entry (PD 41, Appendix 6A) which referred to a school where the participants collected polystyrene from the refuse dump to cut out three-dimensional shapes.[110] These particular group of participants testified that the workshop facilitated their understanding of three-dimensionality, which reflect on poor content knowledge prior to the training. Sufficient content knowledge enables teachers to employ inventive and creative opportunities for learning (Van der Sandt & Nieuwoudt, 2005:110). Such creativity was described by Spady (2001:34) as one of the common threads of quality learning because "…learning is not just absorbing content from printed material; it's an inherent part of living simply because living is a continuously unfolding array of new input and experiences".

Several participants, (who previously relied heavily on '*commercial programmes'* to teach), reported that the training helped them to become more independent from using such programmes. The ability to develop their own lesson plans gave them confidence, which in turn is related to improved learner achievement (Killen, 2007:37).

[109] "In gr R ....and another thing - the workshop also help us a lot - to be creative. They thought in our language we can only teach one, two three. Now we can create our own stories, our own riddles, and our own songs" (line 235, Pilot focus group 1, 2005)

[110] T: But at the course, we got those ideas. I got the polystyrene. Then the shapes, when I drew this, it were one dimension. The moment I had it on polystyrene it was three dimensions! So the HOD and I we went to the rubbish heap, and got that polystyrene" (PD11, line 101, Focus group 3, (b) 2006 *).

Some of the participants also experienced the workshops as being helpful dealing with *diversity and multi-level teaching*[111] (79%, n=14) (refer to Table 3, Appendix 6B). The participants experienced satisfaction from '*including all learners*' in their activities,[112] because they had felt guilty of not supporting such learners in a more efficient manner. The assignments allowed some participants to identify the *'slow learners'* who required more time to master the new strategies. In these contexts many of the learners are not ready for formal learning when they enter school (Botha *et al.*, 2005:697; Winkler, 1998:55)[113] (refer to Section 1.1.2). By addressing the needs of the *'slow learners'*, a specific training need was met.[114]

Although the participants applied the strategies in their classrooms, it does not imply that they have become fully competent as 'implementation' represents only the third of five levels of acquiring competence (Miller & Watts, 1990:61). The portfolio assignments bore evidence that many of those who implemented the strategies still required some level of support.

(d) Adaptation of strategies

With reference to the category 'Skills' in the theme 'Competency gains' there was an indication (n=4) that some participants *'adapted'* some of the strategies for their own use,[115,116] but the sample size was too small to draw strong inferences (refer to

[111] T: Use the strategies to teach different levels. I was able to different levels. And see my capabilities in teaching those (Line 285, Pilot focus group 2)

[112] T: I had this learner in my class. He was no speaking or doing anything. And then I used this strategies, especially this one of eh..eh… getting them involved to dramatize what they have seen in the story. So he has participated nicely. I was satisfied (Line 110, Focus group on WS 3 2006 new)

[113] T: The slow learners, those who are very slow. And remember when they come, not all of them can hold a pencil. It takes months, for you to train that child to train his muscles. Doing the pegs to train his muscles every day, it takes a very long time (Line 96, Focus group 2 in 2005)

[114] To give learners with learning barriers more attention for them to progress (Line 80, Un-tabled reflection and self-evaluation of teachers in the numeracy assignment)

[115] T: I told them about the cat. And the cat wanted to catch the mouse. Like the one of the owl. And when I say "Listen like the cat, they put all the pencils down and they (gestures the listening position) (Line 101, Focus group 1 2005)

[116] But at the course we got that idea. I got the polystyrene. Then the shapes, when I drew this, it was one dimension. The moment I had it on polystyrene it was three dimension/ So the HOD and I we went to the rubbish

category 'skills' in Table 3, Appendix 6B). The fact that some of the participants began to apply the strategies to their own contexts (generalizing) demonstrated a higher level of understanding (line 67 Diary entry 16 on 13 Oct 2005 focus group 1), which correlates with the 'adaptation level' of skills competence described by Miller and Watts (1990:61, 70).

Adaptations to strategies are indicative of behaviour change (Miller & Watts, 1990:139) (refer to Section 8.2.1) that is in accordance with the fourth level of skills acquisition described by Haring (in Miller & Watts, 1990:61) where a strategy can be applied without support in different situations and be modified to meet new demands. The ability to adapt strategies in the classroom to meet specific needs realized the objective of this particular learning experience, although only a few participants achieved this.

(e) Teaching of others

Some participants were empowered to such an extent that they were able to *'help their colleagues'* (n= 13) (refer to category 'attitudes', Table 3, Appendix 6B) and to *'train their colleagues'*[117] (n=9) (refer to Table 3, phase 'Outcome', theme: 'Benefits of the programme', Appendix 6B). One participant in particular explained how she took a small group of her learners from class to class to demonstrate the strategies.[118] This aspect relates to the fifth and final level of knowledge acquisition described by Miller and Watts (1990:61) (refer to Section 8.2.1) where a few participants were able to successfully apply their newly acquired knowledge and skills, and to train

heap, and got that polystyrene (Line 101, Focus group 3 (b) 2006 *)

[117] The handouts we used very much. We made copies for everybody to use in their classrooms (Line 79, Focus group 1, 2005)

[118] T1: I created the song, and the rhyme, and then I go to the other classes

T2: She showed them (Line 27, Focus group 2, in 2005)

others in the application thereof. In summary, the QUAL results showed strong evidence (87%, n=661) that the participants have gained in competence from the CPD programme (refer to theme 'Competency gains', Table 1, Appendix 6B), but that only a small group achieved the highest levels of skill acquisition.

8.2.2 QUAN strand: Gains made in knowledge and skills

To determine the gains made in knowledge and skills, the QUAN strand employed questionnaires to assess how many participants had acquired new knowledge, and portfolio assessments to assess the application of this knowledge in practice.

(a) Knowledge assessed with questionnaires

With reference to Figure 7-2, 66% of the participants in both contexts showed an increase in knowledge after the first workshop.

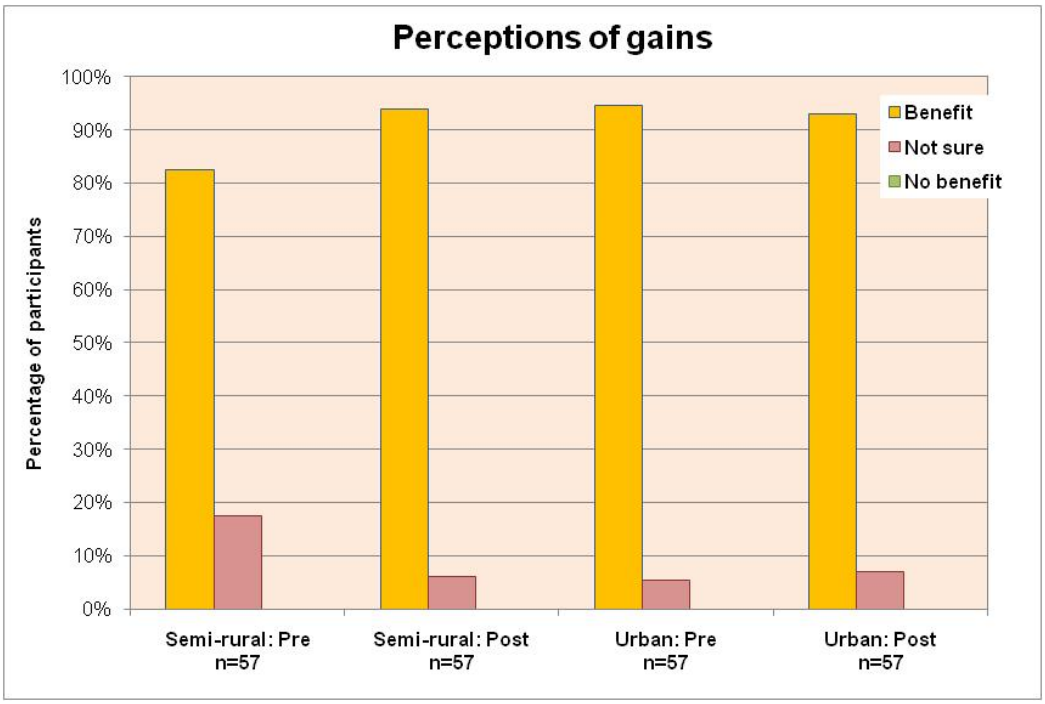

Figure 8-3: Perceptions of gains in knowledge and skills

Note that questionnaire data were not available for workshop 2 in the semi-rural context as the use of questionnaires was temporarily discontinued (refer to Section

5.5.2(a)(i)), but 42% of the participants made gains in the urban context. For workshop 3, 74% of the participants in the semi-rural district made knowledge gains, whereas 57% gained new knowledge in the urban schools. This may be ascribed to the latter group being in a hurry to get home on the public holiday, which affected the completion of questionnaires after training (refer to Section 7.4.1).

When considering the core group's results from questionnaires across the three workshops, 61% of the participants had made gains in knowledge. The results reflecting knowledge gains as assessed by the pre- and post-training questionnaires differ considerably from how the participants themselves perceived their knowledge gains, as shown in Figure 8-3. These results show that in both contexts >92% of the participants believed that they had gained in knowledge, which is considerably more than was depicted by the questionnaire data (refer to Figure 7-2). This probably was due to the fact that all the participants were introduced to new ideas and observed practical demonstrations of strategies to use in class.

Knowledge acquisition therefore was on the 'awareness level', which, according to Bloom's taxonomy of the knowledge domain (Bloom *et al.*, 1956), is the lowest level in acquiring new knowledge and is related to 'shallow learning'. They did not necessarily all understand the information, or know how to apply it. In addition, the reliability of the results gained from the questionnaires in these contexts was questioned (refer to Section 7.4.1). However, it was necessary to determine whether the knowledge gains measured by the questionnaires were related to knowledge applied in practice, as discussed in Section 7.4.1.

(b) Knowledge assessed by portfolio assessment

The portfolio assessments assessed knowledge as it was applied to practice. An understanding of performance could be obtained when the scores were analyzed to

show the spread of achievement. Table 8-2 depicts the ratio of participants who achieved scores above specific indicated levels. From the results it is evident that there was a minimal difference between the performance of the different categories of participants and the general achievement was centred on 47%.

Table 8-2: Ratio of participants with scores above indicated levels

Group	Non-core			Core		
Av score	All	Semi-rural	Urban	All	Semi-rural	Urban
>40%	69%	69%	69%	67%	68%	65%
>50%	44%	47%	41%	49%	52%	45%
>60%	19%	22%	16%	27%	32%	20%
>70%	13%	14%	13%	18%	20%	15%
>80%	6%	3%	9%	7%	4%	10%
Average	47.2%	47.1%	47.2%	47.9%	48.5%	47.2%

In the core group 67% of the participants achieved scores higher than 40% and 49% participants achieved scores more than 50%. The semi-rural group performed better than the urban group on average scores below 80%. There were 10% of participants in the urban group (from a specific school) who performed exceptionally well with average scores higher than 80%.[119]

The performances of the core and non-core groups were similar, except for average scores higher than 60% where there were more participants in the core group (27%) versus 19% in the non-core group, which indicates a better performance of participants who attended all workshops. The conclusion that the semi-rural group performed better is also evident in Figure 8-4 in which the cumulative distribution of portfolio scores for the different groups is compared. This figure illustrates that a larger number of participants in the urban context scored lower than 40%, although

[119] "Very good assignment. Well integrated within the lesson plan, with assessment standards and terms included. Strategies were appropriate. Neat presentation, clearly explained"(Line 64, Reflection of the trainer on the 2005 listening assignment 2005 (WS 1))

their top performance outperformed their semi-rural counterparts. When scrutinizing the portfolios for explanations for the low scores, it became evident that poor achievement could be attributed to inefficiency or a slow rate of implementation. The rubric assigned scores for each week of implementation (which required a new lesson plan to be prepared within the theme of the week, accompanied with a story, song and rhyme and activities to facilitate phonological awareness skills). When the same lesson plan was implemented for the entire period the portfolio was scored much lower than when a new lesson plan was developed for each of the three weeks.

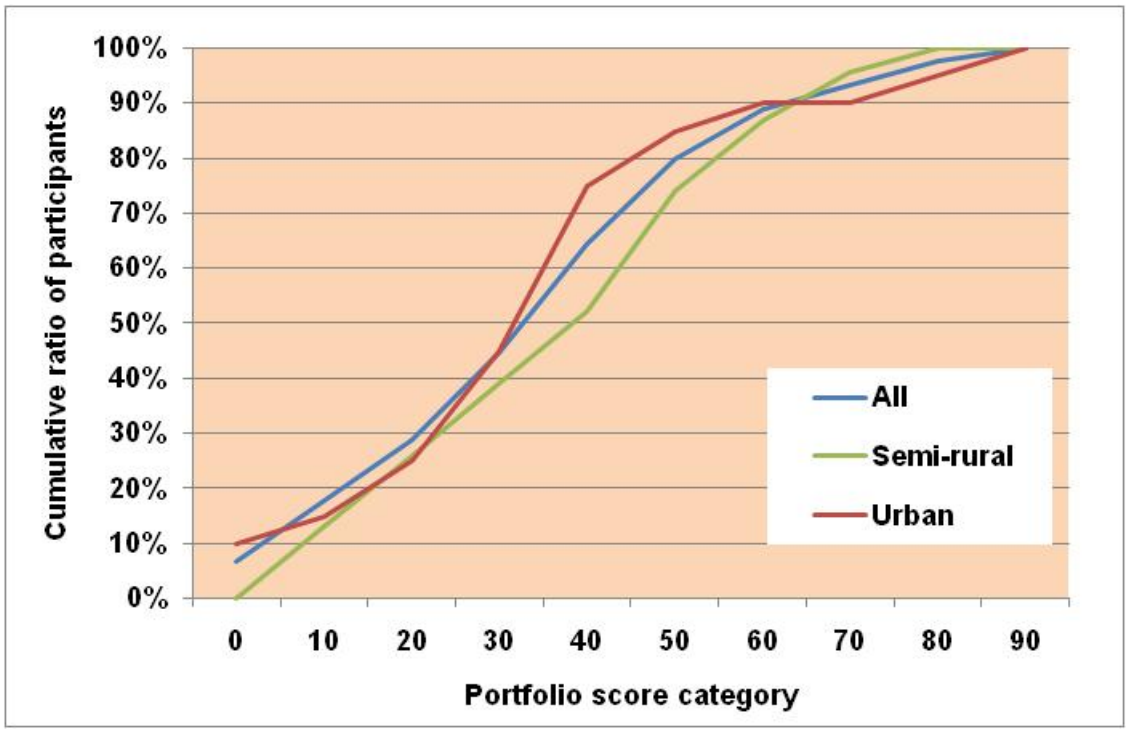

Figure 8-4: Cumulative ratio of participants in particular scores categories

Participants often developed adequate lesson plans and activities for one week, but then applied the same lesson plan and activities for the remainder of the three-week implementation period (in stead of developing three lesson plans with activities), which led to a poor mark allocation. This phenomenon occurred in both contexts.

Such ineffectiveness[120] may be attributed to the various input challenges discussed previously (refer to Section 6.2.3(b)). The low developmental levels and school readiness of learners required the participants to spend more time on each activity than was anticipated, and the large class sizes may have led to low teacher morale (Olivier & Venter, 2003:188). Killen (2007:38) was, however, of the opinion that resourceful teachers can make use of available physical resources around them and make the best of these conditions.

The trainer/researcher probed further to see whether the participants understood the information and could apply the strategies in class. The portfolio assignments were re-assessed and were categorized according to a three-point scale, which rated each assignment in terms of whether the participant understood, partially understood, or did not understand at all, as illustrated in Figure 8-5. This procedure did not take into account that some participants repeated the same lesson plan for the entire three-week implementation period, but rather evaluated whether the participants understood the principles and applied them well. In this case they were not evaluated for comprehensiveness, but rather for their understanding of the information and their ability to apply it in class.

The results indicate that 50% of the participants were rated as competent (understood the information and could apply it), 34% partially understood the information and therefore required additional support, and a minority of 16% required significant support. It is possible that this latter group consisted of the same participants who indicated in the workshop evaluation that they did not understand the terminology used in the workshop (refer to Table 7-6 and Section 7.3.1).

These inferences indicate that 50% of the participants required additional support to

[120] They felt the assignment should be done every fortnight and not every week. They do not get time to do it properly in one week as they work on a story and theme for two weeks (Line 43, Diary entry 16 on 13 Oct 2005, Focus group 1)

varying degrees to facilitate their understanding and skills. When considering the number of workshops attended and the contexts of their work, the performance of participants is considered to be realistic.

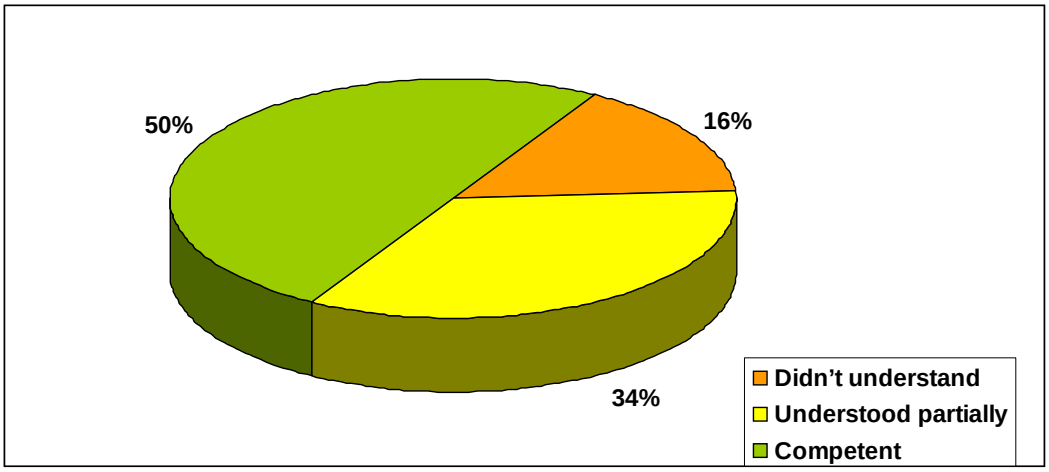

Figure 8-5: Indication of levels of understanding of information according to portfolio assignments

Factors such as the participants' educational backgrounds and English language proficiency could also have had an effect on their performance in the portfolio assessments.These results may be used for planning future teacher support to specifically focus on those participants who performed poorly. More individual and intensive levels of support need to be provided, e.g. by providing a mentor (Sundli, 2007:203) to demonstrate the strategies and to also support teachers with the completion of the assignments.

(c) Interrelationship between portfolio and questionnaire scores

The scores achieved by the participants in the questionnaires and in portfolio assessments were used to assess the outcomes of the training. Figure 8-6 shows how these outcomes were compared by using regression analysis (Montgomery *et al.*, 2001:47). Figure 8-6 illustrates that the average gains for the two years (indicated in brighter, larger markers on the graph) differ quite substantially,

indicating that the semi-rural group gained more from the workshops than the urban group, while their average portfolio marks were essentially the same.

The results in the second year (i.e. urban group) showed that those participants who scored higher according to their questionnaires (factual knowledge) in fact also scored better in their portfolios. It appears as if those with more prior knowledge have benefited more. The scatter in the data was quite large and yielded a regression coefficient (R-squared) of 0.34, which did not show a strong relationship.

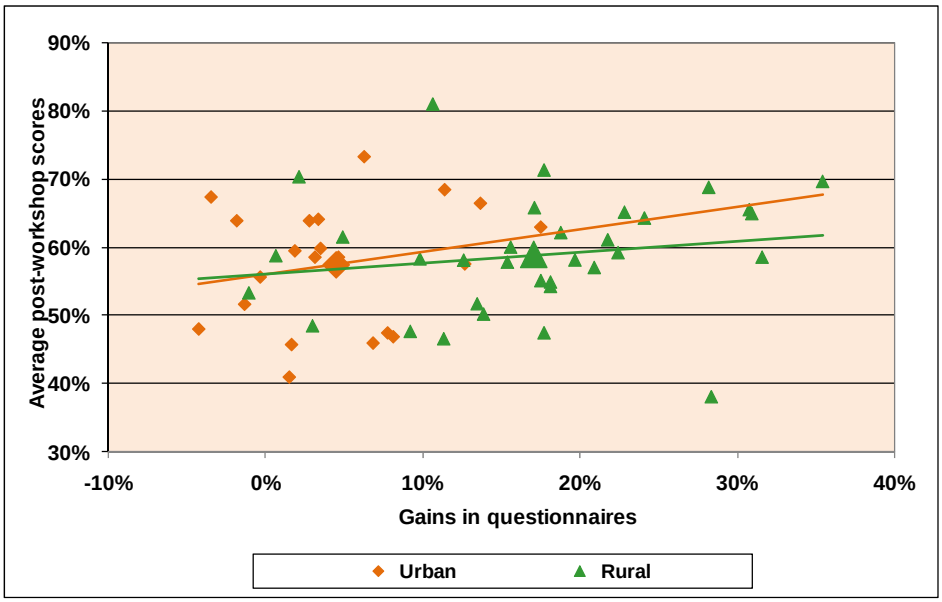

Figure 8-6: Gains compared to post-workshop scores

The opposite was true in the first year (semi-rural group) where those participants with higher gains according to the questionnaire results performed worse in the portfolio assessments. This may be ascribed to the fact that participants who gained most in the semi-rural context did so from a very low baseline, probably due to limited previous support (refer to Sections 6.2.3(b)(ii)) in combination with challenges related to the participants discussed previously in Sections 6.2.3(b) and 7.2.3(a).

It may be deduced that the participants from the semi-rural context probably did not have the skills to prepare the portfolios to the same degree of excellence as those participants who started high in the questionnaires and gained less.

Figure 8-7 clearly illustrates that the actual post-workshop questionnaire scores for the two groups were similar (the averages are close together), although the trend line for the urban context (in the second year) has a pronounced slope compared to that of the semi-rural context, which is very flat. The implication is that there was no correlation between questionnaire and portfolio scores for this group.

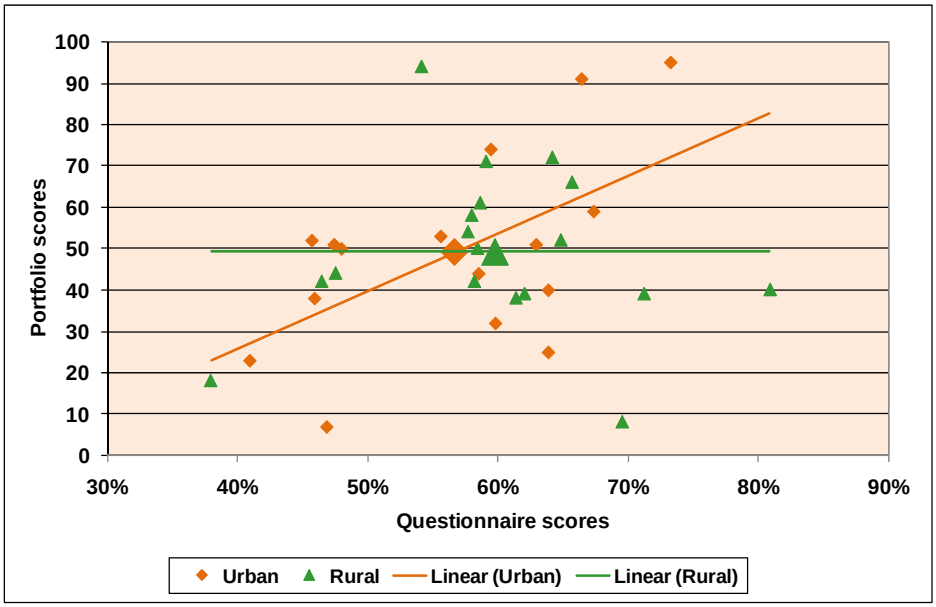

Figure 8-7: Questionnaire scores compared to portfolio scores

Such results indicated that participants in the urban context with higher questionnaire scores gained more and performed better in their portfolios. Higher questionnaire scores prior to training were related to more prior knowledge, which indicates the importance of prior knowledge in the performance of participants.

Every learning opportunity that is created for participants contributes to their knowledge base and becomes 'prior knowledge' for future programmes, indicating a scaffolding effect. Similar trends are depicted in Figure 8-8 where the actual scores in the portfolios were compared to the gains in questionnaires, confirming that the two criteria of knowledge gains in the workshops (the portfolio scores and the post-workshop questionnaires scores) yielded similar results.

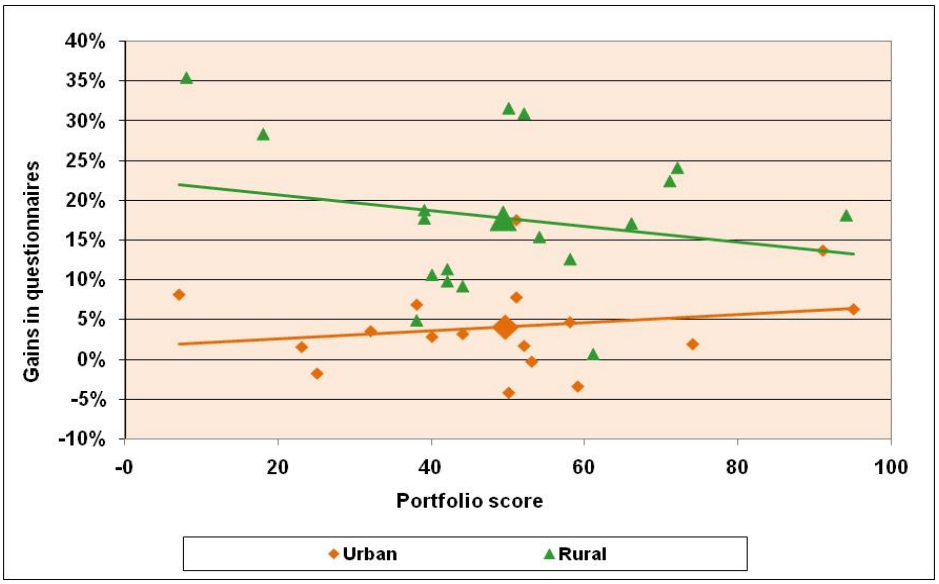

Figure 8-8: Gains in questionnaire scores compared to portfolio scores

8.2.3 Convergence of results: gains in knowledge and skills

The results from the two strands of the research in terms of gains made in knowledge and skills are converged in Table 8-3, and are in agreement that the participants have gained in knowledge.

Table 8-3: Corroboration of results re knowledge gains

Theme	Category	QUAL	QUAN
Competency gains	'Knowledge'	85%	61%
	'Skills' (knowledge in practice)	88%	47%

The two measuring instruments (questionnaires and portfolio assignments) assessed different aspects of knowledge, namely factual knowledge and knowledge as applied in practice. The results obtained with both these methods show that the participants had gained in knowledge as a relatively large number of participants performed satisfactorily.

It is, however, not possible to draw conclusions from average scores as some participants gained less than others. Nevertheless, an increase in content

knowledge may yield positive outcomes in this context as it was previously found to impact on pedagogical content knowledge and also to have increased the effectiveness of teaching practices (Ozen (2008:634). The existence of such a relationship was, however, disputed by Mopolelo (1999:723).

8.3 Factors which affected knowledge gains

The two strands of the research both indicated factors that impacted on the results. From the QUAN strand several factors that may have influenced the potential benefits were identified as illustrated in Figure 8-9.

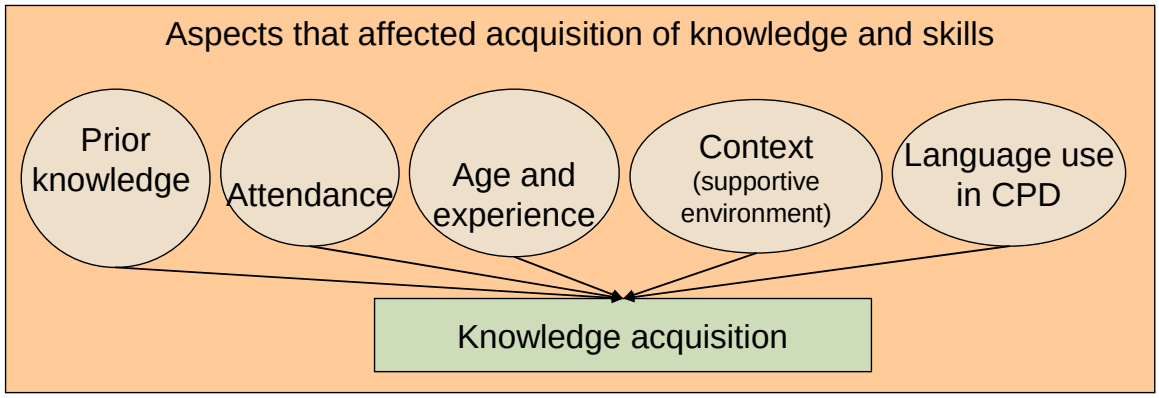

Figure 8-9: Aspects that had an effect on the acquisition of knowledge and skills

8.3.1 Prior knowledge

The factor 'prior knowledge' in this thesis refers to previous support provided by in-service training (i.e. workshops, seminars, conferences), as well as formal qualifications (e.g. degrees and diplomas) that informed their conceptualization of literacy and numeracy and their role in facilitating these learning areas.

(a) QUAL strand: prior knowledge

With reference to Section 7.2.3(a) the data obtained from the QUAL strand revealed that several of the participants had limited prior knowledge of the subject matter and

had to become familiarized with the concepts for the first time in the workshops (96%, n=33) (refer to Appendix 6B, Table 3, theme 'Process', Category 'Material', code 'gap in teachers' knowledge'). This is illustrated by the following quote:

> *"Let me first start by explaining that I take myself as a Gr R educator. The thing is that I have to familiarize myself with the terminology, some of the methods, some of the strategies - that I can be able to give my learners the knowledge" (line 20, Focus group 2 in the urban context).*

Section 6.2.2 on the other hand, indicated that participants from schools that had received more prior support evidenced a higher level of confidence in implementing the NCS than those who had not received prior support. Those participants who scored high in their portfolio assessments reported in the focus groups that the information taught in the workshops was not new,[121] but that it confirmed what they already knew, refreshed their current knowledge, and gave them new ideas for teaching listening, language, and the language used in numeracy.

The level of prior knowledge also appeared to have influenced the participant's motivation as those with more prior knowledge were more motivated to cooperate in the programme. This finding confirms research conducted by Tannenbaum (1997:439) that described a positive relationship between the level of prior support and participation and attitude in a programme.

(b) QUAN strand: Prior knowledge

(i) Formal qualifications and informal support

Table Table 8-4 shows the ration of participants per training. Data from the QUAN strand showed that in both the semi-rural and urban areas the same percentage of

[121] No, with our school it is not new. We have got three years in Molteno. It deals basically with the sounds, and how to break sounds (Line 121, Focus group 1, 2006)

But as Ma'm has said, that training that we have attended with Gerda, it is going to add more on that. We have already started with that. (Line 120, Focus group 1, 2006)

participants were formally trained (diplomas and degrees) and that the participants in the urban context (refer to Table 8-4) had received more informal prior training (e.g. workshops).

Table 8-4: Ratio of participants with prior training

Extent of prior support and qualification	Semi-rural (n=46)	Urban (n=51)
No formal qualification	87%	86%
Formal qualification	13%	14%
No informal prior support provided	40%	24%
Informal prior support provided	60%	76%

The impact of prior training (formal and informal) is shown in Table 8-5.

Table 8-5: Impact of prior training on knowledge gains

Group	Extent of training	Gain in questionnaire scores	Post-training questionnaire score	Portfolio score
Impact of formal training on knowledge gains				
Total group	Formally trained	12%	56%	52
	Informally trained	9%	58%	47
	Confidence level	59%	27%	35%
Core group	Formally trained	17%	55%	45
	Informally trained	12%	59%	48
	Confidence level	76%	54%	15%
Impact of informal prior support on knowledge gains				
Total group	Prior support	9%	57%	48
	No prior support	11%	58%	44
	Confidence level	40%	13%	50%
Core group	Prior support	11%	57%	49
	No prior support	15%	61%	47
	Confidence level	90%	83%	22%

Table 8-5 shows insignificant differences between the core group and the total group. The results showed that formally trained participants in the core group gained more than the group that was not formally qualified, while the portfolio scores and the post-training questionnaire scores did not change significantly. The low

confidence levels indicate that questionnaires were not a reliable measure.

The portfolio scores differed for the total group and the core group and those with formal qualifications performed better than those who were informally trained (without appropriate qualifications).

Participants with formal qualifications gained the most while those who had no formal qualifications gained the least from the workshops, as they did not have the prior knowledge to provide a scaffold for new information. Qualifications and literacy levels appear to be related, which implies that participants with lesser qualifications require considerable support in order to construct meaning from the information and may need different and/or additional support to that offered by this programme.

(ii) Prior support related to contexts

According to Table 6-2 participants in the semi-rural schools had not received as much previous support as the participants from the urban schools. The participants from the urban township schools had more prior knowledge because they had received more prior support (refer to Section 6.2.2(b)), which probably provided a scaffold for the new knowledge trained (Killen, 2007:11, 73). In addition, reflections by the trainer on the performance in portfolio assessments (refer to PD 50, paragraph 16 in Appendix 6A) suggested a relationship between performance in the portfolio assignments and the context (refer to Section 7.4.2). The context was described by Tsui (2003: 277 in Sowden, 2007:207) as the place where teachers construct and reconstruct their understanding of their work as teachers. Participants from specific schools performed similarly (either good or poor) and they also reflected the same general attitude.

It appears as if the school culture played a role in the participants' performance. In this case the context also determined the extent to which the information trained was

applied (Tannenbaum, & Kavanagh, 1995 in Tannenbaum, 1997:347; Rouiller & Goldstein, 1993 in Warr *et al.*, 1999:372). In several instances participants had to report back to their staff on what they had learnt in the workshops.

Social support (e.g. reporting back to colleagues on training) was found to enhance training effectiveness (Rouiller & Goldstein 1993 in Tannenbaum, 1997:440). Supervisors who encourage trainees to apply the training material, can contribute to training effectiveness (Tannenbaum, 1997:437). Future programmes should include the school management teams and phase heads in the workshops to ensure carry over.

(c) Convergence of results: Prior knowledge

Table 8-6 shows the convergence from the two strands. The results from the two strands indicate that the participants' initial education and in-service training to implement the NCS were inadequate to equip them for their task.

Table 8-6: Convergence of results re prior knowledge

Aspect assessed	QUAN	QUAL
Gap in teachers' knowledge		96% (n=33)
Formal qualifications	74%	
Prior support related to the context	60% (semi-rural) 76% (urban)	n=7
Gain in questionnaire score	17% (formal qualifications) 12% informally trained	
Portfolio scores (total group)	52% (formal qualifications) 47% (informally trained)	

There is a definite need for continued professional development in this field. Those participants with more prior knowledge because of formal qualifications gained more from the training and performed better than those who were not formally trained.

Those who received more informal training (urban context) were more confident in

implementing the NCS and participated better than those who received less prior support (semi-rural context). Such results emphasize the value of prior knowledge and indicate the value of CPD.

8.3.2 Use of language in the CPD programme

The participants found the portfolio assignments with lesson planning difficult as these (with the exception of three) were mostly completed in English. English was an additional language for all the participants (refer to 6.2.3(b)(iii)) and not all of them were proficient in English, which hampered their efforts, as is evident from the following quote:

> *"pa-sse-nger-s (passengers); whee-l-bu-rrow (wheelbarrow)" (Line 10, Un-tabled reflection of the trainer on the 2005 listening assignment 2005 (WS 1))*.

The use of English in the CPD programme and some of the participants' limited proficiency in English were earlier identified as input challenges to the programme (refer to Section 6.2.3(b)(iii)) that impacted on both the process (refer to Section 7.5.3) and outcomes.

The participants' knowledge of terminology proved to be scant as English was not their L1 (refer to Sections 6.2.3(b)(iii)), and terminology in all the indigenous languages is still in the process of being verified and authenticated by the various national language bodies of PanSALB (M. Alberts, personal communication, November 27, 2007).

8.3.3 Age and number of years of teaching experience

The next parameter considered was the number of years of experience of the participants (refer to Table 8-7). No significant difference was found between the gains in questionnaire scores for the two groups (1-16 yrs experience and >17years

experience), with the confidence level at 49%. The post-workshop questionnaire scores were similar at a very low confidence level (10%). The portfolio scores differed by 13% at a very high level of confidence (90%).

Table 8-7: Impact of years of experience on knowledge acquisition

Group	Years of Teaching	Gain in questionnaire scores	Post-training questionnaire score	Portfolio score
Total group	1 – 16 years	10%	59%	52%
	17 and more years, unknown	9%	57%	39%
	Confidence level	32%	80%	96%
Core	1 – 16 years	13%	58%	53%
	17 and more years, unknown	11%	58%	40%
	Confidence level	49%	10%	90%

The results indicate that the participants with less experience (who probably were also younger) adapted easier to the principles and would be more amenable to change their teaching style.he age of the participants had a similar impact on the outcomes (refer to Table 8-8) as the years of experience.

Table 8-8: The effect of the participants' age on knowledge acquisition

Group	Age	Gain in questionnaire scores	Post-training questionnaire score	Portfolio score
Total group	20 - 35 years	8%	61%	59%
	36 and older, unknown	10%	57%	43%
	Confidence level	60%	83%	98%
Core	20 - 35 years	12%	58%	60%
	36 and older, unknown	12%	58%	44%
	Confidence level	7%	1%	98%

There was a notable difference of 16% between the group <35 yrs and the older group (>36years) at a high confidence level of 98%. A factor analysis (Montgomery *et al.*, 2001:46) was done to determine the interrelationship between the age of

participants and their qualifications. The results in Table 8-9 show the average portfolio scores for different categories of age and qualification.

Table 8-9: Impact of age and qualification on portfolio score

Age	1-year certificate	Diploma	Degree	In-service	Other	Un-known	Total
20 – 25		50.0					50.0%
26- 30		59.0	71.0				65.0%
31 – 35		56.8	64.2		35.0		58.2%
36 – 40		41.8	55.5	44.0	53.0		47.0%
41 – 50	58.0	40.7		7.0	39.3		39.3%
51 & older	91.0	52.8	16.5				47.9%
Unknown						40.8	40.8%
Average	**74.5**	**46.9**	**53.6**	**25.5**	**42.6**	**40.8**	**47.3**

It is evident that participants with formal training and the younger group performed better, although in a few select cases the older participants with a 1-year teachers' certificate performed exceptionally well. This indicates that performance also depends on the personal aspirations and motivation of a participant.

8.3.4 Attendance

The attendance of workshops appeared to be a determining factor of knowledge gains. As could be expected, participants who attended 3 workshops gained significantly more than those who attended fewer workshops (refer to Table 8-10), which indicates that the participants benefited from attending the workshops.

Table 8-10: Impact of number of workshops attended

Attendance	Gain in questionnaire scores	Post-training questionnaire score	Portfolio score
1 or 2 Workshops	6%	56%	45%
3 Workshops	12%	57%	48%
Confidence level	99%	16%	36%

Results obtained from a bi-directional assessment (see) confirmed the above finding and showed an appreciable difference between those participants with formal training and those who received only in-service training shows the impact of qualifications and the number of attendances on knowledge gains (refer to Table 8-11).

These results also showed that performance in the portfolios was determined by the number of workshops attended. The participants may have become more knowledgeable and competent as they attended more workshops and therefore they performed better in the portfolio assignments (refer to Section 7.5.1(a)). Attendance of workshops was a determining factor regarding gains made as the more workshops were attended the more likely it was that the participants completed at least one portfolio assignment.

Table 8-11: Impact of qualification and number of attendances on knowledge gains

Qualification	Number of workshops attended			Portfolio score
	1 Workshop	2 Workshops	3 Workshops	
1-year			74.5%	74.5%
Diploma	33.5%	52.8%	45.5%	46.0%
Degree		40.0%	55.1%	53.6%
In-service training			25.5%	25.5%
Other		37.5%	44.6%	42.6%
Unknown		53.0%	32.7%	40.8%
Total	**33.5%**	**48.5%**	**47.0%**	**46.8%**

Participants who attended fewer workshops were less motivated to complete portfolio assignments. The attendance of the workshops was therefore not necessarily the determining factor in terms of gains, but rather the completion of the portfolio assignment. It enabled them to benefit from the practical application of strategies in their classrooms (refer to the value of the practical component in

Section 7.3.1(b)) and the feedback on their lesson plans (refer to the value of the mentoring component in Section 7.3.1(c)). The entire programme (consisting of the training, practical and mentoring components) was necessary for the effective support of the participants.

Participants who completed at least one portfolio assignment had the opportunity to apply and internalize their knowledge from the workshop. This resulted in a better understanding of the information and in developing to a higher level of knowledge acquisition as opposed to those participants who only attended one or two workshops without completing the assignment. The latter group therefore developed to a lower level in the process of knowledge acquisition (Bloom *et al.*, 1956).

The first two workshops were better attended than the third workshop (refer to 7.5.1(b). This resulted in more portfolio assignments being submitted after the first two workshops and therefore more participants benefited from them.

When teachers are learning, so will their learners, resulting in a contribution to the development of an entire 'learning community' (Dennison & Kirk, 1990:9). It is concluded that the attendance of workshops and the completion of portfolio assignments were crucial elements in determining knowledge gains.

All participants benefited from the development of this CPD programme, although some participants (e.g. those with prior knowledge and qualifications, <36 years of age, and who participated fully) benefited more than others. In addition to the gains made in knowledge and skills, it was also necessary to determine the effect of the CPD programme on the attitudes of the participants.

8.4 Attitudes

Attitudinal factors such as the participants' perception of the programme, motivation

and willingness to learn, and confidence were assessed to evaluate the training impact of this programme (Mervin, 1992:14).

8.4.1 Participants' perception of the programme

The QUAL strand indicated mostly positive attitudes[122] towards the CPD programme (training and implementation of strategies in class), as 86% of the items coded (n= 100) were positive (refer to Appendix 6B, Table 2, Phase 'Output', category 'attitude'). These results were confirmed by those previously discussed in Section 7.3.1(a) and shown in Table 7-8. As adults learn better when they enjoy the learning experience and see the need for it (Cyr, 1999:3; Pike, 1989:23) the participants' satisfaction regarding the programme is considered to be a motivational factor that may contribute to learning.

8.4.2 Motivation and willingness to participate in the programme

This aspect was evaluated by both strands of the research.

(a) QUAL strand: Motivation and willingness to participate

The trainer/researcher experienced the participants as a group to be attentive in the workshops and to be participating with enthusiasm by sharing their experiences (Line 24, Diary entry 26 on 28 April 2006, Ws 3). Participation in the programme was also measured by the participants' attitudes towards the completion of the portfolio assignments (refer to Sections 7.3.1(b) and 7.4.2). More items were coded as *'assignment negative'* (n=35) than *'assignment positive'* (n=28) (see Appendix 6B, Table 3, category 'assessment method'), which means that the participants did not want to compile the portfolio assignments and had negative feelings about it. Those

[122] According to ***(district facilitator), the good attendance is indicative of what the workshop has meant to them (Line 14, Diary entry no 8 on 11 August 2005.rtf).

participants who perceived the assignments as 'positive' felt that they have benefited from compiling the assignments[123] (see Diary Entry 9, 31 May 2006). They thought that it provided hands-on experience and an opportunity to reflect on their practices.[124]

Some participants who had previously complained of burnout (refer to Section 6.2.3(b)(ii)) appeared excited by the prospect of trying new ideas. Because the participants were '*empowered*' by implementing the strategies, some of them saw themselves playing a role in motivating and training their colleagues[125] (refer to Section 8.2.1(e)), which was also confirmed by feedback obtained from the Learning Support Educators (refer to PD 46 in Appendix 6A). It can be assumed that those participants who trained their colleagues (refer to Section 8.2.1(e)) did so because they were motivated and positive about what they had learnt in the workshops.

The items coded as negative (n=35) were indicative of resentment from those participants who did not appreciate the extra work demanded by the portfolio assignments.[126] Although many of the participants experienced the implementation of the strategies taught to be manageable,[127] there were some who experienced difficulties (n=21), specifically with rhyming (refer to Appendix 6B, Table 3, Category 'Rhyming'). It is to be expected that many participants who did not submit their assignments experienced negative feelings (refer to Figure 8-10 and Section 7.4.2) that most probably resulted in them not benefiting as much from the programme. The reasons for such negative feelings are summarized in Figure 8-10 and are

[123] T: Implementation is very good, the problem is this assignment. To know,… to write it. But it helps us. It really helps us. When we start planning again for those…..for your….compiling everything. But I don't like the assignment (Line 12, Focus group 2, in 2005)

[124] T: The assignment, it did help us (Line 33, Focus group 2, in 2005)

[125] And the assignment …what I have learnt in the workshop. It will motivate the teachers as well. (Line 277, Focus group on WS 3, 2006 new)

[126] T: The assignment is not so good because it shows you, the facilitator what you have taught if it is implemented or not (Line 158, Focus group 1, 2005)

[127] It was not difficult because of the last experience but the continuation of the previous workshops (Line 59, Un-tabled reflection and self-evaluation of teachers in the numeracy assignment)

similar to those factors which were previously described as input challenges (refer to Section 6.2.3(b)), impacting on the process component (refer to Section 7.5).

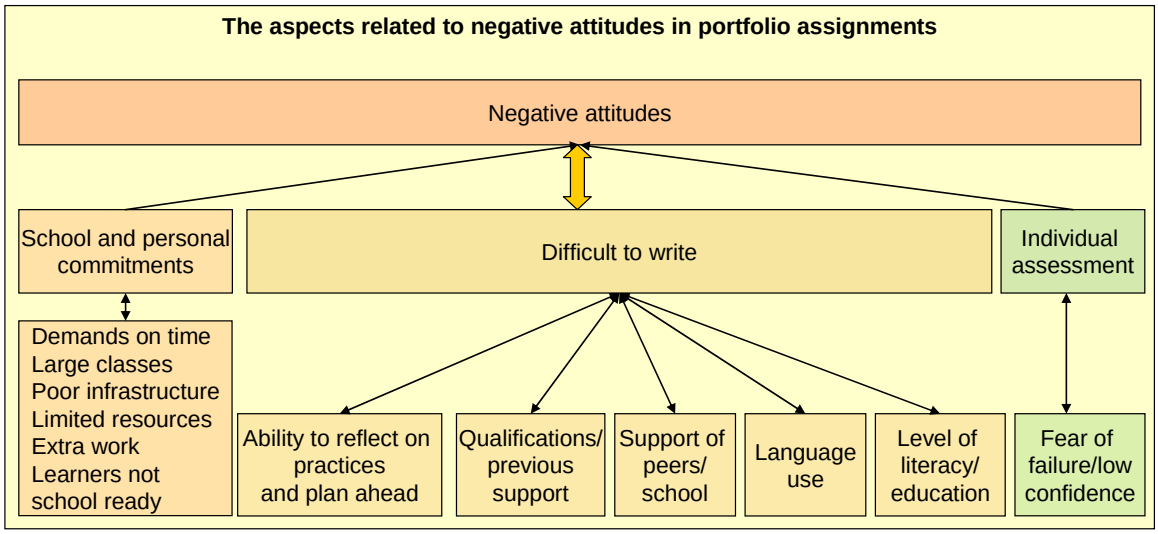

Figure 8-10: Aspects related to negative attitudes in completion of assignments

Some of the participants did not like being assessed on an individual basis and were concerned that they might fail the assignments. As adult learners they did not want to be criticized and also feared humiliation (Knowles, 1990 in Cyr, 1999:6). This behaviour reflects a lack of confidence, which probably was related to feelings of incompetence (refer to Sections 6.2.2 and 1.1.2(c)). Attitudes regarding the portfolio assignment appeared to have been school related,[128,129] (refer to Section 7.4.2), which indicated that the specific context may have played a determining role in the participation and performance. Participation (attendance and the completion of the portfolio assignment) depended on the participants' motivation and attitudes, which emphasizes the importance of including strategies to motivate participants in future programmes.

'Motivation' was coded only 13 times,[130,131] of which 85% confirmed that participants

[128] T: There is no use to writing. You know writing, for the sake of a due date (Line 130, Focus group 2(b) 2006*)

[129] But you …..you don't implement that what you have written on the assignment, you just write it to submit it to the lecturer. It is like studying for a degree (Line 200, Focus group 2, (b) 2006 *)

[130] The facilitator....the workshop motivates the educators (Line 107, Un-tabled Open questions form 4)

were motivated to participate and implement the strategies in class[132] (refer to Table 3, category 'Attitude', Appendix 6B). The sample size was relatively small for inferences to be made, but *'motivation'* could have been inherent in several other codes and categories which did identify it as such. Some participants were motivated and enthusiastic because they had learnt to address assessment standards, which they could not do prior to the workshop[133] (refer to Section 8.2.1(c)). Three participants telephoned the trainer/researcher after hours to share their positive experiences in class.[134] Motivation to participate was influenced by timing (duration and scheduling) (refer to Section 7.5.4(a)(ii)) and the choice of venue (refer to Section 7.5.4(b)).

Although motivation could be linked to the CPD programme in several instances[135], it is also possible that some participants were positive and motivated prior to training and did not necessarily became motivated as a result of the programme (e.g. participants who came from schools where they were well supported by supportive management teams and commercial programmes or workshops) (refer to Section 7.5.2).

(b) QUAN strand: Motivation and willingness to participate

The QUAN-strand also indicated a general willingness to learn (refer to Table 8-12.)

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[131] It has impact and encourages me to reinforce what I have learnt (Line 89, Un-tabled open questions Form 5 ws 3)

[132] I saw teachers becoming enthusiastic about teaching again. The workshops provided them with new ideas. They came back to me to tell me about their successes. (Line 96, Diary entry 28 on 25th May 2006, Focus group 3, (a))

[133] T: Because as we have said, we had these LO's and AS's that we could not achieve, but now, we are positive. We know how to approach these AS's (Line 334, Focus group 1, 2006)

[134] The commitment of some of the participants warmed my heart. I had some participants who telephoned me afterwards to tell me about their teaching (Line 101, Diary entry 28 on 25th May 2006 Focus group 3(a))

[135] Appears motivated and enthusiastic (Line 2, Reflection of the trainer on the 2005 listening assignment, 2005 (WS 1))

Table 8-12: Submission of assignments in all schools

			Number of assignments submitted				
Context	**School no.**	**% failure to submit**	**0**	**1**	**2**	**3**	**Total**
Semi-rural	1	17%	1		1	4	6
	2	0%		1		5	6
	3	0%				5	5
	4	40%	2	1	1	1	5
	5	40%	2		3		5
	6	0%		2		2	4
	7	50%	2	1		1	4
	8	0%		3	1		4
	9	50%	2	1		1	4
	10	25%	1			3	4
	11	50%	2		2		4
	12a	100%	4				4
	12b	0%				1	1
Semi-rural: Number of portfolios			**16**	**9**	**8**	**23**	**56**
Urban	13	20%	1	3	1		5
	14	100%	5				5
	15	60%	3		2		5
	16	20%	1	3	1		5
	17	0%		4			4
	18	25%	1	3			4
	19	100%	4				4
	20	0%		4			4
	21	100%	4				4
	22	0%		2	2		4
	23	0%		4			4
	24	67%	2	1			3
	25	100%	2				2
	26	0%			1		1
	27	0%			1		1
	28	100%	1				1
Urban: Number of portfolios			**24**	**24**	**8**		**56**
Total portfolios submitted			**40**	**33**	**16**	**23**	**112**

In this programme the participants' enthusiasm to complete the portfolio assignments was used as an indicator of how motivated the participants were to participate in the

programme, and hence portrayed their attitude towards the programme. The results in Table 8-12 show that there was one school in the semi-rural context and five schools in the urban context from which none of the participants submitted assignments, suggesting that their attitude (willingness to participate and motivation) was school related. There is no other reason for more schools in the urban context than the semi-rural context not submitting portfolio assignments, but that of a lack of support (either by the school management, or by the district facilitators).

With reference to Figure 8-11 there were 85% of the participants who expected to learn from the programme. In both year groups the majority (>91%) of the participants were satisfied with what the training had to offer and were of the opinion that they benefited from the programme.

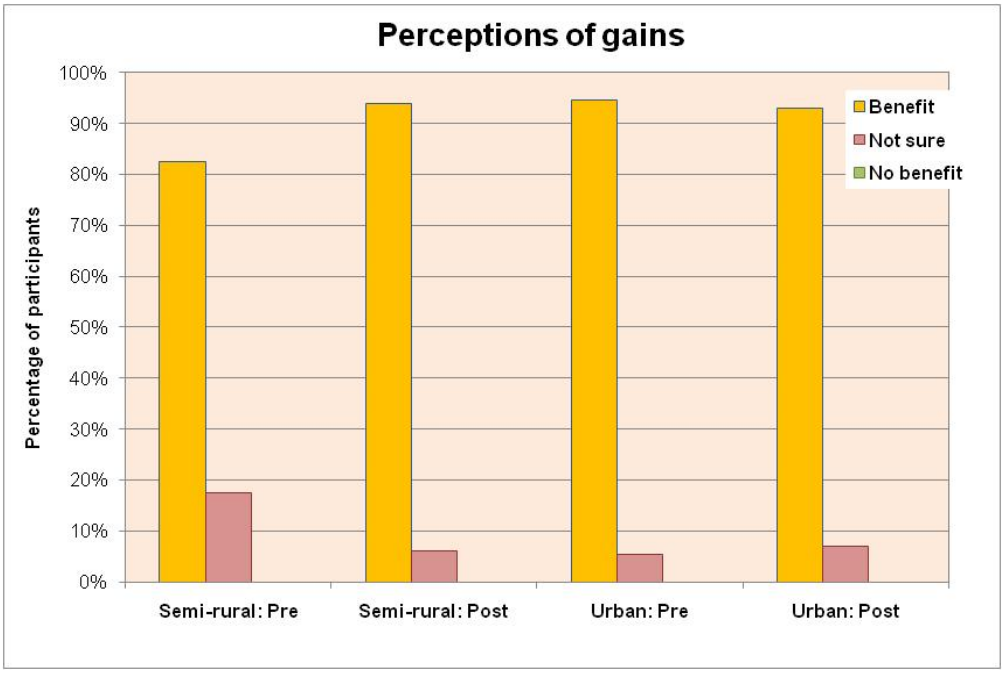

Figure 8-11: Comparison of expectations of participants and outcomes

In summary, 93% of the core group (refer to Table 7-9 in Section 7.3.1(c)), as compared to that of the total group in terms of portfolio submissions, submitted at least one assignment. There were also more participants in the urban context (100%) than in the semi-rural context who submitted at least one assignment.

(c) Convergence of results: Willingness to participate and motivation

Although the two strands did not evaluate similar aspects, both contributed to a better understanding of attitudes in terms of motivation and willingness to participate.

Table 8-13: Convergence of results in terms of willingness to participate and motivation

Aspect evaluated	QUAL	QUAN
Attitudes re portfolio assignments	100% negative (n=35) 100% positive (n=28)	
Expectations to benefit from the programme prior to training		85% (n=96)
Motivation to implement strategies (as reflected in submitting at least one assignment)	85% (n=13)	93% (n=56%)

The convergence of the results regarding the participants' willingness to participate and motivation to submit their portfolio assignments is shown in Table 8-13. The participants expected to learn prior to training, which may have been conducive to learning, and both strands of the research concurred that the participants were motivated to implement the strategies in class. Attitude in terms of willingness to participate and motivation may have been affected by several factors as discussed in Section 7.5 but also appeared to have been school/context related.

8.4.3 Confidence

(a) QUAL strand: Confidence

An increasing sense of professional confidence is important for learning (Graven, 2002 in Adler *et al.*, 2003b:146). Evidence of increased *'confidence'*[136] (refer to Appendix 6B, Table 3, category 'attitude') was noted in 88% of items coded,[137]

[136] "I feel so confident with what I am doing now. I know it is the right way now". (Line 47, Diary entry 16 on 13 Oct 2005 focus group 1)

[137] Increased my confidence in totality of dealing with the whole spectrum of language (Line 139, Un-tabled Open

although the sample size was relatively small (n=16). A statement such as *"I have learnt so much"* from several participants in the focus groups was therefore regarded as a positive indication of increased confidence. Confidence was inherently included in items coded in the category 'value to the teacher' as items *'value of training'* (n=34) and *'value of training to the teacher'* (n= 38) (see phase 'Outcomes', Table 3 in Appendix 6B). Several participants reported in the focus groups that they had acquired more confidence by doing the portfolio, as this required them to develop lesson plans and activities that they were unable to do before (refer to Section 8.2.1(c)).[138] Self-confidence also enabled some of the participants to train their colleagues[139] (refer to Sections 8.2.1(e)).

The code *'empowerment'* could also be related to the development of confidence (n=17) (refer to Appendix 6B, Table 3, category 'value to the teacher'). The implementation of strategies in class may have increased their confidence,[140] because they perceived themselves as being successful.

(b) QUAN strand: Confidence

The participants rated their confidence in a self-evaluation section in the questionnaires (see Figure 8-12). These results did not show any correlation with their actual performance. Generally the participants judged their own competence as being high (>70%) which indicated high levels of self-confidence in implementing the strategies learnt in the workshop.

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questions form 4)

[138] The difference I have is that since I started to attend this workshops I have got the skills, knowledge, and confidence (Line 156, Un-tabled Open questions form 4)

[139] Teachers feel so much more empowered to teach. They are going to teach their colleagues next week (Line 55, Diary entry 29 on 30th May 2006 Focus group 3, (b))

[140] It appears as if they have become empowered and confident. I think the assignment has a lot to do with their confidence (Line 51, Diary Entry 15 on 8 Oct 2005 Pilot Workshop 3)

Such discrepancy between confidence levels and portfolio performance may be attributed to limited insight of the participants.

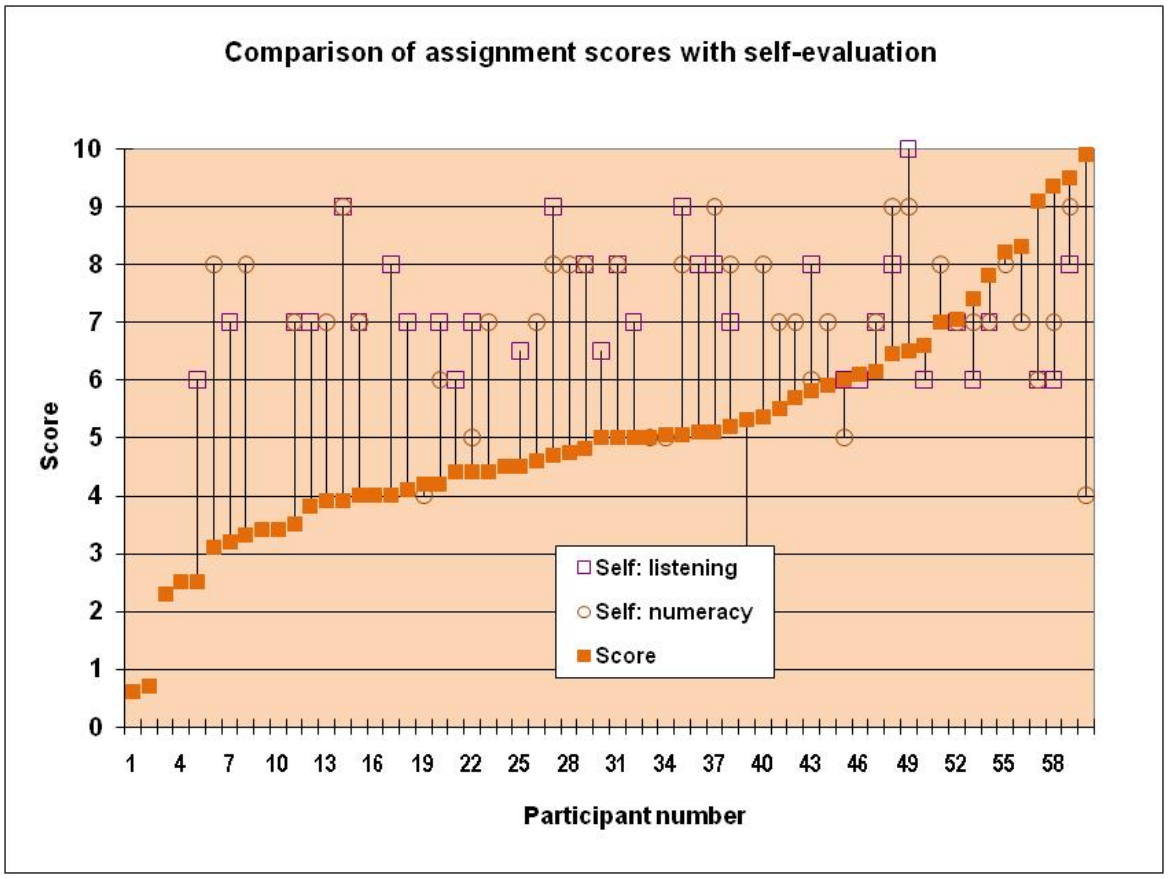

Figure 8-12: Comparison of assignment scores with self-evaluation of competence

It is also possible that the portfolio scores were not necessarily a true reflection of competence in the classroom as the scores were affected by several factors (refer to Section 7.5) which made it difficult to accurately determine the actual levels of competence. It was also taken into account that the sample did not represent the entire group (n=20) (because not all the participants in the group chose to complete this section of the portfolio assignment).

(i) Convergence of results: Confidence

The results on confidence of the participants are converged in Table 8-14. These results indicate high levels of confidence in the implementation of strategies following training in both strands of the research.

Table 8-14: Convergence of results with regard to confidence

Aspect assessed	QUAL	QUAN
Overall confidence (total)	88% (n=147)	
Confidence	89% (n=15)	
Empowerment	100% (n=17)	>70% (n=31)
Implementing	86% (n=102)	
Help/train colleagues	85% (n=13)	

The evaluation of confidence was based on the participants' own perceptions of their gains in confidence and therefore was subjective. In confirmation of the gains made in attitude, the testimonials from the Teacher Support Educators verified the positive attitude noted in participant feedback (refer to HU 46, line 33).

The Teacher Support Educators felt that the workshops could also change the attitudes of other teachers, which in turn could effect changes in their schools[141]. As a result of prolonged engagement and multiple observations across contexts, the credibility of the inferences regarding attitudinal gains was high (Leedy & Ormrod, 2005:99-100). Teacher confidence is directly related to teacher competence and clear links exist between teachers' confidence and their ability to facilitate learning (Killen, 2007:37).

High levels of confidence can therefore be regarded as a positive attribute of the outcomes of this training programme as it can be expected that learners may also benefit (Gibson & Dembo, 1984:578). In general, the gains made in knowledge, skills and confidence with this CPD programme represented professional growth in the participants (Grundy & Robinson, 2004:147).

[141] I was thinking that if all the teachers were attending workshops like these, lots of things were going to change at our schools - involving the negative attitudes of teacher for learners who have barriers, and teachers themselves who don't realize that they are barriers themselves for the learners. Because they don't want to apply new strategies in their lessons (refer to HU 46, line 33. Testimonials of Teacher Support Educators) .

8.5 Assessment, summary and conclusion

8.5.1 Critical assessment of the output results

The acquisition of knowledge and skills, and a change in attitude contributed to increased competence of the participants. The CPD programme thereby responded to the institutional needs put forth by the National Norms and Standards for Educators (Department of Education, 2000:2) and also satisfied the participants' personal training needs that were previously identified (refer to Section 6.2.2). The combination of assessment methods in both the QUAN and QUAL strands yielded credible results.

8.5.2 Summary

Figure 8-13 is a summary of the CPD programme within the South African environment and illustrates the various factors that affected the outcomes, as well as the interrelationship between the output and outcomes components. The latter component is the focus of the next section.

The output component assessed the gains made in terms of knowledge, skills, and attitudes, and determined that all participants made gains, but not all to the same extent. In general, the participants were motivated to participate, although the execution of portfolios elicited some negative feelings.

The confidence displayed by the participants was not necessarily an indication of competence, but could have reflected a lack of insight. Language use, attendance, years of experience and age, as well as previous training were found to impact on the gains made in knowledge and skills.

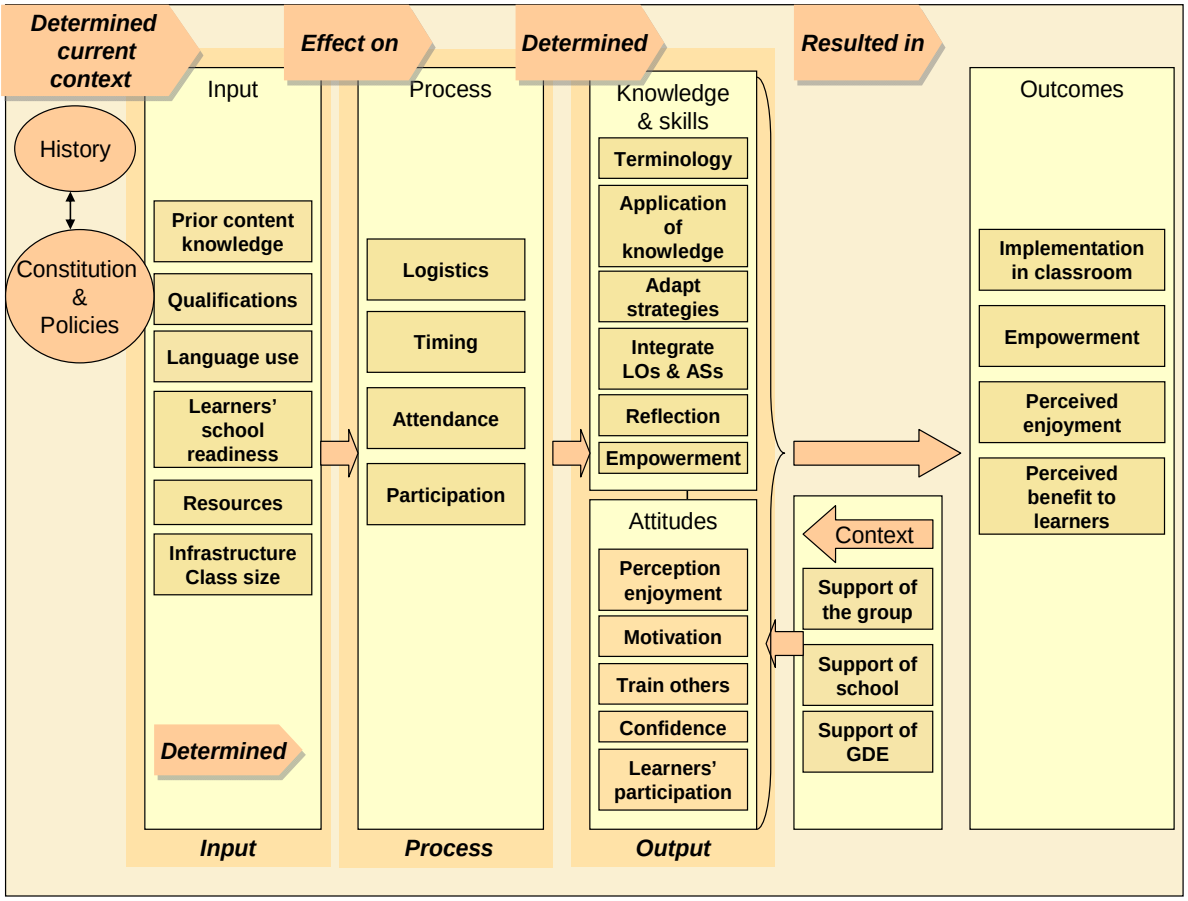

Figure 8-13: The output component in relation to the entire programme

8.5.3 Conclusions

The participants benefited from the CPD programme, but not all to the same extent. Those who benefited less need to be identified in order to be supported differently and options such a mentoring and pre-training of vocabulary and terminology need to be considered.

Recall of factual knowledge (assessed by the questionnaires) is not the only knowledge required for learning. Of more importance is the integration of knowledge and practice (Adler *et al.*, 2003b:138; Marojele *et al.*, 1997:349; South African Qualifications Authority, 2001). The "…upgrading and scaffolding of teachers' conceptual knowledge and skills" in order to improve performance is currently a national imperative (Department of Education, 2006:3; Taylor & Vinjevold,

1999b:159). To engage learners in higher level thinking teachers' knowledge of subject matter needs to be improved.

The key to the participants' performance lies in their participation in the programme in terms of attendance and the implementation of the strategies in the classroom. The level of attendance determined whether the participants completed a portfolio assignment or not, and therefore all efforts should be made to ensure a high level of continued attendance in future programmes.

Apart from making procedural changes, it is also necessary to offer more lucrative incentives to motivate trainees to complete the entire programme. Such an incentive can be provided by rewarding the trainees with CPD points, which requires that programmes become accredited.