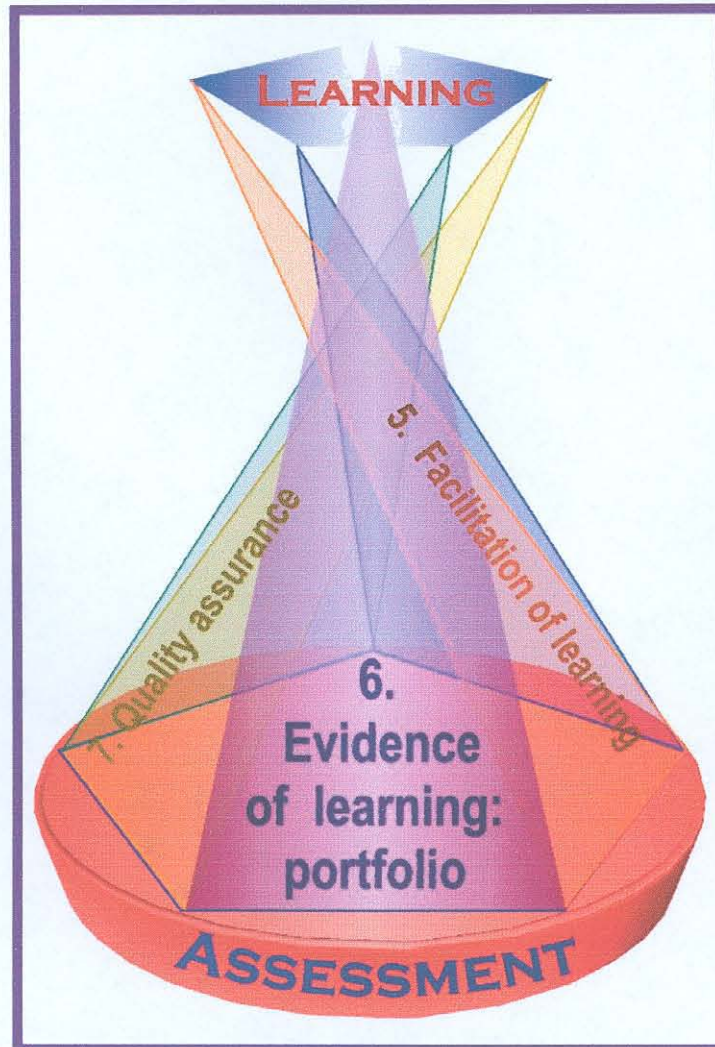


*"Anyone who has never made a mistake has never tried something new."
 (Albert Einstein, 1879 - 1955)*

Chapter 6

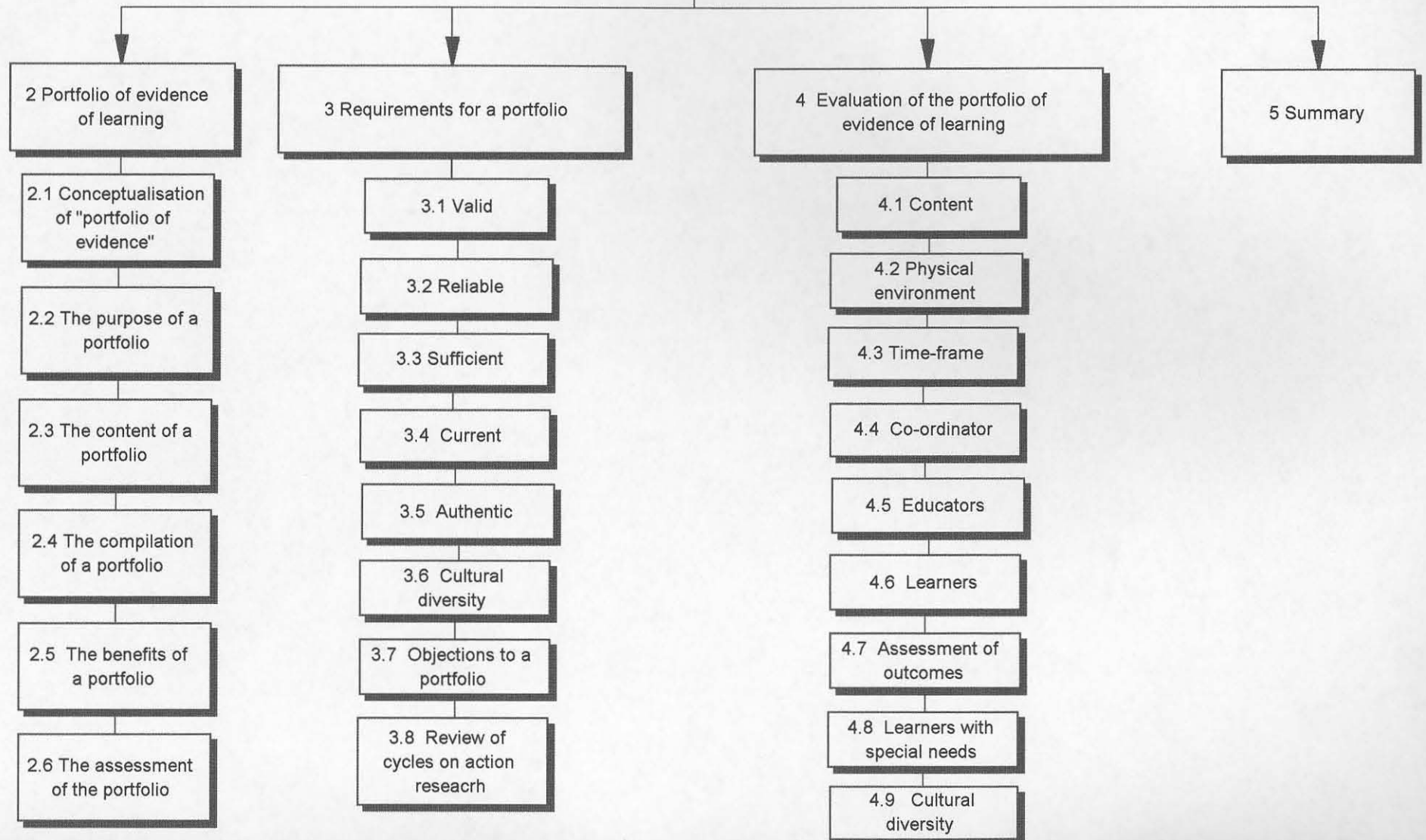


I accepted the challenge to try something new ... to feed the tree to bear fruit ... even if I make mistakes ...

Chapter 6 presents the activities of the learner to prove competence against the critical cross-field and specific outcomes. The portfolio of evidence for the NTG 471 unit standard of the FDE(CAE) qualification is the legal documentation that a learner will be able to present as: "This is what I can do!" ... something to be proud of, something to be presented to anybody who asks "What do you know now that you did not know before, show me?" ...

Chapter 6

1 Introduction



CHAPTER 6

Evidence of learning: portfolio

“Successful learning promotes even more successful learning.”
(Spady, 1994:9).

1 Introduction

The purpose of this study is to develop a better understanding, and providing an holistic overview of outcome-based learning in South African context with special reference to an integrated and generic process of calibrated assessment of competence against the national unit standards or qualification.

Chapter 3 addresses the first sub-question of this study pertaining to the legislative and educational concepts of education, training and development in South Africa. Chapter 4 addresses the second sub-question of this study and describes the composition of the learning programme for a registered qualification. Chapter 5 clarifies the third sub-question of this study on the facilitation of learning. Chapter 6 introduces the fourth sub-question of the study, i.e.

What does the portfolio of evidence for a registered qualification regarding assessment in South African education entail?

This chapter elaborates on the facilitation of the learning and addresses the “What?” and “How?” of the three dimensions of a qualification.

Assessment strategies such as portfolios have become a major academic trend in finding alternative ways to demonstrate competency of outcomes. Mills & Brown (1997:140) refer to the fact that portfolios are not a new idea. Not only did the craftsmen in the Middle Ages incorporate portfolios to demonstrate their readiness to move from one stage to the next in craft guilds, but several institutions have, since the mid 1980's, successfully incorporated portfolios in classrooms to assist learners in demonstrating competence.

2 The portfolio of evidence of learning

In order to be competent in the outcomes and for quality assurance purposes, the learner must be able to provide evidence of all activities and performances (Brennan & Shah, 2000:16; Mokhobo-Nomvete, 2000; Olivier, 2000:153).

Portfolios bring together the unit standard, facilitation of learning and assessment (Dolman, 1998:2). The portfolio does not consist of separate artefacts, but gives an holistic overview of the educational progress and process of the learner's abilities. It is a creative representative record of professional development and emphasises the transparent process over a period of time and is not a once-off product (Draper, 2000; King, 1999; Mokhobo-Nomvete, 2000).

2.1 The conceptualisation of a portfolio of evidence

Table 80 is a compilation of the conceptualisation of a “portfolio of evidence” related to the outcomes in a unit standard or qualification in South African education, training and development.

Table 80: Conceptualisation of “portfolio of evidence”

Author	Explanation
Cole (1990)	➤ (Student): “a systematic and organized collection of evidence used by the teacher and student to monitor growth of the learners’ knowledge, skills and attitudes ... Portfolios must contain the artefacts of learners’ progress as well as their reflections on both their learning and the chosen artefacts.”
Doolittle (1994)	➤ (Teacher): “a collection of work ... constructed by teachers to highlight and demonstrate their knowledge and skills in teaching. A portfolio also provides a means of reflection ; it offers the opportunity for critiquing one’s work and evaluating the effectiveness of lessons or interpersonal interactions with learners or peers.”
Hurts 2002	➤ “...a portfolio is reflective compendiums of self-directed artefacts : <ul style="list-style-type: none"> ▪ Representations of teaching credentials and competence ▪ Holistic views of teachers ▪ Provide documentation for strengthening interviews”
Siebörger & Macintosh (2001:48)	➤ “A collection of what a learner has done, usually consisting of examples of work selected according to requirements which may be specified.”
Spady (1994:117)	➤ “A tangible evidence of a student’s knowledge, abilities, and growth in becoming a self-directed lifelong learner.”
Van der Horst & McDonald (1997:172, 193)	<ul style="list-style-type: none"> ➤ “Portfolios are collections of learners’ work that are longitudinal, diverse in content and collaborative in their selection. Portfolios are intended to emphasise strengths, development of skills, improvement, and personal reflections, thus providing a broad picture of learners’ learning. ➤ An accumulated body of work produced by the learner providing evidence of the learning and growth that he or she has achieved. ➤ A portfolio is a file or folder that contains samples of the learner’s work such as themes, homework, papers, teachers’ ratings on the work performed, descriptions of the learner’s accomplishments, scores on tests, and other significant materials gathered by the learner during the term.”
Van Niekerk (1998:83)	“A portfolio is a broad picture of the learning and development through a whole course – not just during examinations at the end of the year.”
Winsor (1998)	(Professional): “a record of goals, growth, achievement, and professionalism; attributes developed over time and in collaboration with others ... For teachers, a professional portfolio is a thoughtfully organized collection of artefacts that illustrates professional status, pedagogical expertise, subject matter knowledge, knowledge of learning processes, and professional development; and personal attributes that contribute to teaching. The professional portfolio is the product of, and cannot be separated from, the reflection and assessment process required to produce it.”

According to Table 80 a portfolio of evidence can be regarded to include the following:

- A systematic and organised collection of artefacts
- A record of growth and progress of learning over a period of time
- The evidence of competence of knowledge, skills and attitudes
- Contributing to becoming a life-long learner

A portfolio can be compared to a fusion between process (cyclical goal setting, reflecting and growth) and product (decision-making and a presentation of skills for professional development) and should demonstrate continued growth, progress towards and achievement of outcomes, and reflection on professional development (Winsor, 1998a).

The portfolio must be a presentation or display of a student's work, and may be presented as evidence of what the learner has done to achieve the outcomes. A portfolio of evidence is therefore the product of the process of learning and must demonstrate the competence in the knowledge, skills and attitudes of the learner that does not only contribute towards this qualification but also to life-long learning. It may become a display of the learner's self-satisfaction and pride, the goals, growth and a showcase of achievements towards professional development and therefore serve as a valid documentation for employment interviews. Eventually a portfolio of evidence will be an opportunity for learners to accumulate registers of performance evidence from different moments of experience and therefore become actively involved in their own learning and a credible investment in the learners and their careers (Ibarra, 1998; Van Niekerk, 1998:82; Winsor, 1998).

Traditionally a portfolio is regarded as one component of the learner's assessment (Clark, 2000). The range of a portfolio in this study differs from the above-stated approach and the portfolio is regarded as a structured document that is the compilation of all the evidence that will serve as the legal documentation of the learner's competence in all the learning against the specific outcomes of a qualification or unit standards.

2.2 The purpose of a portfolio

Table 81 is a compilation of the conceptualisation of the purpose of a portfolio of evidence related to the outcomes in a unit standard or qualification in South African education, training and development.

Table 81: The purpose of a portfolio of evidence

Author	Explanation
Winsor (1998)	Professional portfolios have to express the following: <ul style="list-style-type: none"> ➤ A framework of self-assessment and evaluation ➤ A framework of collaborative assessment and evaluation ➤ A record and display of professional goals, growth and achievements ➤ A foundation for career-long and self-directed professional development
Van der Horst & McDonald (1997:194)	The purpose of a portfolio is to assess a learner's competency against the outcomes
Van Niekerk (1998:82,85)	Portfolios demonstrate personal growth and development , help a learner to determine strengths and weaknesses , serve as authentic examples of applications and a display of the learner to move towards a more authentic assessment model

The purpose of a portfolio is therefore the following:

- A display showcase of a learner's process of learning
- A document for assessment of the competence of the learner against the unit standards or qualification

2.3 The content of a portfolio

According to King (1999), Van Niekerk (1998:86) and Winsor (1998) a portfolio must adhere to the following specifications:

- The portfolio is a **collective** report of the learner's **holistic development** and **progress** over a **period of time** that must contain the **planning, research, developmental documents** as well as the **final products**
- Portfolios must be **organised** by the learner to include as many **different artefacts as possible** to prove to the assessor that the he/she is **competent**, and **creative** in the composition of the artefacts
- **All the evidence** that a learner has collected must be **included** in the portfolio to represent **multiple evidence of competence** in expected specific outcomes and the more cross-referencing in the portfolio the higher the **validity and the reliability**
- It is a representation of **integrated knowledge, skills, attitudes and expertise** and samples confirm that learners are not only assessed on memorisation or regurgitation of facts

Spady (1994:117) recommends that the portfolio of evidence includes the following:

- **Self-reflection:** journals, self-portraits, resumé and autobiographies, displays, job information
- **Evidence showing learner growth:** learner responses, resumé and autobiographies, visual and audio records
- **Evidence showing authentic tasks:** reference by outsiders, extra-curricular activities, laboratory reports, recorded works, published works

The portfolio of evidence in this study adheres to these above-mentioned specifications and can be described as follows:

The portfolio of evidence in this study is regarded as a **structured document** that is the compilation of **all the evidence** that will serve as the **legal documentation** of the learner's **competence over a period of time** for all the learning against the **specific outcomes** of a qualification or unit standard.

The question for the educator and the learner is: "What should be included in the portfolio?"

The portfolio must include as many different components as possible. This may include any of the artefacts as summarised in Table 83 (Siebörger & Macintosh, 2001:47; Van der Horst, 1997:195; Van Niekerk, 1998:88). The ticks indicate the artefacts that were included in the portfolio of evidence of the FDE(CAE) learners.

- Evidence that it contributes to the following (Killen, 2002:12):
- The main focus is on learning rather than teaching
 - Learners cannot learn if they do not think
 - Thinking is facilitated by the processes that are used to engage the learner as well as the content itself
 - Unit standards do not exist in isolation and must be linked to one another
 - The educator has the responsibility to help the learners to learn how to learn

A portfolio of evidence relates to the critical cross-field outcomes of outcome-based learning as well as Bloom's taxonomy of learning, as it provides for the inclusion of skills such and the ability to perform certain tasks as presented in Table 82 and in context of this study (Van Niekerk, 1998:83).

Table 82: Task performance in a portfolio of evidence

Task performance	Critical cross-field outcomes	Bloom's taxonomy
Frame problems	Identify and solve problems in which responses display responsible decisions using critical and creative thinking have been made	Evaluation
Analyse	Collect, analyse and critically evaluate information	Analysis
Find information	Collect, analyse and critically evaluate information	Knowledge
Evaluate alternatives	Communicate effectively using visual, mathematical and / or language skills in the modes of oral and / or written persuasion	Evaluation
Create ideas and products	Organise and manage oneself and one's activities responsibly and effectively	Evaluation Synthesis Analysis Application
Plan co-operatively	Work effectively with others as a member of a team, group, organisation or community	Evaluation Synthesis Analysis Application Understanding Knowledge
Invent new answers	Demonstrate an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation	Evaluation Synthesis Analysis Application
Solve problems	Use science and technology effectively and critically, showing responsibility towards the environment and health of others	Evaluation Synthesis Analysis Application Understanding Knowledge

Table 83: The components of a portfolio of evidence

Type	Artefacts to be included	Used in this study	Application in this study (refer Table 84)
Written	➤ Action plans	✓	➤ Cover page or identification page ➤ Table of contents ➤ Resumé ➤ Official documentation ➤ Formative class work ➤ Formative learning tasks ➤ Additional formative information ➤ Sources and resources ➤ Formative and summative assessment activities
	➤ Assessment criteria	✓	
	➤ Authentic tasks and assignments	✓	
	➤ Checklists		
	➤ A diary	✓	
	➤ Essays	✓	
	➤ Feedback		
	➤ Final copies	✓	
	➤ Lecture selected content	✓	
	➤ Mind maps	✓	
	➤ Notes	✓	
	➤ Official documentation	✓	
	➤ Proof of authenticity	✓	
	➤ Sources and resources	✓	
	➤ Results from interviews	✓	
	➤ Rough drafts		
	➤ Self-awareness entries (meta cognitive activities)	✓	
	➤ Self-edited drafts	✓	
➤ Summaries	✓		
➤ Surveys	✓		
Oral	➤ Interviews	✓	➤ Formative class work ➤ Summative assessment activities
	➤ Role-play		
	➤ Conversation	✓	
	➤ Discussions	✓	
Activities	➤ Demonstrations	✓	➤ Formative class work ➤ Formative learning tasks ➤ Sources and resources ➤ Formative and summative assessment activities
	➤ Experiments		
	➤ Presentations	✓	
Testing	➤ Test scores	✓	➤ Formative and summative assessment activities
	➤ Examination scores	✓	
	➤ Assessment tools	✓	
Visual	➤ Photos	✓	➤ Formative class work ➤ Formative learning tasks ➤ Sources and resources ➤ Formative and summative assessment activities
	➤ Video	✓	
	➤ Models		
	➤ Proof of training sessions		
	➤ Observations	✓	
Sound	➤ Video tape or audio tapes		➤ No application

A portfolio is a dynamic document and must include proof of change or growth. It must not be a neatly typed document because the final product should tell the story of what happened during the learning process (Van Niekerk, 1998:86; Winsor, 1998). This study reports on the initial application and novice effort of a better understanding, and an holistic overview of outcome-based learning in South African context with special reference to an integrated and generic process of calibrated

assessment of competence against the national unit standards or qualification. It can therefore not be expected to present an absolute inclusive range of all components of a portfolio and further research could be done to verify these.

2.4 The compilation of a portfolio

For two examples of a portfolio of evidence of learners refer to Addendum 17 and Addendum 18.

Siebörger & Macintosh (2001:48) emphasises that it is the learner's responsibility to compile the portfolio of evidence of learning to be assessed against the specific and critical cross-field outcomes of the unit standard or qualification. Van Niekerk (1998:94) states that the educator must not assume that learners know how to compile a portfolio of evidence and learners should be guided but not prescribed as how to do it.

According to the findings it is not to be taken for granted that a learner knows how to compile a portfolio and it was evident that few learners had the experience, expertise or know-how to compile a portfolio of evidence of learning against the specific outcomes of the unit standards or qualification. It is therefore important to acquire this skill, and include it in the assessment of the learners' competence.

Although the approach to the content-based learning environment is that everything must be correct and perfect, Dolman (1998:5), Siebörger & Macintosh (2001:50) and Van der Horst & McDonald (1997:194) argue that it is a misconception that a portfolio contains only the best examples of a learner's work. This denies the opportunity to assess the progress or process of learning and will only lead to a product-driven concept of portfolios, which is in contrast with outcome-based learning.

Dolman (1998:6) and Siebörger & Macintosh (2001:50-52) reduce the compilation of the portfolio to the summary of the achievements of the learning event, as follows:

- Personal: Including personal information, attendance, special interests
- Comments by the student as well as the teacher / tutor
- Learning programmes / modules / units: Assessment criteria achieved and recording the activities / evidence
- Comments on achievement: Comments by the student as well as the teacher / tutor

Van Niekerk (1998:87) and Winsor (1998) propose the following support to the learner when organising a portfolio of evidence:

- A clearly structured document including the rationale for each artefact
- Arrange the portfolio so as to make it easy to identify all the goals – e.g. chronological order, thematic order, problem-orientated order or own way of organising, as long as it has a proper labelling
- Feel free to be creative and that no one-way is better than another and it must be individualised
- Get help from colleagues


With reference to this information, the co-ordinator requested the compilation of the portfolio to include the divisions as explained in Table 84 in this study.

Table 84: The compilation of the portfolio of evidence

Division	Explanation in this study
Cover page or identification page	The cover page must contain the qualification, unit standard and student number
Table of contents	The information in any legal document is summarised in the structured table of content
Resumé	The learner gives a short description of himself or herself. The rationale for this is to verify the authenticity of the portfolio, i.e. all activities included in the portfolio must refer to the daily activities of the learner
Official documentation	The official documentation includes the unit standard or qualification, the learning tasks to be completed and the instructions for the header and footer of each page of the portfolio for quality assurance purposes to verify that this is the learner's own work [Chapter 8]
Formative class work	All class work must be included to indicate the evidence of competence of the learner during lecturing as well as to prove that the learner had the exposure to the related specific outcomes in the unit standards or qualification
Formative learning tasks	Learning tasks must be included as evidence of competence of the learner in additional activities and must be consistent with the class work
Additional formative information	Additional information is proof of the learner's progress or the process of learning.
Sources and resources	All sources and resources as proof of accessibility
Formative and summative assessment activities	The summative assessment activities summarise the competence of the learner against the specific outcomes of the unit standards or qualification

The requirements for the compilation of a portfolio of evidence of learning as in Table 84 were given as guideline to all educators. However, educators compiled their own guidelines of which the following is an example by NC presented in Table 85.

Table 85: Example of portfolio instructions by an educator

How to structure a portfolio ³⁴	
	<p>Put a cover page on it.</p> <ol style="list-style-type: none"> 1. Make a table of contents (that reflects indeed what is in it). 2. Use separating pages – subtitles or subdivisions 3. 3 main sectors (class work, learning tasks, assessor assessment = co-ordinator's). <ol style="list-style-type: none"> 4. Include the Unit Standard of the module. 5. Include in print out of our class instructions (Session Details), the work you did during each session, the marks you received for that session AND your + my signature: the co-ordinator needs a continuous assessment mark for the portfolios concerning class work. Give: <ul style="list-style-type: none"> ➤ The preparation info that the learners worked on during the lecture (instructions: This is what we are going to do). ➤ The printout or evidence of what the learners have done with that during the lecture. ➤ The assessment that the lecturer has done on that. ➤ One mark out of 50 allocated to this assessment 6. Even if the first years did the "Parent letter", give a printout of that "Parent letter" in which they have made the changes – a "before" and "after" so that the evidence is there of what they have been busy with. 7. Complete headers and footers stating which learning tasks etc according to instructions. 8. Make sure you + witness sign on every page. 9. If you refer to a URL, make a print out of the homepage to illustrate proof that you have used it as a resource. 10. Do NOT put in plastic sleeves, bind it or use a removable clip. 11. Bind it (I borrow a ring binder, it'll cost you R2.00 –to get rings (varying thicknesses), I can have this binder at the assessment, so that the print outs from the assessor's assessment can be included as well. 12. Be proud of it!

Notwithstanding these instructions from the educator, the final portfolios of evidence of some of the learners were poorly presented [Addendum 18].

A portfolio of evidence is a dynamic document and will include proof of change that has taken place during the learning process (Dolman, 1998:5). It will not be a neatly typed document because the final product should tell the story of what happened during the learning process (Van Niekerk 1998:86; Winsor, 1998). Although the educator may suggest minimum requirements, every learner's portfolio is a unique reflection of the learner's development and no two portfolios will necessarily be exactly alike.

³⁴ Note: This is a copy from the original as received from the educator and should not be edited for language

2.5 The benefits of a portfolio of evidence

Spady (1994:117), Van Niekerk (1998:85) and Winsor (1998) argue that the portfolio of evidence will benefit the outcome-based learning environment because it provides proof of the following:

- Learning has been learner-centred
- All evidence is visible including performances and classroom tests
- It is a valid documentation and includes components as described in Table 83
- It supports meta-cognition because the participants can reflect
- It indicates the collaborative learning that has taken place when learners indicate their own contribution
- It proves that learners are actively involved
- It reflects on prior learning activities
- It is a valid document to monitor progress
- It proves that the learner takes responsibility for his/her own learning
- It creates better opportunity for alternative evidence of learning than does a mere certificate
- The portfolio of evidence is a document that contains evidence of the competence of knowledge, skills, values and attitudes of learners when they receive the qualification and can therefore be presented as a valid documentation for competence when the learner applies for employment.

The portfolio of evidence of this study adheres to all these benefits.

2.6 The assessment of the portfolio

Although the process of learning to achieve the outcomes and not the final scoring is the ultimate goal, institutions are not ready for this type of progression and in this regard a stated mark is still needed to indicate the performance of the learner.

The evaluation of a portfolio can be conducted on a continuous level, at the end of a project or at the end of a period of time (semester or academic year) and Van der Horst & McDonald (1997:196) suggest that as far as the mark allocation is concerned the following guidelines can be applied:

- Assign a mark to each item in the portfolio and get an average mark
- Assign marks to samples of each intended learning outcome and give separate marks for each area of competence
- Develop a scoring scheme and use it to evaluate the entire sample of work.

Allocating marks to the evidence seems to be a matter of personal preferences. According to Van der Horst & McDonald (1997:197) there are no hard and fast rules and the educators can set their own criteria based on the evidence of the learning outcome in a scoring rubric.

The comprehensive assessment of the portfolio of evidence and mark allocation will be elaborated on in Chapter 7.

3 Requirements for a portfolio

The portfolio of evidence of a learner is a legal document to be accepted as representative of the learning that has taken place and measured against the specific outcomes of the unit standard or qualification. It must therefore be a valid, reliable, sufficient, current and authentic documentation of learning.

3.1 The validity of the portfolio of evidence

Validity refers to the fact that the portfolio of evidence of learning will include what is supposed to be measured. In this case it will include a compilation of evidence that is supposed to be used to measure the competence of the learner against the specific and critical cross-field outcomes of the unit standards or qualification. To validate the portfolio of evidence the following has to be in place as explained in Table 86.

Table 86: Validation for a portfolio of evidence

Validation	Action in this study
All the evidence must be validated that it contributes to the learning process of the learner	All components in the portfolio should relate to the learning process and not only to the end product
All the evidence must be validated against the specific and critical cross-field outcomes of the unit standard for the qualification	All content of the components must be inclusive in the specific and critical cross-field outcomes of the unit standard for the qualification
All the evidence must be validated against the fact that it is the work of the learner who presents the portfolio (for further full discussion refer Chapter 8)	To reach this goal, portfolios must be signed, dated and located (refer Chapter 8 for the example). The learner and the educator: when the learner completes the activity under supervision of the educator The learner and an educator: when the learner does not complete the task under supervision of the educator, e.g. at home or at school

The validity of the portfolio will contribute to the requirements of active learners, learners taking responsibility for their own learning and learners who have a high sense of pride in their work (Spady, 1994:118).

The comprehensive discussion of the validity of the portfolio of evidence in context of this study will be elaborated on in Chapter 8.

3.2 The reliability of the portfolio of evidence

The reliability of the portfolio has to do with the answer to the question whether the different components of the portfolio of evidence at different times produce the same performance when measured against the specific and critical cross-field outcomes of the unit standards or qualification. To ensure reliability of the results, the portfolio of evidence includes the aspects explained in Table 87.

Table 87: Reliability of portfolio of evidence

Reliability	Action in this study
All the evidence must be reliable against different activities and over a period of time	All components in the portfolio should relate to give the learner alternative opportunities over a period of time to include the same performance against the specific and critical cross-field outcomes of the unit standard for the qualification, e.g. in this study it includes the class work, learning tasks, observation, tests and assessment activities

The reliability of the portfolio will contribute to the requirements of consistency in performance of learners. The learners will become meta-cognitively involved with their own learning because they will realise that learning is a process of acquiring cognitive, affective and psychomotor skills in a life-long learning process and not delivering a once-off performance just for the sake of certification.

The comprehensive discussion of the reliability of the portfolio of evidence in context of this study will be elaborated on in Chapter 8.

3.3 The sufficient portfolio of evidence

According to Spady (1994:118) educators as well as learners must have a clear indication of what is expected. The portfolio of evidence must include enough evidence to cover all the aspects of the specific and critical cross-field outcomes of the unit standards or qualification.

3.4 The current portfolio of evidence

A portfolio must be updated regularly (Spady, 1994:118). For a portfolio to be regarded as current it is recommended that the content should not be older than six to twelve months. The learner takes the responsibility to update the portfolio of evidence regularly. For validity purposes the components in the portfolio of evidence must be dated.

3.5 The authentic portfolio of evidence

Draper (2000) states that a portfolio of evidence must be compiled in such a way that it does not emphasise the product, but the process of learning, as the educational benefit is in the process. The process of learning must include authentic tasks for the learner to accomplish competence against the specific and critical cross-field outcomes of the qualification or unit standards.

Outcome-based learning activities support the process of authentic learning activities as far as the learner performs tasks similar to a real-life situation [Chapter 3]. The learning activities of the learners for the FDE(CAE) qualification relate exceptionally well to the real-life and work-place situation of the learners. The learners do not only have the opportunity to compile the portfolio of evidence of learning for the benefit of their own real-life situations, but they can transfer their knowledge of the compilation of a portfolio and apply the principles as an example to their own learners' learning experience in the classroom.

3.6 Portfolio of evidence and cultural diversity

Cultural diversity plays a role in the compilation of a portfolio of evidence and it cannot be taken for granted that all learners will do equally well in delivering a portfolio of evidence.

Shalem (2001:57) claims incidentally that not all learners are equally equipped to compile a portfolio of evidence of learning for assessment and that learners from marginalized social categories have problems to deliver a product that exposes or mirrors their process of learning. Mashile (2001:138) experienced that some learners from different cultures undertake the compilation of a portfolio casually and mechanically as they are not used to this kind of assessment strategy and only a few recognise the value of how this kind of evidence differs from conventional methodologies.

Learners who were educated in primarily content-based learning in some African cultures in the South African education, training and developmental systems are not used to the portfolio of evidence as an alternative way of presenting evidence of learning. These learners achieve good grades with rote learning of facts and the reproduction of content. However, with some guidance they eventually succeed in producing a portfolio of evidence of above average quality.

3.7 Objections to portfolio assessment

Clark (2000) and Draper (2000) describe the objections to portfolio assessment that are contextualised within the research as in Table 88.

Table 88: Objections to portfolio assessment in context of this study

Validation	Action in this study
The content of the portfolio can easily emphasise the product and not the process	<ul style="list-style-type: none"> ➤ The learning programme is structured to emphasise the process and not the product ➤ Learners who did not adhere to the learning programme delivered a product driven portfolio just for the sake of a portfolio and they were penalised ➤ The process of learning in the portfolio is included in the assessment of the learning [Chapter 7]
The outcome may be the process and not the product and if the portfolio emphasises the product the outcome will not be assessed	<ul style="list-style-type: none"> ➤ Precautions are built into the assessment to avoid this [Chapter 7, Chapter 8]: e.g. the time-frame is indicated on all documentation that will validate that it was not done in one day or just for the product
Learners may compile a portfolio just for the sake of a portfolio and even be dishonest just to deliver a document	<ul style="list-style-type: none"> ➤ Some learners submit portfolios just for the sake of the portfolio. However, the assessment processes and procedures prevent the learner from performance competence ➤ When dishonesty occurs the learners are regarded as not yet competent [Chapter 7, Chapter 8] ➤ Precautions are built into the assessment to avoid this [Chapter 7, Chapter 8]
Difficult to distinguish between the learner's contribution and team members in a co-operative learning environment	<ul style="list-style-type: none"> ➤ In this study learners are advised to contribute their own process of learning ➤ Learners who submit co-operative learning processes have to indicate very clearly their own contribution to the co-operative activities
What is the guarantee that this is the learner's own work?	<ul style="list-style-type: none"> ➤ A unique system of validation and guarantee that it is the learner's own work has been built into the learning programme and will be discussed in detail in Chapter 7 and Chapter 8

If the portfolio of evidence is a reflection of the individual learner's process of learning towards competence in the specific and critical cross-field outcomes of the unit standards or qualification, the portfolio content must relate to the individual learner's progress in terms of the cognitive, affective and psychomotor skills. Clarke (2000) suggests a 'reflective diary' where the learner keeps track of the how / why / when / what with reference to a particular direction of activities to monitor progress and process. This activity may contribute to the objection that a portfolio is submitted just for the sake of a portfolio.

This study reports on portfolios of individuals and therefore does not include a discussion on co-operative learning attributes as such, but it is worthwhile to do more research to determine the factors to validate this kind of documentation to be included in the portfolio of evidence. A suggestion is to indicate each learner's contribution in a different colour or border.

3.8 Review on cycles of Action Research

A cyclic procedure is characteristic of action research [Chapter2]. Table 89 presents the cyclic events of action research in the context of design and development of the portfolio of evidence for the NTG 471 unit standard of the FDE(CAE) qualification.

Table 89: Action research application in this study for 1997

The cyclic, spiral and iterative nature of the action research in this study								
Cycle	Legislative framework and educational concepts in South African education Chapter 3	Learning programme Chapter 4	Facilitation of learning	Evidence of learning: the portfolio	Assessment of learning Chapter 7	Quality assurance Chapter 8		
1997							Chapter 5	Chapter 6
Idea							Traditional presentation of content-based learning	Traditional assignments were submitted
Plan							Not applicable	Students handed in traditional assignments
Action / Observe							Unsatisfactory results because of inappropriate and inadequate computer facilities available	Unsatisfactory results because of a lack of motivation and technological infrastructure for students
Reflect / Evaluate							Alternative strategies had to be considered	Alternative strategies had to be considered

This was the first year of the introduction of the qualification in a content-based learning environment with a curriculum and conventional teaching and learning activities prepared for rote learning. Learners received traditional assignments that were marked against a memorandum.

Table 90 represents the contribution of the design and development of the portfolio of evidence to the action research in 1998.

Table 90: Action research application in this study for 1998

The cyclic, spiral and iterative nature of the action research in this study								
Cycle	Legislative framework and educational concepts in South African education Chapter 3	Learning programme Chapter 4	Facilitation of learning	Evidence of learning: the portfolio	Assessment of learning Chapter 7	Quality assurance Chapter 8		
1998							Chapter 5	Chapter 6
Idea							To change the approach to outcome-based learning	Traditional assignments were submitted, not really authentic
Plan							Introduced outcome-based learning activities	Students handed in traditional assignments
Action / Observe							Alternative approach to collect and analyse data, data management by learners	Unsatisfactory results because of a lack of motivation and technological infrastructure for students
Reflect / Evaluate							A combination of the facilitation of content-based and outcome-based learning Learners objected to an outcome-based facilitation of learning	Alternative strategies had to be considered

The second year of the presentation of the FDE(CAE) did not differ much from the first year. There seemed to be a need to change.

Table 91 represents the contribution of the design and development of the portfolio of evidence to the action research in 1999.

Table 91: Action research application in this study for 1999

The cyclic, spiral and iterative nature of the action research in this study								
Cycle	Legislative framework and educational concepts in South African education Chapter 3	Learning programme Chapter 4	Facilitation of learning	Evidence of learning: the portfolio	Assessment of learning Chapter 7	Quality assurance Chapter 8		
1999							Chapter 5	Chapter 6
Idea							To improve on the previous facilitation of learning and introduce a real outcome-based facilitation of learning	Co-ordinator assumed that every educator would be able to set learning tasks for learners to create a semester mark as required by UP
Plan							Provided educators with guidelines for outcome-based facilitation of learning	Educators and learners had freedom to create learning tasks for accumulation of a semester mark
Action / Observe							The unit standards that had been developed were introduced but the educators and learners viewed them from a content-based learning perspective	Educators and learners used the templates from the hosting company to create learning tasks and determine semester marks in a content-based environment
Reflect / Evaluate							Outcome-based facilitation did not become a reality	There must be a real change in collecting evidence of learning

The partnership between the UP and FKSA was introduced. The co-ordinator assumed the educators set their own learning activities, but they restricted themselves to the FKSA curriculum to set the activities for the learners. This happened to be a very unsatisfactory situation.

Table 92 represents the contribution of the design and development of the portfolio of evidence to the action research in 2000.

Table 92: Action research application in this study for 2000

The cyclic, spiral and iterative nature of the action research in this study								
Cycle	Legislative framework and educational concepts in South African education Chapter 3	Learning programme Chapter 4	Facilitation of learning	Evidence of learning: the portfolio	Assessment of learning Chapter 7	Quality assurance Chapter 8		
2000							Chapter 5	Chapter 6
Idea							To improve on the previous year and implement the learning programme as well	Introduced a portfolio of evidence
Plan							Educators and learners use the unit standard and may use their expertise to facilitate their own learning programme	Introduced a portfolio of evidence. Gave guidelines and support to educators and learners
Action / Observe							There seems to be a problem with the trainers in that they do not understand how the outcome-based learning programme must be facilitated	Major problems occurred with reference to the compilation of a portfolio of evidence because neither educators nor learners had been exposed to this activity before
Reflect / Evaluate			More communication, training, participation and activities	A complete disaster as regards as "perfect tasks", validity and reliability				

The idea of a portfolio of evidence was introduced. Educators received learning tasks and were asked for comment. Some learners were excited about the portfolio and some learners did not know what to expect. Marking of the portfolios was not as expected and the validity was unacceptable.

Table 93 represents the contribution of the design and development of the portfolio of evidence to the action research in 2001.

Table 93: Action research application in this study for 2001

The cyclic, spiral and iterative nature of the action research in this study								
Cycle	Legislative framework and educational concepts in South African education Chapter 3	Learning programme Chapter 4	Facilitation of learning	Evidence of learning: the portfolio	Assessment of learning Chapter 7	Quality assurance Chapter 8		
2001							Chapter 5	Chapter 6
Idea							Educators must be able to facilitate the learning programme in outcome-based learning	Educators and learners must be exposed to a portfolio of evidence as the legal documentation for performance against the unit standard with support and guidance
Plan							Organised training workshops to explain the paradigm shift to educators and learners	To implement a comprehensive portfolio of evidence and explain to educators and learners what was expected
Action / Observe							There seems to be a problem with the trainers in that they did not understand how the outcome-based learning programme must be facilitated	Visited educators and learners and explained the legislative and educational concepts of outcome-based learning requirements and the role of a portfolio of evidence
Reflect / Evaluate			The workshops with the learners take place although learners do not regard this as serious. Those who attended the workshops understand. Workshop with the educators did not take place	An incredible learning curve and the information gained from this activity could be used as a valid and reliable modus operandi to determine learner performance in outcome-based learning				

A more aggressive approach was followed for compiling the portfolio of evidence. The co-ordinator visited the different training centres and explained to the educators and the learners what to expect. There was better communication and the second year learners delivered portfolios of high quality.

Table 94 represents the contribution of the design and development of the portfolio of evidence to the action research in 2002.

Table 94: Action research application in this study for 2002

The cyclic, spiral and iterative nature of the action research in this study						
Cycle	Legislative framework and educational concepts in South African education Chapter 3	Learning programme Chapter 4	Facilitation of learning	Evidence of learning: the portfolio	Assessment of learning Chapter 7	Quality assurance Chapter 8
2002			Chapter 5	Chapter 6		
Idea			A full implementation of the facilitation of learning for outcome-based learning adapted and changed as experienced in 2001	Elaboration on the full implementation of an outcome-based portfolio of evidence for learning		
Plan			Organise training workshops to explain the paradigm shift to educators and learners	No new addition to present portfolio of evidence; an attempt to determine whether there is an improvement after the implementation and experiences of the previous year on the learner's portfolio performance		
Action / Observe			Educators and learners exposed in 2001 are more comfortable and have adapted	Educators and learners exposed in 2001 are more comfortable and have a better idea of what is expected		
Reflect / Evaluate			Partially successful and progress on the implemented facilitation of outcome-based learning; there is still a learning curve and aspects to address	In most cases an improvement and a better understanding of the purpose of the portfolio of evidence as a legal document for performance		

There were no registrations of first year learners for 2002. The second year learners' portfolios will not yet have been accepted and moderated by UP at the time of the submission of this study. The indications are that the portfolios for these learners are of a very high standard.

4 Evaluation of the portfolio of evidence of learning

The following summarises the findings on the portfolio of evidence of learning from the qualitative data collected with reference to the contributions of the content, the educators, the learners, the physical environment, the time frame and the impact on the assessment of the outcomes against the specific outcomes of the unit standards for the qualification. This is an elaboration on the reflection on the action research as documented in Table 89 to Table 94 in context of the requirements that all participants must contribute to the portfolio of evidence [Chapter 2]. A more extensive discussion follows in Chapter 7.

4.1 Content

In contrast to the expectation that a portfolio of evidence contains all contributions reflecting the learner's progress or process of learning over a period of time, the concept of "only the perfect" is still overwhelming. Interviews with learners support this when learners responded with "but I thought I had to include only the best effort and final product".

Due to prescribed structures for the compilation of a portfolio by the educators from a content-based learning environment, portfolios looked very much alike. The more outcome-based learning approaches reflect the creativity of learners and portfolios are completely different, but contribute to a true reflection of the competence of a learner.

Learners do not know what to include in a portfolio. Some of the shortcomings are:

- Learners submit a number of pages with no structure
- No table of contents
- No correlation between the table of contents and the content
- Although a clarifying structured documentation identification was explained to learners as given to learning tasks in the learning programme (Chapter 4) e.g. Topic learning tasks: 1/2001, the learners changed the topic to whatever was their own choice. This makes it almost impossible for the assessor to assess and to control the content of the portfolio of evidence.
- The tasks in the portfolio do not provide evidence of student involvement and do not reflect the process of learning

4.2 Physical environment

Mills & Brown (1007:140) state that restrictions on the physical environment can result therein that storage of portfolios may become a logistics problem. This is a problem if portfolios have to be stored and yet be available for a prescribed time for moderation or until graduation.

The use of electronic technologies for the delivery and support of instruction continues to grow at an exponential rate. On-line tools could be very useful as the technological infrastructure expands in terms of capabilities and power (Dolman, 1998:6; Daniel, 1998; Katz, 1999). Electronic portfolios may be more accessible and a solution if well organised, e.g. all participants must be computer skilled, software must be compatible and virus scans must be executed.

4.3 Time-frame

- Learners from a primarily content-based learning environment are not only used to assembling and delivering learning tasks at the last minute, but also prepare and study for tests and examinations just in time. In outcome-based learning the learner has to become a life-long learner and time management becomes a crucial factor not only in context of learning activities, but also in context of critical cross-field outcomes [Chapter 3]. Learners ignore instructions and timeframes to complete learning tasks on a continuous basis and they try to finish it just in time for submission, as a learner reported that "I had to take two days' leave to complete the portfolio in time" (Ra).

- When semester marks were still allocated in 2000, an educator submitted a mark for a learner that gave the learner access to the examination. When the co-ordinator collected the portfolios of evidence there was no submission for this learner. Upon enquiry by the co-ordinator it was reported that the learner's defence was that she did not do the learning tasks and did not complete the portfolio because she had no time to do so.
- Slower learners need more time to complete a portfolio of evidence as was evident from the representative remark of a learner who did "not like the pressure and there was too little time to get the feeling that I am in charge of what I am doing".

4.4 Co-ordinator

The co-ordinator's expectation was that the learners, who were outcome-based educators and qualified on level 5 of the NQF, would know how to compile a portfolio of evidence. Neither the educators nor the learners were familiar with the compilation of a portfolio of evidence for assessment and it is advisable that an evidence educator will be appointed to support the educators and learners in the construction of the portfolio of evidence.

4.5 Educators

As mentioned in section 2.4 the educator must not assume that learners know how to compile portfolios and learners should be guided but not prescribed on the compilation of the portfolio of evidence. Some educators have given prescribed instructions to the learners to compile portfolios that neither contributed to the quality of the portfolio of evidence nor presented an acceptable structure to all the learners who just copied it.

Both educators and learners were under the impression that only the correct and the perfect learning activities had to be included in the portfolio.

4.6 Learners

The compilation of a portfolio of evidence of learning was not a natural activity for all learners and learners were not familiar with it. In content-based learning the learners were not taught to compile a portfolio and they did not know what it entailed (Penny & Grover, 1996:177). Learners had a surface approach to learning, i.e. they compiled a portfolio to satisfy the prescriptions of the co-ordinator as communicated by the educator and reduced it to expectations that were restricted to the prescribed format of "what the co-ordinator wanted". This narrow focus, i.e. to rely heavily on facts provided by the educator and not being able to approach the problem in an holistic manner, may be related to rote learning and memorisation habits of content-based learning (Sutherland, 1999:48, 52). The impact on assessment relates to criteria for the portfolio assessment and contributes negatively to the performance of the learners who showed very little insight in compilation of portfolios of evidence for assessment within the requirements of the NQF [Chapter 3, Chapter 7].

The first significant portfolios to be assessed were submitted by trial and error (NTG 471: March 2001). After intervention by the co-ordinator portfolios were better structured (TBG 471: September 2001). Learners who were used to once-off tests and examinations were not always comfortable with the idea of a portfolio of evidence and made comments like “we did not know what you expect” in contrast with the concept that they were supposed to be able to compile portfolios either by prior knowledge or structured mental activities.

Mills & Brown (1997:140) report on the positive outcomes of portfolios because learners become more engaged in designing evidence of their own developed competence and that learners put a very high value on final portfolios because it contributes to lifelong learning. This statement is supported by the findings where a significant improvement in the quality of portfolios was observable once the learners understood the concept in context of outcome-based learning and the requirements for assessment within the NQF. Some learners admitted that they kept the portfolios current by updating continuously.

Van Niekerk (1998:94) states that a portfolio should be an enjoyable experience to the learner and Mills & Brown (1997:141) report that learners’ response to portfolio assessment had always been extremely positive. One of the most outstanding results of the compilation of a portfolio of evidence was therefore the response of learners when asked about their experience regarding the portfolio of evidence and they remark not only “proud, unbelievably proud!” but also stated that the “uncertainty surrounding portfolios started clearing as we progressed through the course”.

4.7 Assessment of outcomes

The proof of a good portfolio is not in the quantity but in the quality of the evidence.

A complete discussion on the contribution of the portfolio of evidence to the assessment of outcomes will be presented in Chapter 7.

4.8 Learners with special needs

There were no learners with special needs, although some investigation should be done into learners with a restricted content-based learning background to determine whether they must be regarded as learners with special needs. Learners with special needs can compile a portfolio of evidence with artefacts relevant to their situations.

4.9 Cultural diversity

Although the compilation of portfolios of evidence in the FDE(CAE) qualification provide for cultural diversity, it was clear that to structure a portfolio of evidence was not a natural activity for learners of certain cultures. These learners had to be informed step-by-step of what was expected. The restricted content-based learners found it difficult to let go of their imagination, and needed more guidance than more advanced learners.

5 Summary

Learners in outcome-based learning are required to provide evidence that learning, whether formal or informal, did take place and resulted in the specified achievement (Mkohobo-Nomvete, 2000). The learners on which this study reports developed a portfolio of evidence according to certain criteria to prove competence when assessed against the specific and critical cross-field outcomes of a qualification or unit standards.

The portfolio of evidence is the third step in the process of assessment of competence. Mashile (2001:138) confirms that learners are more interested in what they will be examined on than the learning process itself. The compilation of a portfolio as representative of the process of learning is therefore not natural to learners and they regard a portfolio as a product and not as a process of evidence of learning (Penny & Grover, 1996:177). Learners need guidance to compile a portfolio of evidence and the inevitable question can be asked:

“How will administrators and educators be able to guide learners through the compilation of a proper portfolio as evidence of learning against the specific outcomes and critical cross-field outcomes of the qualification if they do not know the principles themselves?”

The portfolio of evidence, facilitation of learning and learning programme has an inevitable impact on the assessment of learning. If the learning programme is not well facilitated, the portfolio of evidence of learning is not valid and reliable and the assessment will be affected [Chapter 7, Chapter 8].

Chapter 3 is a discussion on the legislative and educational concepts of education, training and development in South African education. Chapter 4 introduces the design and development of the learning programme of one unit standard in the qualification according to the legislative and educational concepts of outcome-based learning and the contribution to develop a better understanding, and providing an holistic overview of outcome-based learning in South African context with special reference to an integrated and generic process of assessment of competence against the national unit standards or qualification. Chapter 5 describes the facilitation of the learning programme introduced in Chapter 4. Chapter 6 describes the portfolio as the evidence of learning introduced in the learning programme in Chapter 4 and compiled during the facilitation of learning in Chapter 5. Chapter 7 addresses the assessment of learning in outcome-based learning in South African education, training and development.