
Chapter 2: Literature in Context of this Study

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2 Literature in Context of this Study

2.1 Introduction

Chapter 1 presented the background to the study and the proposed research design. The study is about the affective experiences of students during a specific online learning event and the way students attach meaning to their experiences. Refer to Sections 1.8 and 1.9 about the scope and context of the study, as well as exclusions from the study. In this chapter, the reader is informed about literature that relates to the context of the study. Thus, Chapter 2 can be described as a discussion on literature in context of this study.

I did not want to be guided by findings of previous studies, and therefore only investigated literature in context of the study in order to create a theoretical framework for the study. Because of the qualitative, explorative and contextual nature of the study, literature will also be incorporated into Chapters 4, 5 and 6 to serve as literature control on study findings. It is expected that the literature control

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will enhance the findings of the study. Due to the approach followed with regard to the literature review in Chapter 2 and the literature review with regard to the findings there are some duplications in Chapter 2 and the literature control done in Chapters 4, 5 and 6.

Literature on aspects such as learning (including active learning, cooperative learning, and constructivist learning), the learning environment, the affective domain and online learning is presented in the following sections. The discussion on literature in context is concluded by comments about the limited research done on affective experiences in online environments.

2.2 Active learning

According to Dodge ([Sa]), 'active learning' is not a modern concept, as it can be dated back to Socrates. The American, John Dewey, supported active learning (1859-1952). Dewey was known as a pragmatist philosopher and a progressive educator (Bonwell & Eison 1991; Dodge [Sa]). According to Smith (2004), Dewey saw education as a necessity of modern life. He emphasised the need for reality and meaning in learning, and warned of the danger of creating an undesirable split between learning and experiences gained in more direct associations. Dewey's conception of education was that the classroom should mirror the larger society, and serve as a laboratory for real-life education (Myers & Myers 1990). Dewey (1915:125) states that social organisation commits human beings to learning by means of trial and error. He further states:

'Our working principle is to try: to find out by trying, and to measure the worth of the ideas and theories tried by the success with which they meet the test of application in practice'.

In active learning the emphasis is on activity. Active learning involves putting students in situations where they have to do more than just listen. It puts them in situations where they are required to read, speak, listen, think deeply, write, and even engage in problem solving (Bonwell & Eison 1991; Dodge [Sa]). Thus, active learning makes students responsible for their own learning, and ideally lends itself to a more diverse range of learning styles. Bonwell and Eison (1991) further state:

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'... to be actively involved, students must engage in such higher-order thinking tasks as analysis, synthesis, and evaluation. Within this context, it is proposed that strategies promoting active learning be defined as instructional activities involving students in doing things and thinking about what they are doing.'

It is my opinion, as is that of many lecturers that students should be able to function independently. Independent functioning relates to the ability of students to develop into critical, analytical thinkers, and to solve problems. Teaching strategies that allow for the development of students as independent, critical, analytical thinkers will also equip students with skills that they will need to enter a profession and to progress in a career.

I agree with Doshier (2000) who states that the student must experience a learning environment that is conducive to active learning – an environment in which s/he can practise and develop skills and knowledge. Students will obtain knowledge through active learning if the learning environment created by the lecturer encourages them to become actively involved and to accept responsibility for their own learning. Thus, active learning is typical of a student-centred approach to learning (Van der Horst & McDonald 2001:227). However, being responsible for own learning does not imply that the learning environment should have no structure. Increased structure may be required to ensure that learning strategies are successfully employed (Seeler, Turnwald & Bull [Sa]).

Ference and Vockell (1994:25) define the concept 'active student' as a student who is usually willing to participate in the learning process. This willingness is a characteristic of a mature student. Given the opportunity and the proper incentives, students often prefer to be actively involved in their own learning, rather than being passive receivers of information. At some point action or active learning leads to interaction.

Within the online learning environment, it is imperative that students will interact with their peers while they are involved in their own learning and/or the subject content. Acting in isolation may inhibit the student's ability to discover meaning or to apply the acquired knowledge and skills.

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2.3 Interaction

The importance of interaction in the learning process, by which students construct lifeless information into knowledge with personal application and value, has been documented by John Dewey in 1916 (Woods & Baker 2004). Interaction, coupled with social engagement, is seen as important for positive learning experiences (Gunawardena 1995; Hara & Kling 1999; Moore 1989:1-6; Wegerif 1998). Interaction is also a key component of learning in constructivist learning theories, as the value of another person's perspective is usually gained through interaction (Jonassen 1991:28-33). Interaction would then reflect an active social engagement with the expectation of some level of ongoing communication (Woods & Baker 2004).

I believe that interaction with peers may prove to be a motivational factor for students. Interaction could lead to mutual support and stimulation, and enhance students' feelings of personal responsibility. By means of interaction students become actively involved in their own learning. While interacting with their peers, they use strategies such as questioning, explaining and summarising by formulating ideas in their own words.

A large body of knowledge is available that is accessible by numerous means of interaction. Students are easily overwhelmed by the overload of information and may experience inabilities to apply their acquired knowledge and skills in an applicable manner, if they do not receive guidance on how to interact in a structured manner. Interaction with lecturers and peers as part of the learning process may assist students to construct knowledge in a meaningful manner.

Wagner (1994:8) distinguishes between interaction and interactivity, and notes that neither concept has been sufficiently defined. While she regards interactivity as a 'machine attribute' or a characteristic of technology, she explains interaction as a reciprocal event:

'Simply stated, interactions are reciprocal events that require at least two objects and two actions. Interactions occur when these objects and events mutually influence one another' (Wagner 1994:7).

I agree with Wagner and believe that the reciprocal nature of interaction is necessary for meaningful learning to take place. Interactions that are reciprocal may enhance the ability of students to think analytically and critically. Dix, Ramduny and Wilkinson

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([Sa]) implicate the importance of feedback when they state that interaction '*... is often seen as a form of cycle where a user has an intention, performs an action, observes and evaluates the effect of the action and then modifies future plans and actions based on the results*'. In this model, students are expected to wait until the effects of an action are observed, and should be able to remember why an action was performed when the effects are interpreted. Therefore, according to Dix *et al.* ([Sa]), this model only applies when students receive immediate feedback on their actions.

The value of learning lies in increased social interaction. The social aspect of collaborative learning and advocate student participation in cooperative learning must be emphasised.

2.4 Cooperative and collaborative learning

Cooperative learning can be defined as the utilisation of groups in order to enable students to maximise their own learning, as well as that of others (Gravett & Geyser 2004:43). Cooperative learning is a form of collaborative learning and is characterised by the interdependence of members of a group. Cooperative interaction includes face-to-face interaction, individual accountability for the results of the group's efforts, and conscious reflection on the functioning of the group. Freiberg and Driscoll (1996) explain cooperative learning as:

'... working together in groups small enough that everyone participates on a collective task that has been clearly defined, and without direct and immediate supervision of the educator'.

When students work cooperatively and collaboratively in an authentic learning situation they bring their own prior learning and viewpoints to the situation. They look at a problem from different perspectives, and negotiate and generate meanings and solutions through shared understanding (Selinger 2001). Collaboration requires of lecturers to think of students not simply as individuals, but as a community that works toward similar and shared goals, the achievement of which depends upon collaboration.

Vygotsky (1978) describes the difference between an individual's current level of development and her/his potential level as the '*zone of proximal development*'. He is of the opinion that the construction or assimilation of knowledge that can be

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developed through collaborative learning events exceeds the assimilation of knowledge that can be attained by individual learning. The implication of this statement is that the value of learning or construction of knowledge lies in increased social interaction. The social aspect of collaborative learning is emphasised by Van der Horst and McDonald (2001:138) who believe that student participation in cooperative learning will lead to more meaningful learning.

I agree with Johnson, Johnson and Smith (1991) who state that cooperative learning has benefits not offered by traditional pedagogical approaches. These benefits are paraphrased as follows:

- ☉ Increased cognitive achievement;
- ☉ Promotion of higher-level thinking skills;
- ☉ Improved self-esteem and satisfaction from helping others; and
- ☉ Development of social skills, including negotiation and conflict resolution, for effective group work.

Martin (2000) lists the advantages of cooperative learning. According to the author (paraphrased), it:

- ☉ Helps clarify ideas and concepts through discussion;
- ☉ Helps develop critical thinking;
- ☉ Provides learners with opportunities to share information and ideas;
- ☉ Helps develop communication skills;
- ☉ Provides a social context within which learners can take control of their own learning;
- ☉ Provides validation of individuals' ideas and ways of thinking through conversation (verbalising); multiple perspectives (cognitive restructuring); and argumentation (conceptual conflict resolution).

It is my experience that, for cooperative learning to realise to its fullest extent, a learning environment should be established that is conducive to optimal cooperative learning. However, the establishment of such a climate is not a simple, final or complete accomplishment. Gravett (2001:41) holds the opinion that it should be continuously created and re-created. This should be done by intentionally attending to its physical, affective-social, psychological and intellectual components. These components are described as follows (paraphrased):

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- ⊗ **Physical climate:** The physical climate is concerned with ergonomics and the interaction of students within the physical environment.
- ⊗ **Affective-social climate:** How students feel about subject matter and how lecturers and students feel about own and mutual experiences pertain to the affective-social climate.
- ⊗ **Psychological climate/safety:** Meaningful cooperative learning requires a climate in which students feel psychologically safe.
- ⊗ **Intellectual safety:** If positive emotions are experienced, interest and involvement in subject matter and cooperative activities will be sustained.

Johnson and Johnson (1991), Van der Horst and McDonald (2001:138, 139), and Gravett and Geyser (2004:47, 48) identify five structural elements that lie at the root of cooperative learning and promote effective group interaction, *viz. positive interdependence, individual accountability, face-to-face promotive interaction, interpersonal and small-group skills, and group processing*. A mutual goal and face-to-face interdependence imply that learning tasks for groups should be structured in such a manner that each student will need the input of other students to complete a task. However, each student should produce a piece of individual work that is unique and differs from that of her/his peer (Cronjé 1997).

Van der Horst and McDonald (2001:138, 139), as well as Gravett and Geyser (2004:47, 48) add to these prerequisites for effective cooperative learning. They describe these five structural elements as follows (paraphrased):

- ⊗ **Positive interdependence** is present when all the members of a group believe that they need each other in order to attain individual and group learning outcomes.
- ⊗ **Individual accountability** is based on the student's understanding that her/his individual contribution is essential to both individual and group success.
- ⊗ **Face-to-face promotive interaction** means that students encourage one another and work together (face to face) to achieve group goals. It maximises student participation and communication.
- ⊗ **Interpersonal and small-group skills** involve many capabilities that vary from the very basic to highly complex skills. When learning activities are structured, it should not be taken for granted that students have mastered these skills.
- ⊗ During and after their occurrence, group activities should be processed to become effective. Students participating in cooperative learning should be able to reflect on **group processing**.

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Cooperative learning allows students to share knowledge and teach one another. The rationale for engaging peers in teaching each other is based on the notion that because learning is social in nature, students ought to be provided with opportunities to interact. While interacting, they elaborate and reflect on not just their own ideas, but those of their peers as well (Strommen & Lincoln 1992). Colleagues become resources rather than competitors (Laidlaw 1998). The purpose of peer interaction is to make the implicit nature of the social learning explicit by encouraging active learning within social settings. Social constructivist learning theories, therefore, form the basis of cooperative learning (Gravett & Geyser 2004:47). New meaning is eventually co-constructed as part of the knowledge-building process (Morphew 2000:1; Rea, White, McHaney & Sánchez 2000:137).

Although I noted some benefits when employing cooperative and collaborative problem-solving learning strategies in my classes, I also noted several disadvantages. Some students disliked working in cooperative groups. It could be that they did not wish to expose their 'ignorance' to other students. Some students preferred working by themselves, and resisted being forced into doing group assignments. This concern may be related to the obtainment of fair marks. Students may feel that it is better to give separate marks to individual students, rather than give the same mark to all group members, especially if all students did not contribute equally to the assignment. Some students preferred the teacher-centred approach to learning, and wanted the lecturer to give clear explanations and provide them with the correct answers, rather than struggle with a problem themselves. It also seemed that some students were trained to be competitive and work individually, and therefore lacked cooperative and collaborative skills.

Martin (2000) is of the opinion that cooperative learning creates the opportunity for participation in the production of a learning outcome that cannot be achieved alone. For this reason, cooperative learning presents the following disadvantages (paraphrased):

- ☉ Students may become dependent on the success of the group process;
- ☉ The lecturer may find it difficult to assess individual learning outcomes;
- ☉ The teaching approach may not suit the learning styles of all students; and
- ☉ Lecturers may be unsure of the role they have to fulfil.

I am of the opinion that neither cooperative, nor collaborative learning is a 'quick fix' to educational problems, and does not replace traditional, time-honoured teaching

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strategies. Collaborative learning and collaborative teaching are some of many tools, and it can be used to achieve specific teaching goals. Both methods are especially relevant to the needs of students in a classroom where students have diverse academic and linguistic skills. According to Johnson *et al.* (1991) and Millis and Cottell (1998), research on cooperative learning strongly indicates that groups be heterogeneous, to ensure provision of a diversity of ideas and viewpoints.

The decision to use group work as a teaching strategy must be determined by the goals of the lecturer. Lecturers should consider using group work in combination with a variety of other teaching strategies. However, the decision to employ cooperative teaching strategies is not an easy one, as it brings with it some stumbling blocks, some of which can be anticipated and others not.

According to Garfield (1993), some lecturers may feel *'uncomfortable losing their role of being on centre stage, performing in front of appreciative students'*. I do not agree with this point of view. My experience correlates with the explanation given by Loui (1999), namely that lecturers are concerned that they may lose control of a class, and that they will not be able to cover the acquired amount of subject content. It is also my experience that some lecturers become disheartened or discouraged by the attitude of students who are negative or refuse to participate in an activity that they find challenging and difficult, forces them to think, and does not allow them to be passive learners. The negativity of some students can be attributed to the fact that students are sometimes required to attend lectures where they are not encouraged to talk, solve problems, or even to struggle to understand new content. Such lectures may serve as platform for students, who are less active and involved in the learning process, to 'disappear', which may suit the students, for different reasons.

I also noted the concerns of students. Some often fear that their marks may be jeopardised by the performance of weaker group members. Some students are concerned that they may not get enough information from their lecturers. The competitive nature of cooperative and collaborative learning creates unique problems: Only a small number of students in any group can achieve the highest marks; achievement of the highest mark by a student comes at the expense of other students; students strive to attain higher marks than their peers, and they often view their peers' failures as an advantage; the 'winning' student tends to believe that a 'winner' deserves the 'reward/s' because s/he inherently is the better person (Houghton Mifflin College Division 1997).

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2.5 Constructivist learning

The social constructivist view has emerged as a prominent approach to learning during the past decade. Gagnon Jr and Collay ([Sa]) mention that '*... work of Dewey, Montessori, Piaget, Bruner, and Vygotsky among others provide historical precedents for constructivist learning theory*'. Gravett and Geyser (2004:46) state that learning comprises the active construction of meaning. They say that acceptance of this statement not only forms the basis of the social constructivist view on learning as derived from the study of Vygotsky, but also is to a large extent the central concept in Piaget's view on learning. Hanley (1994) agrees when he states that the student must actively construct new information onto her/his existing mental framework for meaningful learning to occur.

The above viewpoints recognise the necessity for students to be actively involved in their own learning. Students, who are actively involved in their own learning, will fully comprehend the meaning of what they have learnt, and will be able to apply the newly attained knowledge. Knowledge cannot be constructed in isolation, because critical, analytical thinking processes required for knowledge construction must be developed by means of reflective processes. In order to make or attach meaning and to construct knowledge, reflection has to take place by interacting with others and receiving feedback on expressed viewpoints and experiences.

Constructivist learning theoreticians generally agree that a social learning environment (an environment in which students interact) is more conducive to learning as opposed to an individual or isolated non-social learning environment. Studies by Vygotsky emphasise that learning is indeed a social activity (Gravett & Geyser 2004:46).

It is my experience that any student brings to class a myriad of previous experiences. All students lived different lives before they registered for a specific course. All of them bring to any learning situation rich experiences that may add to the meaning of new experiences, or even form the base for new experiences to develop into new knowledge structures.

Constructivists not only believe that knowledge is constructed by students as a result of their interaction with the natural world in a socio-cultural context, but also believe that it is mediated by their prior knowledge (Fosnot 1996; Gravett 2001:13; Gravett & Geyser 2004:170). They argue that lecturers and students bring prior knowledge to a learning event, which over time and by means of interaction will be shared with peers in the same learning environment (Morphew 2000:1; Rea *et al.* 2000:137). The social

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constructivist view of learning has therefore directed the attention to the role of dialogue in learning, while focusing on the role of peers in instructional practices.

The constructivist approach comprises the involvement of learners, facilitators and learning experts in authentic, challenging projects that are aimed at creating valuable, beneficial experiences that are more closely related to the collaborative practice of the real world (Bradshaw 2002). The involvement of facilitators and learning experts, harnessing authentic, challenging projects for the purpose of learning experiences, is regarded as crucial by Brooks and Brooks (1993) who make the following statement: *'Constructivist teaching practices...help students to internalize and reshape, or transform new information'*.

Teaching practices have to be adapted if the constructivist approach is followed. I suggest that lecturers rethink the traditional teaching approaches that include formal lecture presentations, as these approaches do not allow for the active participation of students. Students should be given tasks to accomplish and problems to solve that are relevant to them.

Where possible, real-life problems or situations as they occur in the industry should be simulated (Henze & Nejd1 1998:64). Thus, in constructivist learning environments, students have to apply their skills to (simulated) real-world situations (Cloete 2001:59). By doing so, students actively construct their own knowledge from the information and material presented to them and through their experiences of the world (Jonassen 1999:217; Mayer 1999:143).

Strommen and Lincoln (1992) suggest that play, experimentation and cooperative learning should be the focus of the constructivist learning experience, as learning occurs personally through activity and experience, and socially by working with others. Strommen and Lincoln (1992) state that play is a form of mental exploration where students create, reflect and develop their own understanding. Experimentation provides students with the means to manipulate and test ideas in reality and the opportunity to receive direct and concrete feedback with regard to the accuracy of their ideas and how they came about (Strommen & Lincoln 1992). Reeves (1995:222) is of the opinion that the learning environment should be as rich and diverse as possible.

As opposed to Strommen and Lincoln, Mayer (1999:146) emphasises that instructional design should rather seek to encourage the student to be cognitively active than to

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focus on behavioural activities. I share this point of view. Mayer (1999:146, 147) confirms that constructivist learning depends on a student's cognitive activity, and discusses the cognitive processes that are involved in constructivist learning. These processes are as follows:

- ☉ Paying attention to relevant information in order to select it;
- ☉ Organising the selected information into coherent representations; and
- ☉ Integrating the coherent representations with existing knowledge.

Gagnon Jr and Collay ([Sa]) summarise the viewpoints of different authors when they indicate that four epistemological assumptions are considered with reference to constructivist learning. These assumptions are:

- ☉ Students who are involved in active learning physically construct knowledge;
- ☉ Students who are making their own representations of action symbolically construct knowledge;
- ☉ Students who convey their interpretation to others socially construct knowledge;
- ☉ Students who try to explain things that they do not completely understand theoretically construct knowledge.

I take the view that new information is actively constructed within a social and cultural context, and learning is influenced not only by cognitive and psychomotor behaviour but also by the affective behaviour of students.

2.6 The affective domain, the learning environment and Krathwohl's Taxonomy

Bastable (2003:333) is of the opinion that it is inevitable that students' feelings or emotions will be aroused to some extent when they are exposed to all types of educational experience. Students' emotional state often influence their behaviour (Adkins 2004), and there is evidence to suggest that emotion is a primary factor in the prediction of performance. Van der Horst and McDonald (2001:39) state that the emotions or feelings of a person will undoubtedly affect the person's quality of learning. They explain as follows:

'If one is upset it may, for instance, be difficult to do a learning task as one's attention may wander. The opposite is also true – if one is upset,

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talking rationally about the event which led to the upset can focus one's feelings and make one see things in perspective and therefore feel better.'
(Van der Horst & McDonald 2001: 30).

I endorse the view that learning is never only cognitive or psychomotor in nature, but that it is linked to affective behaviour in significant ways. Therefore, affective objectives, like cognitive objectives, are used to guide the instructional process, and affective prerequisites are seen as supporting cognitive objectives (Martin 1989). Murray (2002), who is citing Brand (1994:143), places emphasis on the affective domain:

'It is in cognition that ideas make sense. But it is in emotion that this sense finds value.'

The learning environment is responsible for creating and controlling the conditions under which students can succeed or fail. My previous experiences as a tertiary level student and conversations I had with numerous other students convinced me that the nature of the learning climate could not be overemphasised. I share the opinion of Gravett (2001:41) who states that students should be allowed to learn in a climate in which they experience safety, trust, acceptance, respect, support, connectedness and satisfaction. It is essential that a trusting relationship and an open, empathetic, accepting attitude by the lecturer toward students should be created to secure and sustain student interest and involvement in learning (Bastable 2003:331). Lecturers play a paramount role in establishing and maintaining a cooperative affective-social climate, as they set the tone for it.

Meaningful learning also requires that students feel safe in the educational setting. This feeling of safety specifically applies to the psychological safety of the student (Gravett 2001:41). Gravett (2001:41, 42) states that a feeling of safety will be created if students (paraphrased):

- ☉ Trust in the competence of the lecturer;
- ☉ Trust in the relevance and purposefulness of the course and the feasibility of its outcomes;
- ☉ Where feasible, are allowed to discuss and negotiate assessment criteria;
- ☉ Are allowed to find their voices in small groups (adult students are often anxious that they will not be able to cope with the demands of learning, particularly at the commencement of a course);

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- ☉ Can build self-confidence and a sense of safety by being involved in sequenced activities;
- ☉ Experience encouragement, appreciation and affirmation of efforts;
- ☉ Experience the learning environment as non-judgmental; and
- ☉ Are introduced to the concept 'learning edges' (moving outside comfort zones). This can enhance a pervasive feeling of safety when they experience intense emotions during episodes of challenging learning.

A number of learning theories explain how learning occurs in a cognitive, psychomotor and affective manner. These theories are the taxonomies of Gagné, Bloom, Krathwohl, and Harrow (Van der Horst & McDonald 2001:31, 36, 39, 42). Krathwohl's Taxonomy is perhaps the best known of any of the taxonomies for the affective domain. It is one of the most commonly used taxonomies to assess the affective development of students, regardless of mode of education. Krathwohl's Taxonomy includes the notion of cumulative adoption of a value. This is an attractive characteristic of the taxonomy and encourages its application. Krathwohl's Taxonomy can also be applied to all learning areas and levels of development. It provides a structure that allows lecturers to design sequential series of activities in order to develop and assess the personal relationships and value systems of students.

Krathwohl's Taxonomy was specifically designed to organise levels of commitment. The five levels of commitment are described in terms of increasing levels of complexity regarding attitudes and emotional responses. They are:

- ☉ Level 1: Receiving or attending.
- ☉ Level 2: Responding.
- ☉ Level 3: Valuing.
- ☉ Level 4: Organising.
- ☉ Level 5: Characterisation / Internalisation.

The ability to compare or evaluate different responses (cognitive) usually goes hand in hand with the ability to take responsibility (affective). To take responsibility corresponds with the highest level of Krathwohl's Taxonomy, which is characterisation/internalisation (Van der Horst & McDonald 2001:189). Seels and Gasgow (1990:28) define internalisation as follows:

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'Internalisation refers to the process whereby a person's affect toward an object passes from a general awareness level to a point where the affect is internalised and consistently guides or controls the person's behaviour.'

Based on information given by Huitt (2001) and Van der Horst and McDonald (2001:39), Krathwohl's Taxonomy for the affective domain is described and presented in Table 2.1. The left-hand column indicates the levels of progression of affective development, as explained by Krathwohl. The column in the middle provides a short explanation of every level of development. The right-hand column provides actions or action words (verbs) employed by students. These verbs are indicative of functioning at the different levels.

Table 2.1: Krathwohl's Taxonomy for the Affective Domain

[Adapted from Van der Horst and McDonald (2001:39) and Huitt (2001)]

Level	Description	Action / Verbs
Level 1: Receiving or attending	At this level the student becomes aware of or sensitive to something. For example, the student is willing to listen to the lecturer. (The student must become receptive for the teaching event to be successful.)	Asks, chooses, selects, follows, holds, gives, etc.
Level 2: Responding	This level refers to the student's motivation to learn. For example, the student must be willing to respond and to adhere to certain practical rules in an online course. (The student is not only aware of the rules, but responds to them.)	Answers, writes, assists, discusses, conforms, helps, obeys, performs, presents, reports, tells, writes, greets, etc.
Level 3: Valuing	This level refers to the student expressing a value orientation. It includes accepting a value and committing to it. For instance, a person who is committed to adding value to the skills and knowledge of previously disadvantaged students may be involved in a computer literacy programme for them.	Believes in, has faith in, justifies, proposes, completes, describes, joins, shares, works, forms, initiates, etc.
Level 4: Organising	This refers to the development of a value system. For instance, a person may develop a value system concerning personal relations with members of another cultural group by being exposed to them willingly (level 1), by responding to them/ interacting with them (level 2), by attaching a value to the interaction and, finally, valuing the interaction.	Adheres, combines, defines, defends, classifies, relates, alters, arranges, forms judgments, identifies, orders, considers alternatives, etc.
Level 5: Characterisation or Internalisation	At this level a person's behaviour consistently reflects the values that s/he has organised into some kind of system. For example, students at this level have set principles and are willing to practise what they preach.	Acts, solves, verifies, influences, listens, proposes, qualifies, questions, displays, judges, illustrates mature attitude, discriminates, performs, etc.

This study concentrates on the affective experiences of students in an online learning environment and, where applicable and if necessary, explanation will be sought by referring to Krathwohl's Taxonomy.

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2.7 Online learning and the affective domain

Online learning can also be interpreted as electronic learning (e-learning), or learning via the Internet or the World Wide Web (WWW). No consensus of opinion has been reached on a precise definition of the term 'e-learning', but there is some agreement that it involves the use of technology-based tools and processes to provide for customised learning anywhere at any given time. The emphasis in e-learning is on outcomes, and the goal is providing an individual with information or practice opportunities required to perform a task or solve a problem (Bastable 2003:458).

Online learning is characterised by the physical separation of lecturer and student, a connection between lecturer and student through computer technology, and the student at the centre of the process of learning (Chapman 1998; Palloff & Pratt 1999). E-learning can be delivered by means of a multitude of media and approaches. According to Bastable (2003:459), features of e-learning products have proved attractive to universities. Some of these features are (paraphrased):

- ☉ The nature and accessibility of the WWW;
- ☉ Activities as short as fifteen minutes required by the student;
- ☉ Customisation of subject content to the level of the student;
- ☉ Tractability of student performance and development of students;
- ☉ Simulations/virtual scenarios that allow interactive and reality-based education and training.

It is my opinion that the Internet enables lecturers to promote the effectiveness of teaching and learning. The variety of flexible teaching and learning opportunities that is available by means of the Internet will encourage lecturers to reconsider traditional methods of teaching. To add to this argument, Backroad Connections (2002) states:

'Online teaching is moving from an emphasis on web content to a more interactive structure that recognises the social and interactive elements of knowledge construction, and to pedagogical approaches that enable student-centred (e.g. problem-based, inquiry-based, discovery, and authentic learning) which [sic] are found to be extremely effective for online learning.'

The Internet offers more options with regard to communication and interaction between lecturers and students and among students than is possible in the traditional

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lecture method of teaching. The purpose of using the Internet often is to extend the interaction between lecturers and students beyond the limits of the traditional lecture and class situation. I endorse the view taken by Dangel ([Sa]) and Reeves (2002) that the Internet allows students to be more interactive with course content (as opposed to a paper-based learning environment). This interactivity may lead to the enhancement of the processes of teaching and learning. Technological tools such as the Internet offer multiple opportunities to students to develop life-skills, such as problem solving and decision-making, and to become independent learners (Dangel [Sa]).

Collaboration with lecturers and other students can be a strong motivating force for learning (Gunawardena 1995; Johnson & Johnson 1991; Johnson & Johnson 1989; Rovai 2002a; Wegerif 1998). It will be of benefit to students if online lecturers are frequently encouraged to purposively construct a positive social environment in an attempt to enhance the delivery of course content (Palloff & Pratt 1999). Failure on the part of lecturers to construct an environment conducive to learning may lead to students feeling isolated. Students may even experience low levels of satisfaction. Poor academic performance and increased attrition may result.

It is my opinion that interaction alone is insufficient to create a positive social dynamic in the online classroom. Although increased interaction among participants may lead to more opportunities for positive social penetration, it may also lead to competition, 'flaming'⁶, and other forms of negative communication. Research demonstrates that the integration of verbal and non-verbal immediacy communication behaviours lets instructors move from mere interaction to authentic intimacy and interpersonal closeness. In short, an instructor's understanding of interaction and immediacy dynamics will affect the nature and quality of communication in the online learning environment (Woods & Baker 2004).

As discussed in Section 2.3, interaction can be seen as a form of cycle where the student has an intention, performs an action, observes and evaluates the effects of the action, and modifies future plans and actions based on the attained results. However, this model is flawed, as students are expected to wait until the effects of an action are observed, and should be able to remember why an action was performed. As feedback may occur only days later, these expectations do not hold. The conclusion is that the model only applies when students receive immediate feedback

⁶ Sending of angry or insulting messages over the Internet

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on their actions. Immediate feedback is problematic even when e-mail is used. This may be due to delays caused by extended networks or technological faults (Dix *et al.* [Sa]).

Dix *et al.* ([Sa]) explain the process of interaction by referring to the 4Rs, namely *request*, *receive*, *respond* and *release*. *Request* means that someone sends a message that requires action. The request is followed by a *receipt*, which means that the message is received. This is followed by a *response*, which implies that the receiver performs some necessary action. The action is followed by a *release*. *Release* means that the things used during the process are filed, or disposed of. Dix *et al.* ([Sa]) state that this is a near description of the process that is followed when a person deals with e-mail or uses paper. The process is schematically presented in Figure 2.1.

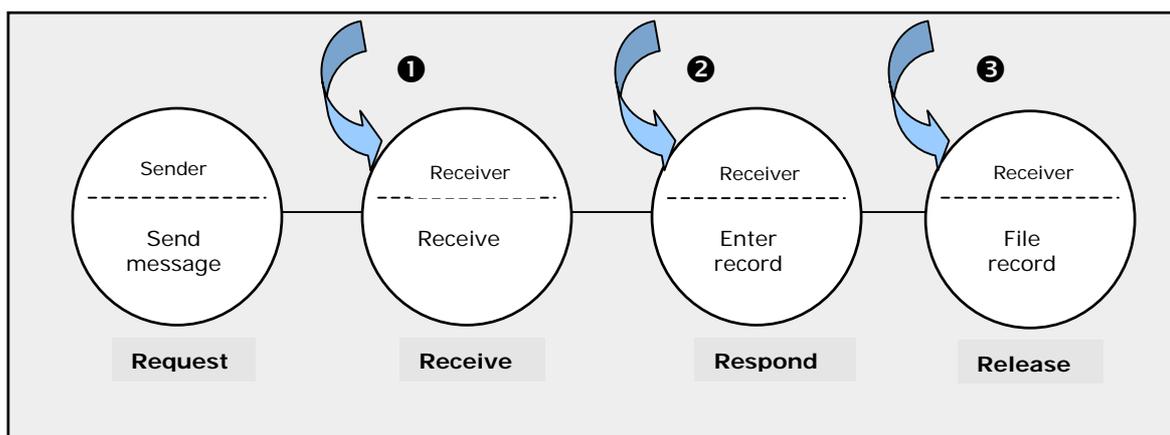


Figure 2.1: The 4Rs (Dix *et al.* [Sa])

This model not only explains the physical actions taken during the process of interaction in an online environment, but also adds to an understanding of the affective nature of interaction. As it emphasises the interpersonal nature of online interactions (the 4R's), it contributes to the discussion on the affective domain in online learning.

Wagner (1994:26) also regards these interactions as being interpersonal in nature, and is of the opinion that they occur within an instructional context (refer to Section 2.3). She distinguishes between such human interaction and interactivity that she describes as a characteristic of technology. Wagner further states:

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'Interactivity may eventually be viewed as a machine attribute, while interaction may be perceived as an outcome of using interactive instructional delivery systems' (Wagner 1994:26).⁷

Boettcher (1999) believes that a sufficient level of interaction with lecturers generally creates a *'sense of personalization and customisation of learning'*, and will assist a student to overcome feelings of remoteness, which is perhaps the greatest obstacle to fostering a student's sense of community in online distance learning. Arbaugh (2000:34) finds that perceived interaction difficulty is negatively correlated with student satisfaction, while perceived instructor emphasis on interaction is positively correlated with student satisfaction. He draws the following conclusion:

'It appears that the flexibility of the medium and the ability to develop an interactive course environment play a larger role in determining student satisfaction than the ease or frequency with which the medium can be used' (Arbaugh 2000:43).

Her experiences as both student and lecturer within the online learning environment led me to strongly concur with the views held by Boettcher and Arbaugh. Lecturers have to be sufficiently involved with their students to prevent students from experiencing a feeling of having to struggle on their own. Minoli (1996:130) identifies four needs of students that should be considered in distance education. These needs are (paraphrased):

- ☉ **Interactivity:** Students need involvement and encouragement to ask questions and take part in discussions.
- ☉ **Instructional feedback:** Students need answers to their questions immediately, often after hours.
- ☉ **Elimination of time constraints:** Students need not be restricted by the training institution's office hours, but need to communicate and interact outside office hours.
- ☉ **Motivation:** Students need to have fun when they interact with other students and lecturers. The fun element is an important motivational factor.

While considering human-computer interaction/interactivity, Laurel (1991) argues that the perception of interactivity exists along a continuum that contains three variables, *viz. frequency, range, and significance*. Frequency indicates how often choices are

⁷ Note: Authors such as Minoli (1996) and Laurel (1991) do not distinguish between these concepts.

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available; range indicates how many choices are available; and significance indicates to what extent choices affect the situation. To these Laurel (1991) adds *the feeling of participation*, indicating how immersed one feels in the experience of interactivity. It is therefore assumed that one will be completely involved in a highly interactive experience, as one will have frequent opportunities to make a wide variety of significant choices.

It is my experience that adult students prefer to learn experientially. Kearsley (2000) makes a similar statement and adds that when the topic is of immediate value, adult students also prefer to approach learning as problem solving. The needs of adult students are encompassed in the constructivist approach to learning, and are reflected in Dewey's concern for relevant, active learning. I agree with Palloff and Pratt (1999) who state that online learning may serve the adult student well, if it is designed from a constructivist viewpoint that employs both active and interactive learning. The adult student is the embodiment of the lifelong student, envisioned by Dewey and advocated across contemporary society (Doshier 2000).

2.8 Web-based collaborative learning

Turoff (1995) states that active learning is brought about by group or cooperative efforts of students who actively interact and converse in order for new knowledge to emerge through the sharing of ideas and information. However, Oakley (1997) argues that cooperative efforts are often hampered by the difficulties that students experience to get together outside of formal class time. Oakley suggests that providing students with opportunities to access Web-based material may solve the problem of not being able to get together outside of classroom time. Furthermore, the suggestion is made that asynchronous computer mediated communication (CMC) may enable students to have more peer to peer and student to lecturer contact, as well as access to material developed by external experts. I support this suggestion as it correlates with my personal experiences as an online student. In addition, asynchronous CMC may lead to more successful collaboration between students. Global interconnectivity, coupled with the richness and diversity of information on the Web, potentially can facilitate a high level of collaboration that cuts across institutional and national boundaries (Harasim 1996).

There is little doubt that due to the availability of technology (including software supporting online learning) many lecturers will be either compelled or mandated by

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management to use online learning to keep up with global pressures. Lecturers may also consider using technology because they may be convinced that it will enhance either the value of the courses they teach or the quality of the end product, namely the student. The current availability of a myriad of online teaching strategies to choose from and the fact that students are not classroom-bound provide lecturers with enormous challenges. Adams, Marshall and Cameron (1999) emphasise this challenging situation by stating:

'In the current volatile context of higher education, academics are grappling with complex issues in a way that has never previously been required of them.'

Technologies, including information technology (IT), can be described as prostheses that are employed by people to accommodate their busy lives. Unfortunately, these 'prostheses' can alienate people from ordinary face-to-face contact. It is therefore important that lecturers keep in mind that the quality of learning does not depend on whatever teaching aids they use, but on good planning. By planning effectively, learning will be facilitated in the education situation. Bastable (2003:461) and Clark (1994:22) argue that the teaching medium does not have any influence on learning under any condition. They share the opinion that media, specifically IT, are merely enhancements that serve as vehicles to deliver instruction and carry educational programmes.

Statements such as these may be considered as holding ground, but I believe that the affective impact of the 'vehicle' (in the case of this study online learning via the Internet) cannot be ignored, as there is a relationship or an interaction between learning and the medium employed by the lecturer and the student. This relationship/interaction is influenced by the computer literacy and skill of the student and lecturer. Kozma (1994:21) reframes the debate by altering the question '*Does media influence learning?*' to '*Will media influence learning?*'. Meyer (2000:10) pinpoints the problem in the following statement:

'Previous studies on this issue excluded issues of ... affective processes by which learning occurs, and which are essential for an understanding of the potential relationship between media and learning.'

Cousin and Davidson ([Sa]) place emphasis on the importance of the task and not the medium of instruction by referring to Brosnan (1998:122) who states that

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psychological influences on performance are minimised when computer users focus on the task and not the computer (the medium). On the other hand, McLuhan (1967:9) goes so far as to say that *'the medium is the message'* and *'it is the medium that shapes and controls the scale and form of human association and action'*.

The following statement by McLuhan reiterates my viewpoint that the media do influence learning:

'... our human senses, of which all media are extensions, are also fixed charges on our personal energies, and ... they also configure the awareness and experience of each one of us' (McLuhan 1967:21).

Through various learning activities within online collaborative learning projects, students have autonomy to manage their own learning. In a Web-based learning environment, the structure of teaching and learning changes from a teacher-centred to a student-centred approach, debasing the old *'sage on the stage'* attitude and accentuating students' construction of their own knowledge. In addition, the process of construction is dynamic in nature because hypertext⁸ allows the discovery of knowledge in a non-linear manner (Bradshaw 2002).

In order to facilitate constructivist learning in an online environment, online activities should promote multiple perspectives, and/or have some of the following qualities: *active, constructive, collaborative, complex, contextualised, reflective, and authentic* (Gravett & Geyser 2004:170-2). These qualities are explained as follows (paraphrased):

- ☉ **Active:** Students must be engaged in mindful processing of information, as they are responsible for the results of an activity.
- ☉ **Constructive:** The activities should facilitate knowledge construction.
- ☉ **Collaborative:** Students work naturally in learning and knowledge-constructing communities, exploring each other's skills, while providing social support and observing the contributions of each member.
- ☉ **Complex:** Learning situations need to engage students in solving complex ill-structured problems as well as simple problems. Unless students are required to engage in higher order thinking, they will develop oversimplified views of the world.

⁸ Computer hardware and software that allows users to create, store, and view text and move between related items easily and in a non-sequential way (Collins Concise Dictionary 2001:717).

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- ☉ **Contextualised:** Activities should allow students to access different backgrounds and contextual materials to aid interpretation and argumentation.
- ☉ **Reflective:** When students articulate what they learn, they reflect on the processes, understand more, and are entitled to use knowledge that they have constructed in a new situation.
- ☉ **Authentic:** Students must see the relevance of the knowledge and skills to their lives, and apply them to their problems.
- ☉ **Facilitating multiple perspectives:** Activities should allow students to learn in a variety of ways. The more opportunities they have, and the more actively engaged they are, the richer their understanding will be.

Computers, telecommunications, and the WWW provide lecturers and students with many opportunities to learn in a cooperative environment (Galusha 1997). According to Crotty (1995), collaborative activities should be employed to engage students in learning activities where they will be encouraged to seek the assistance of their peers, but be responsible for constructing their own meaning. Brookfield (1986) states that participation and collaboration are of the most frequently mentioned characteristics of adult education.

As learning occurs within a social framework, online courses should be designed to include participation in a social context (De Verneil & Berge 2000:231). Collaboration with peers generates strong motivational powers, especially when a positive social dynamic is constructed. I believe that relational dynamics in an online environment is of the utmost importance, and failure to design the opportunity to relate to peers in an online course may lead to students experiencing feelings of isolation, which will most probably lead to the unfortunate result of students discontinuing the course.

Gabbert, Johnson and Johnson (1986:271) state that cooperative learning promotes an increased use of high-level reasoning strategies and critical thinking. They quote Romer (1995) who says:

“Rather than isolating students into their own online world, the ideal e-learning environment gives them a chance to connect with other individuals, such as lecturers, facilitators, tutors, subject experts, practitioners, and other students in the quest of knowledge. The pre-eminent idea behind collaborative learning is that learning is significantly enhanced when the activities and perspectives of a group, shape

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knowledge that is generated and communicated, so that the facilitator's role as an authority and sole source of knowledge is reduced."

Kozma (1987:22) makes the following important observation: *'To be effective, a tool for learning must closely parallel the learning process; and the computer, as an information processor, could hardly be better suited for this'*. The ability of multimedia to adapt to the learning style of each student serves as its most obvious advantage, and adds value to the concept of constructivist learning. Another advantage of multimedia with its myriad of options is the ability to simulate the complexities of 'real life'.

Multimedia provides lecturers with opportunities to plan student assignments and tasks, and students learn by completing the assignments or doing tasks. By planning for students to search through hyperspace⁹, ample opportunity is provided where incidental learning can take place. Cronjé (1997) states that learning opportunities should however be carefully planned as students may be given too much freedom and too little guidance. The constructivist approach to learning is widely accepted by lecturers, but not always evident in their teaching practices, including online instruction (Morphew 2000:1).

The different types of media and their applications (technologies), as well as their advantages and limitations, are briefly explained in Table 2.2. The advantages and disadvantages of telecommunications-based and computer-based media are presented in the third- and second-last rows.

⁹ The dimension within which data and other information can be exchanged, culminating in a single worldwide computer network, the Internet

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Table 2.2: Advantages and limitations of types of media and technologies
[Cloete (2001:65) as adapted from Forsyth (1996:29, 30)]

Types of media	Technologies	Uses and advantages	Limitations
Print-based	Hand-outs Study text Prescribed and recommended books Written/printed assignments	Easy to read Enable self-paced reading and study Can be re-read	No interaction Time delay in feedback
Visual-based	Diagrams Charts Pictures Transparencies Slides Photographs	Another method to enhance explanation	Can distract and confuse Memory intensive Can be used for decorative and not for functional reasons
Audio-based	Audio-tape cassettes Compact discs (CDs)	Another method to enhance explanation	No interaction Not possible to demonstrate practical applications
Audio-visual-based	Slide-tape Video Film	Show motion Capture attention Add emphasis and emotion	Expensive Hardware intensive Training should be given in use
Telecommunications-based	Telephone Fax Audio/videoconferences E-mail Internet	Interaction Immediate feedback	Hardware intensive Communication infrastructure intensive Training should be given in use
Computer-based	Computer-managed instruction Computer-based testing Computer-based instruction Electronic performance support systems	Another method to enhance explanation Interaction possible to some extent	Hardware intensive Communication infrastructure intensive Training should be given in use
Human-based	Lecturer Tutor Mentor Contact classes	Interaction Immediate feedback	Not always available when needed

Further arguments for and against online learning (the advantages and limitations of online learning) are emphasised by Aase (2000). They are as follows (paraphrased):

☉ **Advantages:**

- ☐ **Convenience:** Online learning is possible, anytime, anywhere.
- ☐ **Immediacy:** Students receive speedier feedback on assignments.
- ☐ **Contact:** More instructor-student and peer-to-peer contact is possible.
- ☐ **Student control:** Students have a bigger say in what or how they learn.
- ☐ **Technology:** Students and teachers gain proficiency in finding, using, and constructing information on the Internet.
- ☐ **Prestige:** Online programmes carry a cutting-edge cachet.
- ☐ **New learning:** New technology enables students and lecturers to construct new knowledge in new ways.

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⊗ **Limitations:**

- ▣ **Facelessness:** Online learning lacks verbal and facial cues, and body language.
- ▣ **Hitches:** It is hampered by technological breakdowns.
- ▣ **Workload:** It is much more work to develop, produce, teach, and take a course online.
- ▣ **Cost:** It is more expensive to produce courses that include audio, video and interactivity.
- ▣ **Support:** Problems are finding technical support out of hours; offering professors incentives to produce and teach online; revising a tenure system that discounts online teaching; revamping or building registration, enrolment, and payment methods; and deciding where online courses will "fit" – integrating online courses into every department, spinning off an online unit, or entering into a partnership with an outside institution.
- ▣ **Quality:** New methods are required for accreditation, and measuring outcomes.

After taking an online course, many students said that they would gladly give up the classroom, as well as all the inconveniences associated with physically going to class such as driving long distances, finding a parking space and listening to monotonous lectures (Aase 2000). According to Aase (2000), students also say that they often enjoy more attention from and interaction with their lecturer and peers in an online course, and that they find online courses to be 'more rigorous, relevant, and satisfying'. I have to agree with Aase, as I had similar experiences as a student. On the other hand, there are many variables that influence the teaching-learning process, regardless of the mode of teaching.

Smith (2002) is of the opinion that an online group is one of the most powerful environments for transformative learning to take place. Students are provided with a social context in which they can construct and reconstruct the meaning of experiences. Smith also believes that emotions are expressed in a safe, collaborative, creative environment. As opposed to Smith, I do not believe that students necessarily feel safe to express their emotions in an online environment (even though it may be a faceless one), as they may not experience it to be cooperative, may fear being misinterpreted, since they may not know their peers at all. Personality traits, as well as knowledge and skill of students with regard to both the subject content and computer technology, may nullify the planning and good intentions of the best lecturer in the field.

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Smith (2002) further states that '*... virtual teams have become the vehicle through which group work is accomplished in distance learning environments*'. She says group work give students the opportunity to socialise, experience a sense of belonging, and co-construct new knowledge. However, working in virtual groups does create many challenges. Some of these challenges are trust, communication, tight deadlines, and team cohesiveness. Smith even states that the nature of virtual groups diminishes certain social interaction characteristics. I agree with Smith about the challenges facing online teaching and learning.

There are multiple learning advantages to working in online groups. One such an advantage is the creation of learning communities. Another benefit lies in the opportunity to work collaboratively and to generate new knowledge (Smith 2002). McDonald (2002:13) considers the advantages of online education to be the result of three characteristics, namely asynchronicity, efficient information access, and increased social distance.

McDonald (2002:12) is also of the opinion that '*... online education blurs the line between distance education and traditional, place-based education primarily because of the opportunity for discussion, collaboration, and the potential for building a sense of community among participants*'. Online education provides access to peers and, by so doing, creates a network of scholars for the purposes of intellectual exchange, collective thinking, and socialisation (McDonald 2002:12; Smith 2002). These aims are best accomplished by creating environments that are motivated by discovery, reciprocal feedback and exchange of ideas (Smith 2002).

According to Danchak (2003), courses presented by means of e-learning are characterised by asynchronous activities that are predominantly faceless. In a face-to-face situation, students can make eye contact and see a lecturer nod in approval. They can put a face to a name, and judge the personality of the lecturer. Students can decide whether the lecturer is someone who can be trusted. Affective interaction with lecturers is one of the main reasons for students being motivated. Dewar and Whittington (2000:420) state that students should have an interpersonal relationship with their lecturers, and mention that students particularly need to communicate. The question on how students experience the absence of the aforementioned situations in an e-learning environment should be answered.

Planned learning usually includes the attainment of skill and knowledge, and this is also true when IT is employed (Cousin and Davidson [Sa]). However, as was stated in

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Subsection 2.6.1, learning is never only cognitive or psychomotor in nature. The emotions and feelings of a learner undoubtedly affect the quality of her/his learning. What students learn is organised by their emotions. More educators share this viewpoint held by Gravett and Geyser (2004:38) and Van der Horst and McDonald (2001:39). Cousin and Davidson ([Sa]) state:

'One should consider cognition and emotion as two closely related, ongoing changing streams of experience that interact with one another and affect overt behaviour in subtle complex ways.'

This view is also held by Bastable (2003:327) who is summarising the viewpoints of different authors when he says:

'Bloom et al. (1956) and Krathwohl and associates (1964) developed a very useful taxonomy known as the Taxonomy of Educational Objectives, as a tool for systematically classifying behavioural objectives. This taxonomy ... is divided into three broad categories or domains: cognitive, affective and psychomotor. ... (All) three domains of learning are ... interdependent and can be experienced simultaneously. Humans do not possess thoughts, feelings and actions in isolation of one another and typically do not compartmentalize learning. The affective domain influence the cognitive domain and vice versa; the processes of thinking and feeling influence psychomotor performance and vice versa (Menix, 1996).'

Keller (1979) addresses the affective aspect of instruction according to a four-point strategy, which includes *attention, confidence, relevance* and *satisfaction*. This he calls the ACRS model of instructional design. According to this design, a student will only be satisfied once s/he is able to use and continue using knowledge. Cloete (2001:39) emphasises the importance of assessing the level of satisfaction experienced by students after completing an online course.

2.9 Staying on an online course

According to Berge and Huang (2004), dropout historically has challenged educational systems, but seems to be especially acute in distance learning. According to a number of studies, the dropout rate for distance education is believed to be ten to twenty per cent (10-20%) higher than in face-to-face learning events (Carr 2000;

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Diaz 2002; Frankola 2001:55). Berge and Huang (2004) state that 'student success' (specifically with regard to online learning) has become one of the primary issues in discussions on the quality of higher education. Student success usually includes the idea of persistence: the idea of a student who persists in trying to complete a course.

According to Cronjé (1996), four participants in his online course left because '*...they had problems with the stability of the Internet connections and did not feel comfortable about continuing while they were not always sure of getting their messages, or being able to access the Web.*' I do not believe that the students' reasons for leaving the course were indeed so simple. More precise answers could be obtained by asking questions such as: *What kind of feeling (emotion) did these students experience that convinced them to leave the course? Why did the other students stay on the course?* I believe that should lecturers determine what cause students to stay on a course, they would be able to build those factors into future courses, and support online students better. It has to be kept in mind however, that negative affective experiences are not the only reasons why students drop out of courses.

An online student should indeed possess unique qualities to be successful. The website *Illinois Online Network (ION)* provides potential online students with advice on qualities that are needed to successfully complete a course. According to the ION (2003), online students should (paraphrased):

- ☉ Be open-minded about sharing life, work, and educational experiences as part of the learning process;
- ☉ Be able to communicate through writing;
- ☉ Be self-motivated and self-disciplined;
- ☉ Be willing to 'speak up' if problems arise;
- ☉ Be willing and able to commit themselves to four to fifteen hours per week per course;
- ☉ Be able to meet the minimum requirements for the programme;
- ☉ Accept critical thinking and decision-making as part of the learning process;
- ☉ Have access to a computer and a modem;
- ☉ Be able to think ideas through before responding; and
- ☉ Believe that high quality learning could take place outside the traditional classroom.

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I agree that the online process requires commitment on the part of the student, especially with reference to willpower to succeed and self-discipline to follow the course schedule. It is difficult for a student to catch up once s/he gets behind schedule. It is also my belief that the student should desire the online experience, and should also have a desire to complete the course. Unfortunately, not all students possess the necessary qualities to complete an online course (ION 2003). However, quite a large number of websites provide prospective online students with tips and assistance on how to be successful in their online learning endeavours. Two of these websites are that of the *e-Learning Centre* and the *Online College @ Santa Barbara City College* (2004).

Berge and Huang (2004) state that retention in e-learning is a relatively new area of research. According to them, retention of students in the e-learning environment is a complex issue owing to a number of factors such as:

- ☉ Changing landscapes in learner demography;
- ☉ Changing roles and responsibilities;
- ☉ The myriad of learning opportunities;
- ☉ Changing needs and perceptions; and
- ☉ Changing modes of instruction and learning.

Landscapes in learner demography are indeed changing, as more younger and older people are becoming aware of the possibilities of online learning. Roles and responsibilities are changing, as students are becoming more responsible for discovery and self-learning, while lecturers are assuming the role of facilitator (Reid 2000). It is my experience that needs and perceptions as well as modes of instruction and learning are changing. The availability of technology by means of online access and a desktop or portable computer means that students are never more than a phone call away from the 'classroom'. I believe that all these factors complicate the issue of keeping students from leaving an online course.

There are however not a shortage of theories concerning students dropping out of e-learning courses. Frankola (2001:56) offers some reasons for students quitting online courses. I concur with the reasons offered, as I had experienced some of these aspects myself, although I did finish the online course I embarked on. The reasons are (paraphrased):

- ☉ Lack of time;
- ☉ Lack of management oversight;

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- ⊗ Lack of motivation;
- ⊗ Problem of motivation;
- ⊗ Lack of student support;
- ⊗ Individual learning preferences;
- ⊗ Poorly designed courses; and
- ⊗ Substandard/inexperienced lecturers.

McVay (2001) offers several suggestions about the design and orientation of online courses to enhance retention in e-learning. Probably the most helpful suggestion, one which I fully support, is that organisations should implement a student orientation course. This course should be taught online in its entirety, and should simulate the actual e-learning environment that students encounter in online courses. Student feedback convinced McVay that the technology used in online learning should not be the only focus of such an orientation programme. McVay (2001) makes the following suggestions:

- ⊗ Students should be assisted in becoming aware of adult learning theory and the manner in which they could apply it to their context.
- ⊗ Self-awareness should be cultivated regarding a student's personal suitability for online learning.
- ⊗ Discussion should take place on how students could adjust to assist in the successful completion of their studies.
- ⊗ Students should be provided with ample opportunities to engage in extensive online interaction to communicate with the lecturer as well as their peers.
- ⊗ Students should be allowed a significant amount of time to reflect on their new environment.

A study by Wegerif (1998) indicates that a student's individual success or failure in a course depends upon the extent to which s/he is able to cross a threshold from feeling like an outsider to feeling like an insider. Effective student and lecturer preparation for the online teaching and learning environment can make a significant impact on student success, thus increasing retention and course completion.

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2.10 Previous research on affective experiences in online environments

Most studies related to online learning and conducted on cognitive issues in the past excluded affective factors from their considerations. 'Traditional' computer-based education not only lacks both intellectual and emotional 'affordances' (Eisenberg 2002:1), but also less attention is paid to studying the affective and social components of education. As far as online learning is concerned, this is due to the overwhelming bias against emotion as a subject worthy of study (Bauman 1997; Lee *et al.* 2004; Murray 2002). It was the profound influence of behaviourism on educational psychology, which had little interest in non-cognitive aspects of learning such as beliefs, emotions, attitudes, and motivation, which led to this unfortunate situation (Lee *et al.* 2004). Adkins (2004) confirms this state of affairs concerning online learning, and calls its affective domain the 'last domain of human learning', even the 'Final Frontier'. He simply states:

'Training professionals have shied away from the affective domain because of its complexity' (Adkins 2004).

In order to demonstrate that limited research has been conducted on the affective experiences of students involved in online learning, the literature searches conducted at the initial stage of this study via the Internet are described. Initial searches were conducted, as I planned a study that would not be influenced too much by the literature, but would produce unique findings. A short description of articles found and indications of their applicability or inapplicability are provided. Initially, two Internet search engines,¹⁰ namely *Google* and *Yahoo!*, were used, and the searches were conducted by means of keyword combinations. Searches were done intermittently from July 2002 to January 2003. Table 2.3 contains the names of the search engines, the number of searches conducted, and the keyword combinations used.

¹⁰ A computer programme used for searching data on the Internet

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Table 2.3: Search engines, number of searches, and keyword combinations

Search engine	Search	Keywords
Google	1	Affective online evaluation
	2	Affective evaluation online
	3	Online learning affective domain
	4	Affective domain evaluation
Yahoo!	1	Affective evaluation online
	2	Online evaluation of affective development
	3	Evaluation online of affective development
	4	Affective domain evaluation online

The search engines *Google* and *Yahoo!* are well known to Internet users. *Google*, as well as *Yahoo!*, is seen as a reliable search engine and is often used to assist in finding literature from peer-reviewed sources. This is confirmed by an information specialist attached to the Academic Information Services of the Faculty of Education within the University of Pretoria. These two search engines are regarded as reputable and dependable, and for this reason chosen for the retrieval of information. Keyword combinations used for *Google* and *Yahoo!* were varied to extend the possibility of finding hits.

Table 2.4 provides an overview of hits (articles) found during the initial searches. The origin and nature of the articles are indicated.

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Table 2.4: Articles that appeared to be about the affective experiences of students

Author and article	Nature	Short description of content
Calderone, AB. 1994. Computer assisted instruction: Learning, attitude, and models of instruction. <i>Computers in Nursing</i> , 12(3): 164-170.	Article from peer-reviewed journal	The focus is on learning and learning outcomes. <i>Attitude is considered a learned predisposition to react to a person, object or idea in a consistent way (Calderone 1994:166).</i>
Fetherston, T. 2001. Pedagogical challenges for the World Wide Web. <i>Education Technology Review</i> , 9(1). Available: http://www.aace.org/pubs/etr/fetherston.cfm	Article from peer-reviewed journal	The focus of this article is on the construction of knowledge by means of technological learning/teaching strategies.
Herman, A and Downie, J. 1998. <i>Assessing and evaluating student contribution to electronic discussion</i> . Available: http://www.curtin.edu.au/learn/unit/NursingHonours/	Research article	This article focuses mostly on the computing skills and abilities of students.
Hooper, S and Rieber, LP. 1995. Teaching with technology, in <i>Teaching: Theory into practice</i> , edited by AC Ornstein. Needham Heights, MS: Allyn and Bacon: 154-170. Available: http://www.nowhereroad.com/twt/index.html	Article from peer-reviewed journal	This article is about the integration of computer-based education and the student's processing of content.
Huitt, W. 2000. <i>Desired student outcomes</i> . <i>Educational Psychology Interactive</i> . Valdosta, GA: Valdosta State University Available: http://chiron.valdosta.edu/whuitt/col/student/desout.html	Article from peer-reviewed journal	The authors focus on the speed of change, the importance of the learning environment and conditions for learning.
Martin, BL. 1989. <i>A checklist for designing instruction in the affective domain</i> . <i>Educational Technology</i> , August:7-15 Available: http://plaza.v-wave.com/keqj/mar.html	Article from peer-reviewed journal	The author does not address online learning. She addresses face-to-face education exclusively.

Articles with the highest possibility of addressing issues that are related to this study (as reflected in the keyword combinations) are listed in Table 2.4. The short descriptions of the contents of the articles indicate that research materials (including publications, journal articles, discussions, and newsgroups) on issues of affective experiences in online learning are seriously limited. There also seems to be limited information about the rating or classification of emotions according to affective structures. These ratings are done to determine at which affective level a student operates during an online course.

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As the initial searches in *Google* and *Yahoo!* proved to be unsatisfactory, I enlisted the help of an information specialist, who recommended searches in the *PsycLIT* and *Eric* databases. These searches were conducted during August 2004. The following keywords were used in the *PsycLIT* database searches: *e-learning, online or web-based and instruct*¹¹ or learn*, feelings or affective, computer-assisted instruction and emotion**. These searches yielded ten hits that seemed to be useful for the purpose of this study. Table 2.5 contains the titles of the ten hits that were indicated as the most appropriate to the keyword searches.

Table 2.5: The ten most appropriate hits found to keyword searches in the *PsycLIT* database

Number	Year of publ.	Nature	Author/s	Title
1	2003	Dissertation	Heinemann, MH	Teacher-student interaction online and learning in Web-based graduate theological education.
2	2003	Dissertation	Valentine, JF.	Motivation, culture, and instructional design in modern language education: An ethnographic case study of an international MBA program.
3	2003	Article from peer-reviewed journal	McKenzie, F, Scerbo, M, Cantazaro, J and Philips, M.	Nonverbal indicators of malicious intent: Affective components of interrogative virtual reality training.
4	2002	Article from peer-reviewed journal	McCrary, N.	Investigating the use of narrative in affective leaning on issues of social justice.
5	2002	Article from peer-reviewed journal	Lou, Y, Abrami, PC and d'Appolonia, S.	Small group and individual learning with technology: A meta-analysis.
6	2001	Article from peer-reviewed journal	Schmidtman, H and Grothe, S.	Emotions of participants of virtual seminars / Wie fuehlt man sich in einer virtuellen Arbeitsgruppe?
7	2001	Article from peer-reviewed journal	Steffens, K.	Self-regulation and computer based learning.
8	2001	Article from peer-reviewed journal	Konrad, U and Sulz, K.	The experience of flow in interacting with a hypermedia learning environment.
9	2002	Article from peer-reviewed journal	Nikolova, OR.	Affective aspects of student authoring for foreign language learning.
10	2000	Article from peer-reviewed journal	Yang, SC.	Hypermedia learning and evaluation: A qualitative study of students' interaction with the Perseus Project.

¹¹ The asterisk (*) after the word allows for its declension, e.g. instructive, instruction, instructs.

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When the abstracts of the ten hits were read, only hits number 1 and 6 were found to be relevant and useful. Article number 1 was about teacher-student interaction in Web-based education, but the research study under discussion was conducted according to a quantitative design. Article number 6 was relevant because it addressed some of the issues that were of concern to me. An excerpt from the abstract of article number 1 is provided in Textbox 2.1 and an excerpt from article number 6 is provided in Textbox 2.2.

Text box 2.1: Excerpt from abstract of article number 1 from *PsycLIT* database

'Many theological educators ask how online classes can provide students with the kind of personal teacher-student interaction that is needed in a healthy and holistic approach for ministry. ... This combination of practical concern in promising research results led to a quantitative study aimed at examining the relationships between three major types of teacher-student interaction (organizational, social and intellectual) and two types of learning outcomes (cognitive and affective) in a Web-based environment with no face-to-face contact. ... Scales were devised for this purpose using five-point Likert-style items. Analysis revealed that survey participants, on average, agreed that their instructor facilitated adequate social, organizational, intellectual and overall interaction. They also reported significant cognitive and affective learning gains. ... These results support the hypothesis that teacher-student interaction is an important factor in cognitive and affective learning' (Heinemann 2003:1189).

Text box 2.2: Excerpt from abstract of article number 6 from *PsycLIT* database

'Examined participants of a virtual seminar to measure emotions and norms within groups and compare them with participants of a real life seminar. 60 long-distance students (40 virtual seminar participants and 20 real life participants; females outnumbered males) in Germany completed a questionnaire on emotions and norms, cohesion and conformity in groups (E. Ardelt-Gattinger and W. Schloegl, 1998). The results show that in both settings, Ss scored higher on positive than on negative emotions; group norms were perceived similarly' (Schmidtman and Grothe 2001:177).

Following the searches done in the *PsycLIT* database, a search was launched in the *ERIC* database by using the following keywords: *e-learning, online or web-based and instruct* or learn*, feeling* or emotion* or affective, computer-assisted instruction and emotions*. The search yielded 45 hits that were possibly appropriate to the study or useful to my purposes. However, most of the articles reflected research conducted about schoolchildren or children with behavioural problems and disabilities such as autism. Of the 45 hits, only nine were possibly appropriate. Information on these nine articles is set out in Table 2.6. The numbers in the first column of Table 2.6 represents the numbers of the hits found in the search.

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Table 2.6: The nine most appropriate hits found to keyword searches in the *ERIC* database

Number	Year of publ.	Nature	Author/s	Title
1	Sept.- Oct. 2003	Article from peer-reviewed journal	DeWert, MJ, Babinski, LM and Jones, BD.	Safe passages: Providing online support to beginning teachers.
10	Oct. 2002	Article from peer-reviewed journal	Kort, B and Reilly, R.	Theories for deep change in affect- sensitive cognitive machines: A constructivist model.
11	Nov. 2002	Article from peer-reviewed journal	Hammilton- Pennell, C.	Getting ahead by getting online.
13	Summer 2002	Article from peer-reviewed journal	King, FB.	A virtual student: Not an ordinary Joe.
20	January 2002	Article from peer-reviewed journal	Eisenberg, M.	Output devices, computation, and the future of mathematical crafts.
21	Dec 2001	Article from peer-reviewed journal	Harmon, SJ and Jones, MG.	An analysis of web-based instruction.
24	Summer 2001	Article from peer-reviewed journal	Bibeau, S.	Social presence, isolation, and connectedness in online teaching and learning: From the literature to real life.
30	2001	Article from peer-reviewed journal	Yu, Y.	Competition within computer-assisted cooperative learning environments: Cognitive, affective and social outcomes.
41	Summer 2000	Article from peer-reviewed journal	Astleitner, H and Leutner, D.	Designing instructional technology from an emotional perspective.

It appears that limited research has been done that incorporates the perspective of the student in the online learning environment. Rather than obtaining data from students themselves, most of the studies on affective issues in online education reflect the experiences of lecturers, or suggest strategies for lecturers to address the affective domain of learning. Of the studies found in the *ERIC* database, only five considered the affective experiences of students from the viewpoints of students.

Of the nine studies indicated in Table 2.6, numbers 10, 24, and 30 were of value to me. An excerpt from the abstract of study number 10 is presented in Text box 2.3, while Text box 2.4 and Text box 2.5 contain excerpts from the abstracts of hits number 24 and 30 respectively.

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Text box 2.3: Excerpt from abstract of article number 10 from the *ERIC* database

'There is interplay between emotions and learning, but this interaction is far more complex than previous theories have articulated. This article proffers a novel model by which to regard the interplay of emotions upon learning and discusses the larger practical aim of crafting computer-based models that will recognize a student's affective state and respond appropriately to it so that learning will proceed at an optimal pace' (Kort and Reilly 2002a:56).

Text box 2.4: Excerpt from abstract of article number 24 from the *ERIC* database

'Discussion of the Internet focuses on the role of social presence and its relation to feelings of isolation and connectedness in asynchronous online discussions in higher education. Examines the participation of teachers and students in building a community of students, and the dilemma of too much or too little social interaction' (Bibeau 2001:35).

Text box 2.5: Excerpt from abstract of article number 30 from the *ERIC* database

'Examines the effects and implications of embedding the element of competition in computer-based cooperative learning situations on student cognitive, affective, and social outcomes. Results of statistical analyses of Taiwanese fifth graders show that cooperation without inter-group competition engendered better attitudes and promoted more positive inter-personal relationships' (Yu 2001:99).

Some of the reported research mentioned above was conducted in 2001. The number of studies found was however very limited. The same holds true for reported research mentioned above that was conducted in 2002. The number of studies found on affective experiences has increased since 2003. However, most of these studies emphasise the viewpoints of lecturers and not those of students. This study focuses on affective experiences as explained and described by the students involved in an online course, and forms part of a new 'developing wave' of studies.

The limited number of relevant articles reflects the lack of research conducted on the phenomenon under study, and emphasises the uniqueness of this research study. Its uniqueness can also be attributed to the unique format of the course module with its focus on e-learning (a game played in cyberspace) and the uniqueness of the relationship between participants and the e-learning event (a relationship that would force them to attach meaning to their experiences within the context of this online learning event). Refer to Subsection 1.14.1. Relevant information obtained from the literature searches, especially information retrieved from the databases *ERIC* and *PsycLIT*, will be integrated into the study as the study develops.

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2.11 The nature of the experiences of the participants

Within the context of the game *CyberSurviver* (in reality, an academic module with its focus on e-learning), the affective experiences of participants in an online environment were investigated. In the context of this study, affective experiences were regarded as *feelings* and not as *emotions* or *attitudes*. Although it could be argued that these three concepts were interrelated, the concept '*feelings*' was identified as the key term that would assist in understanding the affective implications of online learning. This conclusion was made after exploring different definitions of the concept 'emotion'.

Definitions of the concept 'emotion' are numerous and often conflicting (Salovey & Sluyter 1997:195), but a variety of definitions of this concept, as presented in Textbox 2.6, collectively proves that the concept 'emotion/s' is predominantly explained by incorporating the term 'feeling' into the definition.

Text box 2.6: Definitions of the concept 'emotion/s'

Emotion - mental state in which feeling*, often intense, as love, hate, or sorrow, is experienced, often accompanied by a physical change or manifestation, as blushing, laughing, or crying (Collier's Dictionary 1977:334).

Emotion – a strong feeling*, such as joy, anger, or sadness. Instinctive or intuitive feeling*, as distinguished from reasoning or knowledge (South African Concise Oxford Dictionary 2002:378).

Emotion – short-term feeling*, states including happiness, anger or fear, that mix varying amounts of pleasantness-unpleasantness and arousal-calm, among other sensations (Salovey and Sluyter 1997:23).

Emotions – complex, subjective experiences* that have many components including physical, cognitive, organizing, and expressive, as well as highly personal, subjective meaning (Huitt 1999a).

* My emphasis

By analysing these definitions, it was decided to use the concept '*feelings*' to represent the affective experiences of participants. However, definitions of other concepts relating to the concept 'emotion' also had to be established, as this study was specifically concerned with the affective implications of online learning. The definition of 'emotions' used by Huitt (1999a) also includes the term 'experiences', while both the definitions of the terms 'emotions' and 'feeling' include the word 'subjective'. His definitions of these terms (with connotative affective meanings such as 'affect', 'emotion', 'feeling' and 'subjective') are set out in Table 2.7.

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Table 2.7: Definitions of terms associated with the affective domain (Huitt 1999a)

Concept	Definition
Affect	A <u>feeling</u> * or <u>emotion</u> * as distinguished from cognition, thought, or action.
Emotion	An intense <u>feeling</u> *; a complex and usually strong <u>subjective</u> * response, as love or fear; a state of agitation or disturbance. The application of mental processes to the world of <u>feelings</u> *, interpersonal relationships, and inanimate objects to which the person is attached.
Feeling	Sensation perceived by the sense of touch; an indefinite state of mind; an <u>affective</u> * state of consciousness, such as that resulting from <u>emotions</u> *, sentiments, or desires; an emotional state or disposition; non-intellectual or <u>subjective</u> * human response.
Subjective	Proceeding from or taking place within an individual's mind.

* My emphasis

Huitt's definitions presented in Table 2.7 also indicate that the word *feeling/s* links the different concepts associated with the affective domain. Feelings are subjective human responses, and these responses can only be researched (and interpreted) by transcribing the verbalised statements of participants in a study.

2.12 The literature and the research question

The relationship between the literature obtained and the research question '*What are the affective experiences of students in an online learning environment?*' can be indicated in broad terms. The following points of convergence between the literature found and the research study are relevant:

- ⊗ *CyberSurviver* required teamwork or *collaborative learning*, as participants had to work together in groups (tribes) to complete assignments. This form of student-student interaction was chosen because it stimulates higher order critical thinking and promotes understanding (Alavi 1994; Palloff & Pratt 1999). Collaborative projects such as the *CyberSurviver* assignments may lessen feelings of isolation and promote a sense of a learning community in the Web-based classroom (Abrahamson 1998; Palloff & Pratt 1999). Cooperative projects provide students with a framework to develop deeper relationships with others (Cronjé 1997).
- ⊗ *CyberSurviver* was planned to be a *constructivist learning* experience for participants. Participants were divided into tribes and were dependent upon each

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other for certain activities, but also had individual assignments. Harasim (1996) states that collaboration contributes to higher order learning through cognitive restructuring; *i.e.* new ways of understanding content emerge due to contact with new or different perspectives (constructivist learning).

- ☉ *CyberSurviver* was designed to be a *cognitive, psychomotor and affective learning experience*. Considering the authentic learning experiences of participants during the module, and the manner in which understanding was sought, the emotional experiences of the participants could not be ignored (Fetherston 2001). The game was expected to open the minds of the participants to the sense of the audience participating in online learning, as well as to the unwritten rules thereof. By playing *CyberSurviver*, the participants were exposed to the conceptual models and practical skills required of tertiary students to become part of the online community (Fetherston 2001).

2.13 The conceptual framework

The conceptual framework for this study is depicted in Figure 2.2. In developing a conceptual framework for this study, the literature in context, the nature of the *CyberSurviver* module, and the specific research objectives were considered. The students and the lecturer form the central part of this framework. The arrows that link the students and lecturer symbolise the interaction that took place between them. As the interaction during the *CyberSurviver* module was supposed to happen only by means of online technology, and as the study focused on the feelings experienced by the participants during the online module, the concepts '*feelings*' and '*technology*' enclose the students, the lecturer and their interaction in the form of an oval-shaped circle. The *CyberSurviver* online learning environment, representing the employment of constructivist learning and teaching strategies, as well as the persons involved, and their interactions and feelings, are depicted by means of a square.

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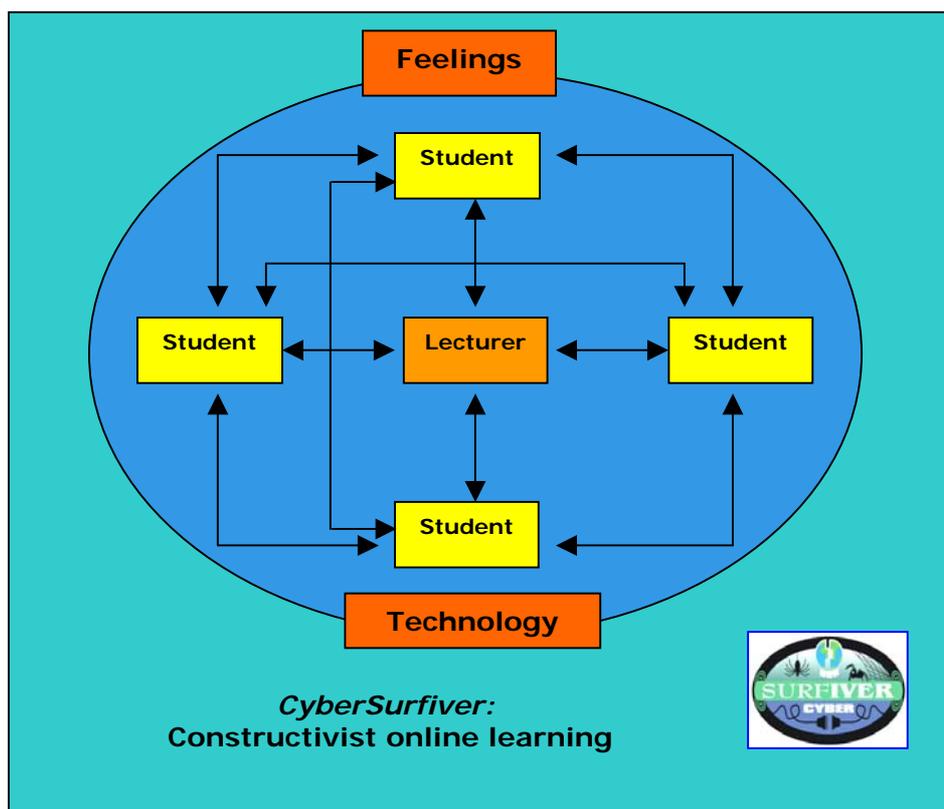


Figure 2.2: Conceptual model

The concepts presented in the conceptual framework are briefly discussed:

- ☉ **CyberSurviver:** The *CyberSurviver* module was a case study that provided the lecturer with the opportunity to investigate the complexities involved in using a metaphor in an adult online learning environment. The module was based on the reality game show *Survivor*©.
- ☉ **Student:** A student is a person who is taking a particular study course and is in the process of learning. The subject matter of different courses varies according to the nature of the course. The learning activities of the student also depend on the nature and the content of the course. Students involved in this study were students of the University of Pretoria, and registered for the Master’s Degree in Education (Computer Assisted Education) [MEd (CAE)] that incorporated a specific module called RBO880. The content of the RBO880 module was the *CyberSurviver* game. Thus, the student who played the *CyberSurviver* game was required to do so because s/he was registered for the module that was presented as one of a number of modules that made up the MEd (CAE), as presented by the University of

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Pretoria. For the purposes of the study the students are referred to as participants.

- ⊗ **Lecturer:** The facilitator of *CyberSurviver* was the lecturer who presented the MEd (CAE) RBO880 module. She was registered for the PhD in Computer Integrated Education (CIE) from 2002 to 2004, but was not a University of Pretoria employee. She was specifically involved in the module, as she was interested in the complexities involved in using online games in adult education. She, therefore, based her PhD research on the module that she presented.
- ⊗ **Interaction:** The *CyberSurviver* module required that all interaction between the lecturer and students, and among students, had to occur online. The lecturer of the module set this requirement. As the content of the module was about online learning, the lecturer decided to 'force' the students to experience first hand what online was all about. This meant that all communication during the *CyberSurviver* game had to take place by means of various technological tools. By using the various tools, students were required to interact, to work together and to promote cooperation. The interaction required for this module had to be student to lecturer, lecturer to student as well as student to student in nature.
- ⊗ **Technology:** In the context of this study, technology refers to computers, and the multimedia employed by the lecturer as tools for instruction in the *CyberSurviver* module. Technology included the Internet, Web-based software, and communication software employed by the lecturer and participants to communicate, such as that available on *Yahoo! Groups*.
- ⊗ **Feelings:** The concept 'feelings' represents the affective experiences of (or the emotions experienced by) the *CyberSurviver* participants during the course of the module. Feelings are subjective human responses, and these responses can only be researched (and interpreted) by transcribing the verbalised statements of participants in a study. Feelings expressed by the participants were analysed to interpret the meaning of their affective experiences in the online learning environment. The expressed feelings were directly related to different aspects of coping within the online environment – an environment where interaction occurred mainly by means of technology and where students were prohibited from discussing issues pertaining to the module face to face.

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- ⊗ **Constructivist online learning environment:** The *CyberSurviver* module was designed in accordance with the constructivist paradigm, in which active learner participation is an important component of the learning process, and in which learners construct their own knowledge while they engage in authentic learning activities. Cooperative and collaborative teaching and learning activities were employed over the Internet. Students experienced learning in the Web-based environment in which learning opportunities were created.

2.14 Summary

Chapter 2 provided a discussion on the literature obtained that related to the context of the study. The research cited touched upon issues with regard to online learning, collaborative learning, social constructivist learning, and affective experiences in online learning. An explanation of the limitations of literature about the affective experiences of students in online learning was provided. The conceptual framework for this study was discussed. In Chapter 3, the research methodology of the study will be addressed.