Student support in e-learning courses in higher education - insights from a metasynthesis “A pedagogy of panic attacks”

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Abstract

E-learning includes the use of the internet for accessing learning materials, interacting with learning content and with instructors and students to obtain support during the learning process in order to gain knowledge and personal meaning and to grow. It occurs when students have electronic access to resources and where they are in regular online contact with their peers and tutors. The primary objective of the metasynthesis was to analyse primary qualitative research studies on learner support in online courses to establish a guideline for e-learning support.

The metamethod entailed thoughtful examination of the manner in which the methodological approach was used to gather and interpret the data. The metadata analysis involved reinterpretations of the actual findings from the primary qualitative studies. Lastly, the metatheory consisted of an examination of theories leading the primary researchers’ topics, frameworks and research questions.

Conducting a metastudy from a constructivist perspective as in this research meant that I functioned as the interpreter of primary research studies, translating what has been written by other researchers for the purpose of revealing similarities and differences, and developing practice guidelines or theoretical concepts on a specific phenomenon. I identified three main themes regarding student support in e-learning in higher education, technical problems (infrastructure and access), a panic attack (pedagogy) and a human contact (human factors).
Keywords: Metasynthesis; student support; e-learning; online learning; higher education

Introduction to and background of the problem

In early computer learning (1990–2000), systems were designed based on a behaviouristic approach and claimed that learning is a change in observable behaviour caused by external stimuli in the environment (Anderson 2008, 9). Online learning during these early years was more text based, converted to electronic format and placed on the web for students to read. This kind of e-learning did not make use of the multimodal computer-mediated instructional means. It only meant that printing costs were offloaded to the student (Caplan & Graham 2008, 246–247).

The first generation of online learning is often delivered through a learning management system. This is a software application suite that organises the learning content, such as Blackboard, Moodle and Desire2Learn. While debate and research continues about the value of the first generation online courses, the ground is shifting beneath our feet in higher education today. Internet users are changing rapidly and the new generation of students are approaching work, learning and play in new ways. Online learning facilities need to take note of that.

Another trend in online learning is learner- or student-centred approach, which is characterised by member interaction, learning together and developing a shared repertoire of resources. This infers that learning is shifting from a didactic teacher-to-learner approach to a networked, community-based model of learner-to-learner approach. This has significant implications for instructional design and development (Caplan & Graham 2008, 248–249; Kinuthia & Dagada 2008, 623–632; Naidu 2003, 349–351; McGreal & Elliot 2008, 159–160).

Open and distance learning institutions are faced with integrating ICT in their instructional strategies and planning. In most cases ICT is used to deliver quizzes, lectures and other course material through e-learning applications (Macedo-Rouet, Ney & Charles 2009, 375-384). But the question that arises is how to support students in an e-learning environment so that they could grow and develop. E-learning is not equally well established in all countries over the world and we do not have clear guidelines about what kind of support should be built into e-learning courses in higher education. Quite a large number of e-learning articles and research resources are available, but the research on
e-learning is diverse and often context specific. The best practices for support in e-learning courses are not clear in the literature. Very little research has been done in Africa on e-learning and in higher education. In Africa, we are still struggling with unreliable electricity provision, unforeseen power cuts and load shedding. To add to these problems, most countries in Africa have very unstable Internet systems (Macedo-Rouet et al. 2009, 375–384).

Research studies such as Huon et al. (2007), Evants et al. (2004) and Maki et al. (2000) as described by Macedo-Rouet et al. (2009, 375–384) indicate positive and negative aspects (such as the absence of interaction) about e-learning. Student support is well described in the literature and mostly in a positive way in the context of e-learning, but it seems that the support is either not utilised by students or not available to students at the time the student needs it, or the applicable support for e-learners is not offered.

Many theorists argue that online learning is but a subset of learning in general, although we can expect issues relevant to how adults learn in an online context (Anderson 2008, 46–47). Brown and Cocking (1999 in Anderson 2008, 47) provide evidence that effective learning environments entail being community-centred, knowledge-centred, learner-centred and assessment-centred. The framework of attributes of learning as described by Anderson (2008, 45–74) was used to guide this research. I used community-centred, knowledge-centred, learner-centred and assessment-centred lenses to analyse the data in this metasynthesis. A short discussion of each lens is provided below to enable the reader to make sense of the data analysis method used in the study.

- Firstly, learner-centeredness includes awareness of the unique cognitive structures and understanding that learners bring to the learning context (Anderson 2008, 47).

- Secondly, knowledge-centred learning emphasises that effective learning does not happen in a vacuum and is bounded by the epistemology, language and discipline context (Anderson 2008, 49).

- Thirdly, learning and growth are always assessment-centred (Anderson 2008, 50).

- Lastly, the community-centred lens allows the inclusion of the critical social element of e-learning. Vygotsky (2000 in Anderson 2008, 51) refers to social cognition as how students can work together in an online learning context to collaboratively create new knowledge (Anderson 2008, 51).
The setting for this study was primary qualitative research studies on e-learning in open and distance learning (ODL) in higher education institutions. The focus was student or learner support in online learning. Comparisons among students regarding support in different e-learning situations were made. In addition, the research question for this metasynthesis was as follows: What do learners need in terms of support in online courses?

**The research objectives for the study were as follows:**

1. To analyse primary qualitative research studies on student support in online courses.
2. To synthesise primary qualitative research studies on student support in e-learning in higher education institutions worldwide from 2000 to 2009.
3. To provide a best practice guideline for academic support to students in e-learning in general but also being mindful of the African perspective.

**Methodology**

This study was a qualitative, interpretive synthesis of data from primary qualitative research studies conducted between 2000 and 2009 worldwide. Studies using different qualitative methods such as phenomenology, case studies, ethnography and grounded theory approaches were included. This study aimed to generate a thorough understanding of support to learners in online courses at ODL institutions worldwide.

In an inquiry using the metastudy approach, there are three distinct analytical phases: the metamethod, metadata analysis and metatheory - followed by the synthesis phase. The metamethod entails thoughtful examination of the manner in which the methodological approach was used to gather and interpret the data. The metadata analysis involves re interpretations of the actual findings from the primary qualitative studies. Lastly, the metatheory consists of an examination of the theories that lead the primary researchers’ topics, frameworks and research questions (Sandelowski, Trimble, Woodard & Barroso 2006, 11–12; Thorne, Paterson, Acorn, Canam, Joachim & Jillings 2002, 437–452).

The search terms were ‘open distance learning’, ‘student/learner support’, ‘e-learning’, ‘online learning’ and ‘qualitative research’. They were submitted to the University of South Africa search librarians, together with one researcher.
who did online searching using the same terms. I searched South African and international academic databases. The databases included in this research were SAe-Publications, ISAP, EbscoHost: Academic Search Premier, Business Source Premier, Eric, Teacher Reference desk, PsycExtra, ProQuest: ABI/Inform, Educational Psychology, Academic OneFile, Emerald, ISI Web of Knowledge and Scholar.Google. The researchers also conducted individual journal searches.

**Screening and appraisal of articles**

I identified 197 articles from the searches (see Figure 1). Although I used the term ‘qualitative research’, quite a number of quantitative research articles surfaced from the search. Some of the articles, which seemed qualitative, were in fact a mixture of quantitative and qualitative research and I excluded those from the metasynthesis. I developed inclusion and exclusion criteria to select only the very best qualitative articles on student support in e-learning.

![Figure 1: Summary of research study screening and selection process](image)

Inclusion criteria were set for qualitative articles on online student support from 2000–2009. Only studies which addressed support and e-learning in higher education institutions were included in the screening, which left us with 24
articles. After screening the abstracts, I excluded 11 articles on the grounds of their research focus.

I screened the 13 full-length qualitative articles in detail for inclusion in the metasynthesis, using strict criteria as described by Paterson, Thorne, Canam and Jillings (2001, 12–13).

Table 1 presents the list of articles included. One article from Africa, which was included in the initial list of 13 articles, did not stand up to the rigor and transferability criteria set for this study during the screening process and was therefore excluded. A wide range of qualitative studies worldwide were included on e-learning and learner support. Malaysia, Indiana and Hawaii in the USA, Norway, Manchester in the UK, Canada and China were included in our metasynthesis. This study concentrated on finding common themes from a wide perspective with the African context in mind. I numbered the studies 1–6 (see Table 1). A research study included in this paper is referred to by the number of the study, followed by a colon and then the page number in the article, for example (1:33).

Table 1: List of articles included in the metasynthesis

|---|---|

**Rigor**

I engaged with the data for three months reading, coding, rereading and checking the coding of the articles. I used a wide variety of databases to select the primary research as indicated under the methodology above. I selected qualitative articles from a wide range of journals such as the European Journal of Open, Distance and E-learning, Information, Communication & Society, Distance Education, International Review of Research in Open and Distance Learning.
Learning and Campus-Wide Information Systems. The data were analysed by one researcher and validated by the other.

**Validity of the study**

Validity in the study was ensured by describing the process of the metastudy as it unfolded. The study followed the structure of a metastudy as described by Paterson et al. (2001). I conducted the research at a time of transition at the University of South Africa when ODL practices and e-learning strategies were being implemented. The lecturers were informed during 2009 to ensure that all the master’s courses were offered in online mode from 2010. Lecturers knew they had to offer online courses, but the how and the pedagogy for online learning were not discussed and no formal training was offered to them. This study was done to provide a practice guideline for lecturers preparing their courses for online offerings.

**Metamethod**

The analysis procedure of a metastudy involves three components, namely metamethod, metatheory and metadata analysis (Fink 2005, 136–141). I appraised the articles according to certain criteria, namely demographic aspects which are displayed in Table 2, sample method, status of learner support, perceptions and needs regarding support in e-learning.

**Table 2: Demographic data of the study population**

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<tbody>
<tr>
<td><strong>Sample</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td><strong>Support</strong></td>
<td>Instructor support</td>
<td>Learners are distressed</td>
<td>Multiple tools available</td>
<td>Constraints</td>
<td>Peer support</td>
<td>Traditional teaching</td>
</tr>
<tr>
<td><strong>Country</strong></td>
<td>Malaysia</td>
<td>Indiana, USA</td>
<td>Hawaii, USA and Norway</td>
<td>UK</td>
<td>Canada</td>
<td>Chinese</td>
</tr>
<tr>
<td><strong>Characteristics</strong></td>
<td>Final year</td>
<td>Graduates</td>
<td>Master’s</td>
<td>Master’s</td>
<td>MEd</td>
<td>Age 28–49</td>
</tr>
</tbody>
</table>
During this metamethod, I analysed the methodological orientation such as the research questions, trends in e-learning, aim and purpose of the studies, research design, data collection and data analysis and the trustworthiness of the studies as shown in Tables 3 and 4. In the studies under investigation, it became clear that the researchers used interviews in a very creative way.

Table 3: Summary of aspects under investigation in the metamethod

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<tbody>
<tr>
<td>Research questions</td>
<td>Four questions</td>
<td>One question</td>
<td>Three questions</td>
<td>None stated</td>
<td>None stated</td>
<td>None stated</td>
</tr>
<tr>
<td>Aims of the study</td>
<td>To identify learners' support needs</td>
<td>To understand the experiences of an internet-enabled course</td>
<td>To determine the experiences and perceptions of individuals in online education</td>
<td>To identify students’ needs</td>
<td>To identify learners’ perceptions</td>
<td>To examine Chinese teaching to understand e-learning</td>
</tr>
<tr>
<td>Research design</td>
<td>Phenomenology</td>
<td>Small-scale case study</td>
<td>Focus groups</td>
<td>Explanatory qualitative research</td>
<td>Constructivist qualitative research</td>
<td>Phenomenology</td>
</tr>
<tr>
<td>Data collection</td>
<td>E-mail interviews</td>
<td>Observation, interviews, document review</td>
<td>Focus groups</td>
<td>Open-ended questions</td>
<td>In-depth semi-structured interviews</td>
<td>Interviews</td>
</tr>
<tr>
<td>Data analysis</td>
<td>Content analysis</td>
<td>No method mentioned</td>
<td>Constant comparative coding</td>
<td>NVivo</td>
<td>Constant comparative method</td>
<td>NVivo and grounded theory</td>
</tr>
<tr>
<td>Rigor</td>
<td>Verified transcripts</td>
<td>Validated transcripts</td>
<td>Researchers revised transcripts</td>
<td>A follow-up telephone call</td>
<td>Validated by participants</td>
<td>Double-checked with participants</td>
</tr>
</tbody>
</table>

One study reported as follows:

“On-line learners were interviewed in their natural setting where they had access to the Internet and were generally comfortable with the mode of communication.” (1:6)
Insights from the metamethod

Overall, the selected studies included in this metasynthesis were not clear in the descriptions of the different methods used and in how the researchers collected the data. One wonders how the researchers administered the focus group technique in the virtual environment. Not all the researchers in the studies chosen described the in-depth, semi-structured interview method clearly. It must be noted that the research rigor was not of a high standard in the qualitative studies in this metasynthesis, which was one of the limitations of the study.

I found that three out of the six studies under investigation did not state any research question for their research. The three studies with research questions framed their questions around learner support, learners’ experiences and feelings on online courses. All the studies clearly stated their aims for the research and the researcher described learner support, feelings and experiences in rich text. The studies described rigor in their research reports, and most researchers referred to the verification of the transcripts with the participants. Ethical considerations were not addressed sufficiently in the six studies in this metasynthesis (see Table 4).

The study by Hara and Kling (2000) used multiple data collection strategies such as interviews, observations and document reviews. The researchers conducted the interviews online and an example of a question is as follows:

“Think back and write down the story of your first encounter with the online learning environment – describe your experiences of the event in as much detail as possible”. (1:6)

The study by Menchaca and Bekele (2008) used focus groups to collect data and the researchers evoked lively discussions by the following prompts:

“Which technology would have been most difficult to do without? Why?”

“Please describe experiences in e-learning. What were successes and failures?” (3:238)
Metadata analysis

The metadata analysis consisted of an examination of the underlying assumptions of various data analyses in the six articles, a comparison of different forms of data in terms of quality and the synthesis of the findings in all the studies included.

From Table 4, Menchaca and Bekele (2008) clearly complied most successfully with qualitative research guidelines. The study by Zhao, McConnell and Jiang (2009) was the weakest in terms of quality of the methodology in qualitative research.

Data were analysed manually on the printouts of the research articles and I highlighted concepts in different colours to group similar concepts together. I also used hand drawings to get more clarity on the flow of the data and the metaphors. I sorted the data into main themes under the names of the authors of the articles and under the metaphor of “Typology of learning needs in e-learning”. The researcher then immersed herself in the data by studying and reading the articles repeatedly. Three distinct new metaphors emerged from the data as indicated in Table 5:

1. Technical problems (infrastructure and access)
2. A panic attack (pedagogy)
3. Human contact (human factors)
Table 4: Metadata analysis: Rigor of the primary qualitative articles used in the meta-synthesis

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Clear statement of the findings</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Three main findings</td>
<td>Three categories</td>
<td>Three themes</td>
<td>Five themes</td>
<td>Five categories</td>
<td></td>
</tr>
<tr>
<td>Justification of interpretations</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Links between data and findings</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Not clear</td>
</tr>
<tr>
<td>Usefulness of results High/Med/Low</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Transferability Yes/No</td>
<td>Not clear</td>
<td>Not clear</td>
<td>Yes, clear</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Relevance to ODL High/Med/Low</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Are the results important? Yes/No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Values</td>
<td>Support, self-efficacy</td>
<td>Distress, communication breakdown</td>
<td>Technology Pedagogy</td>
<td>Technology Human needs Community of learners</td>
<td>Interpersonal communication online</td>
<td>Conceptions of learning</td>
</tr>
<tr>
<td>Preference of researcher clearly delineated Yes/No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Technical problems

The metaphor on infrastructure and access turned out to consist of only a few concepts. It is clear from Table 5, that teachers and students need multiple tools when embarking on e-learning. E-learners need to be proficient in different technological skills before enrolling for the course.

“I had technical problems with the induction programme. After trying several times with help here, I gave up...” (3:243)
“Africa... the infrastructure is there, but a 30 minutes video link, sometimes I have to log onto the computer because of disruptions to the line, I will be doing that about ten times within the thirty minutes...” (4:287)

The technology affected learning and teaching negatively in e-learning courses and could not always support the e-learning and pedagogy of e-learning:

“There was rather a barrage of e-mails requiring a lot of different things to be set up. I was not prepared for just how much of the material would be presented online, and this caused a few problems at first as I was using my computer at work, which has several restrictions... It took me a little while to get connected (and costs) at home and then things ran more smoothly... However, I was not prepared for the style of learning, and an introduction to this would have been useful.” (4:287)

In China, higher education institutions were reasonably well resourced although the infrastructure and access were poor:

“... But it appears to be very patchy and still seems to depend on the resources and social and political contexts of each institution. (6:95)

The potential online students also need orientation in how the technology must be used (Rovai, Ponton & Baker 2008, 14–28; Damoense 2003, 1–16).

A panic attack!

‘Good pedagogy’ is a term widely used in educational writing, but all too often we assume its meaning is self-evident. Pedagogy is concerned with our immediate image of the teaching situation. Didactic goals can be written down, but pedagogical experiences cannot be easily theorised owing to their unique aspects. Pedagogical practices under e-learning should incorporate activities that promote and facilitate constructivist, interactive and collaborative learning. In other words, traditional pedagogy needs to be adapted to a pedagogy relating to a technology-based learning environment, which emphasises the principles of engagement theory. Technology is an important resource for any student, but it is not valuable in a vacuum. Doubtless, lecturers must take greater responsibility when it comes to the development of online courses to ensure a sound technological pedagogy (Damoense 2003, 1–16).

Lecturers must not act differently in the e-learning paradigm from how they would in the classroom. In this research this was evidently happening and participants reported as follows:

“I do think that the interactions were... bordering on the ridiculous sometimes in terms of praise. I mean you do not praise people that much in a face to face situation, so why would the facilitator does it merely because teaching is online?” (5:8)
E-learners also seemed to be stressed, worrying about all kinds of things such as their ability to post a good and well-phrased comment online since many people would read it:

“I had a panic attack! It was a very fearful situation. ... It was a very fearful situation.” (5:10).

**Human contact**

Five of the six studies reflected on the issue of human presence or human contact:

“Yes. So my eyes are tired. Of course, a part of the problem is not totally the class’s fault... They (the lesson plans) do not completely relate to the class... I am totally frustrated because I really want to go home. I do not want to be here (in front of the computer) anymore...” (2:10)

An effective e-learning environment is one where there is effective communication between students and instructors (Motteram & Forrester 2005, 281-298; Alias & Rahman 2005, 1–14). Most of the studies referred to high quality of interaction in e-learning:

“No interaction and communication at all from the lecturer. Where can I get hold of the instructor anytime?” (Supportive learning) (1:8). Regarding synchronous learning and feedback, one of the studies reported as follows:

“Assessing the synchronous environment, lack of adequate feedback and difficulty to work in groups... What could be done in 10 minutes F2F could take 30 minutes or more online?” (3:246).

In another study participants referred to human factors and interaction in e-learning environments:

“I feel access to a human tutor is the greatest need... We need a tutor that cares about students. We need to be in contact, just not to feel isolated.” (4:287–288)

“Picking up on the small points you get through informal conversations with classmates or dropping into the professor’s office after class.” (5:10)

“It was pretty important to know that there were people out there who were feeling the same thing... It was a bit scary, I was thinking can I do it; can’t I do it? ... but it was reassuring to know that other people were feeling the same thing; that it was quite normal.” (4:288)
The pain of e-learning was evident and was expressed as follows:

Conversely, some of the e-learners were satisfied and found the online learning experience enjoyable. Learners made positive comments on online learning:

“Satisfied, enjoyed, valuable, learned a lot, wonderful, best experience, loved it and effective” (3:245)

“(For e-learning you have to have) an up to date study skill” and fast and hassle free... no barrier, no traffic jam, no yarning in the class listening to certain dry subjects by certain fatigue lecturers ect. and lastly no extra monies incurred to attend the class.” (1:7)

### Table 5: Metadata analysis: The three new metaphors, authors and original concepts

<table>
<thead>
<tr>
<th>No.</th>
<th>New metaphor</th>
<th>Authors</th>
<th>Original concepts</th>
</tr>
</thead>
</table>
| 1   | Technical problems     | Menchaca & Bekele (2008)          | Multiple tools  
Technical proficiency  
Asynchronised and synchronised tools  
Stable vs. non-stable networks  
Cultural and political issues and technology  
Orientation to technological tools  
Wide range of resources  
Information before inception of course regarding hardware and software, technical skills needed |
|     |                        | Zhao et al. (2009)                |                                                                                                           |
|     |                        | Motteram & Forrester (2005)       |                                                                                                           |
| 2   | A panic attack         | Menchaca & Bekele (2008)          | Situated learning  
F2F and change  
Faculty support and knowledge  
E-learning is uncomfortable  
Worry about what others think  
Wish for F2F sessions  
No one available to ask  
No human contact  
Panic attack and fearfulness  
Want to be “fed”  
Slow process  
F2F and prefer lectures  
No identification with e-learning  
E-learning is an add-on only  
Excites students  
Poor participation |
|     |                        | Strodel et al. (2006)             |                                                                                                           |
|     |                        | Zhao et al. (2009)                |                                                                                                           |
| 3 | Human contact | Alias & Rahman (2005) | Support from instructor |
|   |             |                           | Learning tools and resources available |
|   |             | Hara & Kling (2000) | Peer support |
|   |             | Motteram & Forrester (2005) | Complexities of working alone at night |
|   |             |                           | Interactive communication |
|   |             | Strodel et al. (2006) | Technological problems and distress |
|   |             | Zhao et al. (2009) | Student needs and relationships |
|   |             | Menchaca & Bekele (2008) | Role of tutor |
|   |             |                           | Honesty concerns and look person in the eye |
|   |             |                           | Portray oneself |
|   |             |                           | Praise bordering on ridiculous |
|   |             |                           | Time consuming |
|   |             |                           | F2F meetings and orientation |
|   |             |                           | Little socialisation |
|   |             |                           | No critical thinking |
|   |             |                           | Online dialogue no control |
|   |             |                           | Lack of spontaneity |
|   |             |                           | Frustrations and waiting time |
|   |             |                           | Misunderstandings and helplessness |
|   |             |                           | Disconcerting experience |
|   |             |                           | The value is questionable |
|   |             |                           | PDF files with resources |
|   |             |                           | Community development |
|   |             |                           | Scepticism over quality |
|   |             |                           | To get course material |
|   |             |                           | Positive |
|   |             |                           | Easy to enrol |
|   |             |                           | Programs are difficult |

**Metatheory**

The major paradigms underlying the theoretical frameworks on student support in e-learning were concepts such as human factors, course content, leadership, pedagogy, technical factors and success and quality factors (Menchaca & Bekele 2008, 236). Alias and Rahman (2005, 2) describe their conceptual framework, using concepts such as thoughtful selection of students and orientation, well-suited teachers, purposeful learner interaction and learner support, which included a wide range of aspects such as course choice, planning activities to study and embedded support within the course content. The framework of Garrison (2006) as described in Strodel et al. (2006, 2-3) and emphasises that learning occurs through interaction of social presence, cognitive presence and teaching presence. Four phases of practical enquiry from the student’s point
of view are identified by Strodel et al. (2006, 2–3), namely a trigger event, exploration, integration and resolution. The other studies in the metasynthesis did not clearly reflect on theoretical frameworks and were therefore not discussed in the metatheory.

When we look at Figure 2 we realise that this support framework is student centred and all the activities and learning strategies must be planned with the student at the centre. This framework for online support in higher education advocates pedagogy of student centredness. The students must be enthused by the activities and triggering events in online learning. They must be motivated to want to explore the course content and beyond. The online course must be structured so that the course content is knowledge centred and the online student is guided through the knowledge in a way that the student is active and motivated all the time. There needs to be integration across activities all the time. The online lecturer must ensure that teaching and assessment are in constructive alignment with the outcomes and assessment criteria.

The framework indicates that technology is there for online lecturers to access and to use. On the left-hand side of the framework we see the technology aspects which we as online learning providers must weigh and select to obtain the best match for our environment. We need to decide whether to use multiple tools in our course or just one or two, and how we will introduce the tools. Also, we need to consider how technologically inclined both we and our students are. Should we plan a course for online learning for our lecturers and for the students? Another aspect to consider is how the network and outages will affect the course. Cultural implications of studying online need consideration and the political will on the academic side to make a success of online learning are aspects for reflection when online learning is planned and implemented.

What level of reskilling of staff is needed for online learning to be successful? Do we need to develop an introductory course for our online students to familiarise them with new technology? The level of support needed by the staff to make online learning a valuable experience for lecturers and students, needs to be established right at the beginning of the planning of online learning. Online learning providers must provide structured learning opportunities to academic staff involved in online learning about best practices for online learning, course design and development through formal institutional centres for teaching and learning.
Implications for e-learning at higher education institutions

From this study it has emerged that we need to select e-learning students carefully and students need to fit the paradigm of online learning. According to the findings, prospective e-learning students must be technically inclined to be able to make the most of online learning. A stable network and orientation to e-learning would be an asset for students in online learning. Students need to be familiar with the technology and they also need to have the finances to access the technology needed for online learning, the programs and the hardware as well as the Internet.

Many difficulties regarding e-learning courses are facing higher education institutions in Africa in particular (Damoense 2003, 9; Uys, Nleya & Molelu 2004, 75). To start with, the networks in Africa are extremely unstable and learners must log on repeatedly because the Internet fails. In addition, Africa is experiencing an electrical supply crisis, with daily power failures and power-sharing regulations which affect the economy and computer services. Many learners in Africa are still using candlelight to study and e-learning is thus not yet a practicable learning application for many (Damoense 2003, 9-16). Online
providers need to ensure that they offer blended learning approaches as well to be able to accommodate all students.

In addition, it should be remembered that e-learners are human beings with security and social needs. Face-to-face interactions need to be part of the e-learning paradigm and lecturers in online learning should plan properly for interaction and structured synchronous discussions with students. “Interaction has long been a defining and critical component of education processes and context” (Anderson 2008, 54).

Holmberg (1981 in Anderson 2008, 55) introduced the idea of simulated interaction, which defines the writing style appropriate for independent study models of distance education. Garrison and Shale (1990 in Anderson 2008, 55) define all forms of education as essentially interactions between content, students and teachers. The web affords interaction in many modalities such as face to face, video conferencing, audio conferencing and computer conferencing, to name a few. Student-student interaction has traditionally been downplayed as a requirement of distance education, owing to constraints on availability of technology, but it could be used in online learning which could facilitate a higher order of learning. Student-content interaction has always been a major component of formal education.

The web supports this passive form of student-content interaction, but also provides a host of new opportunities such as immersion in microenvironments, virtual exercises and online tutorials. Student-teacher interaction is supported in online learning in a large number of formats in asynchronous and synchronous communication in text, audio and video communications. Best practices in online learning recognise the flow of communication now to be much less teacher centred than in a traditional classroom. Teacher-content interaction focuses on the teacher’s creation of content; teacher-teacher interaction sustains professional development of teachers and content-content interaction is a new developing mode of education in which content is programmed to interact with other automated information (Anderson 2008, 54–59).

From the metasynthesis, clearly the pedagogy in e-learning requires serious attention. It is important to keep e-learners active and interested. In e-learning, we need to inform our students on aspects such as learning outcomes for each course, time frames and important dates for assignments and other learning or assessment events. Online learners, just like traditional learners, need information on their achievements, and feedback on assignments and tests
A typical e-learning course should include aspects such as announcements, facilitators’ profiles, course information, timetables, course material, lists and learning modules, discussion classes, conferences, self-assessments, links to applicable websites, communication tools and a digital drop-box to post assignments and tests.

Limitations of the study

This study reflected on articles from different contexts worldwide. There were no qualitative research articles from the African context because of lack of rigor in the articles. In fact the rigor in most of the studies on e-learning was not of a high standard although the data sources were published in peer-reviewed journals. Another limitation was that the data sources did not describe the theoretical frameworks used in their research clearly.

Conclusion

Learner support in e-learning courses comprises three main themes, namely human contact, panic attacks which are caused by e-learning pedagogy and technical problems. It is relatively easy to register for online courses, but the technology is problematic and may prove to be a stumbling block for the student. Online students want face-to-face contact and interaction, and the pedagogy used in e-learning can cause so much stress and anxiety to some students that they then give up. E-learning providers of academic courses need to think much more creatively if they want to make a success of online learning in higher education institutions. Figure 2 could assist online lecturers in their creative thinking when they plan interactive and supportive online learning courses.

References


