Chapter

Research Framework

This chapter contextualises the research study by presenting some theoretical background that led to identifying the research problem. Questions pertaining to the research problem are posed and a synopsis of the research methodology implemented in an attempt to find the answers, are presented. This chapter concludes with a description of the composition of this report.

1.1 Introduction

Online learning is rapidly catching on in both South Africa and internationally, and facilitators will need to fulfill specific roles (which are in addition to the traditional facilitative roles) to facilitate learning events that integrate technology, such as Internet-based learning, to support learning. It is therefore assumed that technology-mediated learning is changing the traditional roles/tasks of learning facilitators.

This chapter provides a theoretical background to this study by extracting the main themes pertaining to online learning from the literature. Based on the content of these themes, one research problem is identified that forms the sole focus of this study. The research problem is then filtered into various questions in an attempt to obtain a solution to the identified problem area. This approach is illustrated in Figure 1.1, using a funnel as metaphor in presenting the stated approach.

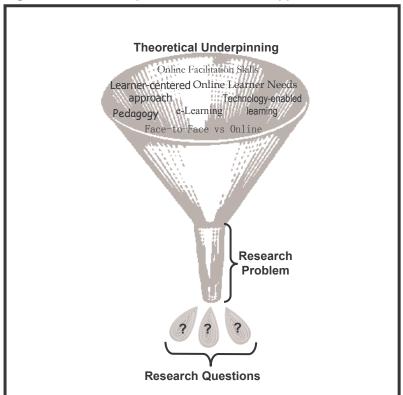


Figure 1.1 Research problem identification approach

1.2 Theoretical Underpinning of the Research Study

An online learning theme that is constantly encountered in the literature, is the extensive focus being placed on technology. Learning enabled technology is constantly being matched to specific facilitation techniques and methods while very little attention is devoted to the new andragogical/pedagogical challenges presented by this new way of learning. Salter and Hansen (1999) confirm this current trend and note that "there is a tendency for those new to online teaching to rely too heavily on the technology". The effectiveness of online facilitation and learning is therefore questionable – especially from an andragogical perspective (Bennet, Priest & Macpherson, 1999).

¹ Andragogy and pedagogy are addressed in more detail in Chapter 2.

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Research further indicates that the majority of online courses are directly uploaded to the World Wide Web, without changing or adapting the original face-to-face design. This approach does not allow online facilitators to "take full advantage of the pedagogical opportunities provided by the new technology" (Ellis & Phelps, 2000). Burnett (1999) agrees and states:

The technology is more like a prosthesis, permitting some new possibilities, but always under the control of the instructor, who can quickly and easily make some fine tuning adjustments. The instructor's personality is still in evidence. It is possible to be a caring individual even in an online situation.

There is a wealth of information available on the Internet that comments on the changes online learning will bring about for online facilitators (Salter & Hansen, 1999; Kearsley, 1997; Clarkson, 1998; and many others). The main focus is on the change from a teacher-centered to a learner-centered approach. This subsequently implies a change in the role of an online facilitator from a 'sage on the stage' to a 'guide on the side' (Broadbent & Legassie, 2002) where facilitators become "designers of learning experiences rather than just providers of content" (Collins & Berge, 1996).

Kemshal-Bell (2001) divided the online facilitation skills into three areas:

- Technical skills which include email, forums, chat, video and audio conferencing, and website development.
- Facilitation skills which include engaging the learner, questioning, listening, feedback, providing direction and support, managing discussions, team building, relationship building, and motivating.
- Management skills which include time management, planning, monitoring and reviewing.

Based on the skills identified above, it is quite possible to conclude that the skills required by an online facilitator, vary quite extensively from traditional face-to-face facilitation skills. This is brought about by the major technological changes experienced globally over the past few years, however "until it is acknowledged that the most important aspect of online learning is the human factor, (the facilitator,

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the students, and the interaction), then the full potential will not be realized" (Spitzer, 2001; cited in Hatch, 2002).

1.3 Research Problem and Purpose

Many researchers agree that effective facilitator-learner relationships are a critical success factor for online learning (Wheeler, Reynolds & Russell, 2000; Kemshal-Bell, 2001; ANTA², 2002; to name just a few). One way of ensuring a positive facilitator-learner relationship is to identify and effectively address learner needs. However, developing online facilitation skills to meet the individual needs of online learners is an issue that hasn't received much attention in the literature (Kemshal-Bell, 2001). If one does come across needs-related information, the needs are mainly focused on course content and not on the support expected from the online facilitator.

Another major issue with most of the literature pertaining to online learner needs is that "it does not appear to be based on systematic research of online learning and is more anecdotal than systematically empirical or critical" (Hatch, 2002). This observation leads to a deduction that much of the identified online learning needs are based on assumptions (EDC³, 2000).

The purpose of this study is therefore to empirically determine the tasks and associated skills and attributes that online facilitators require to effectively address and satisfy the diverse needs of online learners. These requirements will be based on the perceptions of both online learners and online facilitators.

Knowing what the dominant requirements of a specific group of learners are, is a valuable source of information that can be utilised to guide facilitators in their facilitative approaches. Online facilitators should therefore be equipped with the

³ EDC: Education Development Center

² ANTA: Australian National Training Authority

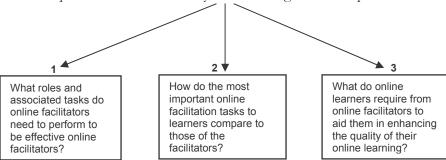
necessary skills to adapt their facilitation approach in order to meet the various needs of the targeted learners.

1.4 Research Questions and Methodology of the Study

The research problem identified in Section 1.3 of this Chapter can be restated in a question format, which is as follows:

What skills and attributes do online facilitators need to acquire to effectively address and satisfy the diverse needs of online learners?

This question can be refined by the following three sub questions:



To collect the data pertaining to the roles and associated tasks of the online facilitator, the researcher employed the Delphi Technique to solicit responses from a group of experienced online facilitators.

The tasks identified through the Delphi Technique were then rank-ordered from most to least desirable, utilising the Q-sort Technique. Two participant groups performed this activity: Online facilitators (other than those who participated in the Delphi Technique) and online learners.

The data from the Q-sort activity was then analysed, using PQMethod, which produced various online facilitator and learner subgroups with similar responses. Based on these results, the researcher was in a position to ascertain the skills and

attributes that online facilitators lack in order to satisfy the specific needs of a specific group of online learners.

The former paragraphs provide a synopsis of the research methodology implemented for this study. A comprehensive exposition of the research methodology is provided in Chapter 3 of this report.

1.5 How this Report is Organised

This report is organised into 5 chapters. The content of each chapter is summarised in Figure 1.2 below.

CHAPTER 1 Research Framework CHAPTER 2 Introduction and Literature Review statement of the problem **CHAPTER 3** Literature survey **Research Design** relevant to this study Implementation plan of the data collection and analysis methods **CHAPTER 4 Data Collection & Analysis CHAPTER 5 Discussion &** Actual implementation of the research design and the consequent Recommendations findings Summary of the findings, accompanied by constructive recommendations

Figure 1.2 Overview of the research report

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1.6 Conclusion

When understanding the needs of online learners, facilitators can support their journey into online learning in evocative and constructive ways. This research provides the reader the opportunity to gain greater insight into the needs of online learners – specifically related to their expectations regarding the supportive tasks of an online facilitator. It further provides facilitators with a guide for further skills development to ensure that they will be prepared to meet the needs of all their online learners.

This report will hopefully be of value to those institutions that are aiming for bestpractice delivery.

7

Chapter 2

Literature Review

This chapter surveys the literature relevant to this study, and explores its contribution to the current research. The review considers current and historical perspectives regarding online learning and its place in the field of learning and is then narrowed down to the 'new' roles of online learners and facilitators respectively. This chapter concludes with a discussion pertaining to current research issues that will form the basis of this research study.

2.1 Introduction

The researcher made the assumption that, by this time, everyone who is interested in the field of learning should have encountered the term eLearning or Online Learning. However, this is definitely not the case, as it became evident during the research process: whenever a face-to-face enquiry both locally and abroad about available books related to the field of online learning was conducted, the words "eLearning/Online Learning" were foreign concepts to the bookstore staff. The researcher was constantly directed to books relating to computer programming or eBusiness. The researcher can thus conclude that a lot of groundwork still needs to be conducted to make the public "out there" aware of this new and exciting medium of learning.

2.2 Online Learning and the Online Environment

The terms 'eLearning' and 'Online Learning' are synonymous (Morrison, 2003). Defining online learning, however, differs from person to person (Rosenberg,

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2001). Morrison (2003) agrees and suggests that this could be due to the tendency to define things in accordance to how we use them and defines online learning as:

... the continuous assimilation of knowledge and skills by adults stimulated by synchronous⁴ and asynchronous⁵ learning events – and sometimes Knowledge Management outputs – which are authored, delivered, engaged with, supported, and administered using Internet technologies.

Cashion and Palmieri (2002) simply define online learning as:

... learning that occurs when the delivery of education or training is carried out via an intranet or internet. It includes whole course or single subjects. It includes mixed or hybrid modes, as long as the online component is integral to the learning.

Using both definitions as a basis, for the purpose of this study, online learning can thus be summarised as the use of Internet technologies to deliver a broad array of instructional solutions that enhance knowledge.

2.2.1 Online Learning versus Face-to-Face Learning

One way of understanding the complexities of online learning, is to compare it to the traditional face-to-face (f2f) learning activities. The most obvious difference is that f2f classrooms bring learners and facilitators together in the same place at the same time, while online classrooms separate learners and facilitators both geographically and temporally (Kettner-Polley, n.d). In an online situation, this can also lead to an additional difference, namely 'isolation' which is a difficult issue to manage due to the absence of visual, audio and tactile cues (Benfield, 2001). ANTA (n.d.) agrees with this distinction and adds the following challenges for online learners and facilitators:

• The lack of non-verbal cues: White (2000) believes that communication is more open to misinterpretation and more thought is therefore required. This concern is also expressed by Byrne and Waddell (n.d.) who note that "both 'tone' and 'voice', when

⁴ Synchronous learning events take place in real time where learners are logged on at the same time, communicating with each other, for example using Instant Messaging technologies.

⁵ Asynchronous learning events take place when learners are not logged on at the same time, for example posting discussions to a bulletin board. Interaction between facilitator and learners is independent of time and place.

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communicating an online message, play an important role in encouraging the type of interactivity and reflection that result in commitment, persistence and meaningful learning".

- Increased expectation from learners: Learners are becoming less tolerant of communication delays and expect instant feedback with instant technology.
- An increase in one-to-one communication: Facilitators have to customise their responses to individual queries. Some facilitators, however, process repetitive questions through the establishment of a bank of Frequently Ask Questions (FAQs).
- Pacing, leading, questioning and encouraging: All these activities require more knowledge, thought and effort.
- Delay between interactions: Asynchronous communication allows learners to post their messages at a time that is convenient for them. It also allows learners to construct a well thought-through message before posting it to the discussion forum. According to Rossman (1999), as a result of this, "the quality of discussion usually reflects a higher level of scholarly discourse than is typical in many FTF6 classes".
- Anonymity: Many online interactions are anonymous which may lead to learners
 participating with less inhibitions and norms than would have been otherwise applied
 in f2f interactions. White (2000) notes, "there is another interesting overlay of how
 status or rank is or isn't revealed and how that affects the interaction dynamics".
- Text based: Rossman (1999) reminds one that online communication is limited to the
 written word, "which lacks the subtleties and nuances of FTF communication". Due to
 this lack of physical communications cues (e.g. nodding, body language), more explicit
 writing/reading is required to ensure successful communication.

To conclude this section, here are some final thoughts, presented by Kettner-Polley (n.d) on his personal experiences pertaining to the difference between f2f and online learning environments:

In the traditional classroom, verbose students can easily dominate class discussion. A skillful professor learns how to cut this off without alienating the over-talker, but time is still lost in the process. In the asynchronous online course, each participant can decide how much time to give to a posting. Verbose postings can be skimmed or ignored. In addition, long and complicated postings can provide background information that could never be shared verbally in the traditional classroom.

-

⁶ FTF: face-to-face

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Based on all the information, one can conclude that the online learning environment is vastly different from its f2f counterpart. On this note, a comparative discussion between andragogical, pedagogical and cybergogical theory is required to highlight the impact of the identified differences on both learners and facilitators: Pedagogy refers to the traditional instructional approach based on teacher-directed learning theory (Gibbons & Wentworth, 2001). Andragogy and cybergogy describe the instructional approach based on self-directed learning theory (Carrier & Moulds, n.d.).

2.2.2 Pedagogy versus Andragogy versus Cybergogy

The differences between the pedagogical, and and cybergogical teaching and learning theories can be depicted in Table 2.1.

Table 2.1 Pedagogical, andragogical and cybergogical learning theories

Element	Pedagogy	Andragogy	Cybergogy
Definition	The art and science of teaching	The art of helping adults learn	The art of helping all learn through distance education and virtual media
Learner profile	Child	Adult	ChildAdult
Learner characteristics	Developmentally "in progress"DependentInexperienced	Mature Independent Experienced	MatureIndependentLife-experiencedTechnology- experienced
Educational Undertakings	Impart content Develop generalisable skills	Impart content Develop professional competencies	Assure technological competence Impart content Develop professional competencies
Teaching Approach	Directive	Facilitative	Dual responsibilities: Technologically enabling Course facilitative
Orientation to Learning	Assumed dependence Teacher-driven transformation	Assumed independence Learner-driven transformation	Progressive autonomy Learner-driven transformation

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Element	Pedagogy	Andragogy	Cybergogy
Environment	Physical classroom	Physical classroom	Virtual classroom
Social interaction between learners	Assumed	Assumed	Not always assumed – but should be
Envisaged Outcomes	General literacy gains Citizenship preparation	Specific competency gains Professional preparation	Specific competency gains Specific technological gains Professional preparation

Source: Adapted from Carrier & Moulds (n.d.).

As can be viewed in Table 2.1, andragogy and cybergogy are very similar. One difference is that andragogy is cited in the literature as "the way *adults* learn" while cybergogy focuses on both adults and children. Another difference lies in the technological competencies that are very strongly highlighted by cybergogy, but does not play a significant part in andragogy.

Gibbons and Wentworth (2001) agree with Carrier and Moulds' descriptions in Table 2.1, even though they do not differentiate between andragogy and cybergogy. These authors assert that traditional learners (pedagogy) rely on the teachers to impart their knowledge in a lecture-based format that is accepted without questioning the information. Nontraditional learners (andragogy and cybergogy), however take ownership of their own learning and the responsibility for learning is therefore transferred from the teacher to the learner. Gibbons and Wentworth (2001) further state, "Nontraditional learners have a life-centered orientation to learning, as opposed to the subject-centered orientation of traditional learners". Nontraditional learners therefore take a variety of work and life experiences to the virtual classroom and would thus welcome the opportunity to apply theory to their previously acquired experiences.

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The fact that there are these significant differences between traditional and nontraditional learners implies that the stages for learning in the online environment should also vary from the traditional f2f situation.

2.2.3 Stages of Online Learning

Salmon (2002) identifies five stages through which learners advance during their online learning experience. These stages are diagrammatically represented in Figure 2.1. Each stage requires the learners to attain certain technical skills (refer to the bottom left of each stage). Different online facilitation skills are also required for each stage (refer to the top right of each stage). The "interactivity bar" running along the right of the diagram represents the intensity of interactivity between learners at each stage.

2.2.3.1 Stage one: Access and motivation

During stage one, learners access the online course for the first time. Part of this new acquaintance involves "getting set up with appropriate hardware, software, and Internet connections, and gaining access to the course site and course materials" (Holmlund, n.d.). This stage comes to an end when the learners post their first messages.

2.2.3.2 Stage two: Online socialisation

During stage two, learners start to interact socially with others in the online environment, establishing their own identities and becoming comfortable with the online communication tools and culture. A sense of belonging and empathy begins to develop among learners.

2.2.3.3 Stage three: Information exchange

During stage three, learners begin to engage with the course content and information is actively shared with others in the online learning environment. This interaction is mainly based on information presented by the online facilitator. To

avoid an information overload learners "develop personal strategies for dealing with the flurry of messages that occur at this stage" (Holmlund, n.d.).

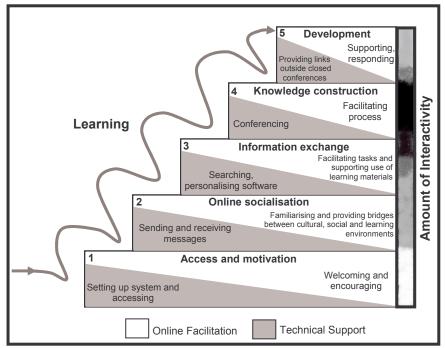


Figure 2.1 Five stages of online learning

Source: Adapted from Salmon (2002).

2.2.3.4 Stage four: Knowledge construction

During stage four, learners begin to actively construct their knowledge, rather than simply receiving and transferring information. Personal knowledge and opinions are shared among the learners, "critiquing and building on course content and on one another's contributions to course discussions. Often driven by participants, effective discussions center primarily on problem or project-based topics that have no right or wrong answers" (Holmlund, n.d.).

2.2.3.5 Stage five: Construction

During stage five, learners become truly responsible for their own learning within the online learning environment. Personal experience drives their own exploration

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of the topic under discussion and learners start to reflect on their own online learning process (learners are applying a constructivist⁷ approach to their learning).

It is clear from the online learning stages described above that the learners are taking on a much more active role in their own learning as well as the direction of the course itself. Online courses consequently require different skills and strategies than those implemented by learners in the traditional f2f learning environments (Holmlund, n.d.).

2.3 Role Profile of the Online Learner

Just as online learning can be a new and challenging experience for facilitators, so can it also be for learners (Broadbent & Legassie, 2002). Berge (1996) agrees with this point and asserts "While instructors are asked to articulate more clearly their goals and methods to others in the development team, students are also asked to take more responsibility for their learning". Learners are therefore equally challenged by new roles, functions, and tasks they need to perform.

2.3.1 Online Learning Challenges Faced by Learners

An important challenge to online learners is the need to consider their knowledge and experiences with computer technology: Some may be novices and others may have no idea what a modem is or what terms like 'upload' and 'download' mean. It can take up to two weeks for learners to become comfortable with the technology (Andrusyszyn (a), n.d.). Choy, McNickle and Clayton (2002) agree and go further in identifying the following issues also encountered by the learners:

- A new mode of learning in a different learning environment, often without access to readily available support.
- Information overload.
- Passive interaction.
- No socialising.
- The cost and time involved in printing downloads and technical malfunctions.

⁷ Constructivist approach: Learners construct their own understanding of the world we live in, by reflecting on their own prior experiences.

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Learners who participate in online courses tend to learn alone in front of their computers and are remote from their online facilitators or classmates, both physically and psychologically. This implies that these learners need clear and structured guidance and processes in solving problems such as accessing course materials or clarifying course expectations (Chang, n.d.).

Another important consideration is that learners may feel 'exposed' when sharing their thoughts and committing them to writing for an audience that is 'invisible' (Broadbent & Legassie, 2002). Andrusyszyn (b) (n.d.) is of the same opinion and elaborates on this point:

Some feel they are taking risks because they may be uncertain about the adequacy of their online contributions. They worry about whether what they say will be well received, substantive enough, and respected by the instructor and their peers.

The opposite is, however, also true where some learners participate with more confidence in online discussions, as they find the online environment less threatening as f2f situations (Horton, 2000, cited in Hatch, 2002).

Hatch (2002) elaborates further and adds the following:

Having spent years at school, college and university in traditional face-to-face modes of education, students come to expect lectures, regular contact, instant feedback and to be helped along. When students enter online modes of learning they bring these previous experiences with them and the changed environment of online learning can leave them feeling insecure.

Not all learners are suited to online learning. Research conducted by Smith (2000, cited in Choy et al, 2002) indicates that the learning preferences of apprentices are not suited to online learning, as apprentices prefer a more structured and community-based learning environment with instructor support. His study further indicates that many people do not like to learn on their own.

Based on all the mentioned challenges, there is no doubt that the transition between online and classroom learning can be daunting. The experiences of the

learners will determine the success of online delivery. It is therefore crucial that online facilitators become aware of the limitations in the current services they provide and satisfy learners' needs in such a manner that this technology will attract a wider community of learners (Choy et al, 2002).

2.3.2 Learning Needs of Online Learners

The findings of research conducted at Capella University (Rossman, 1999), pertaining to the needs of online learners, are grouped into three categories and can be viewed in Table 2.2. These findings are based on a document analysis of more than 3000 course evaluations from 154 various courses.

Table 2.2 Learning needs of online learners

Faculty Responsibility	Facilitating Discussions	Course Requirements
 Prompt feedback is required from the facilitator. 	Learners appreciate and learn a lot from other learners.	Guidelines from facilitators regarding course requirements
Specific feedback from facilitator a comment	Learner responses seem to Learner responses seem to	are needed.
facilitator – a comment such as "nice job" is	be a valuable aspect of the course.	 Inoperative or incorrect URLs are not tolerated.
being viewed as indicative of a lazy facilitator.	Learners do not like it when fellow classmates did not keep current with the weekly	Want to apply newly acquired information immediately to life or
Welcomes it when their	online posting requirements.	work situations.
opinions are being challenged.	Learners prefer discussion forums that encourage open	 Do not want to purchase books,
Negative comments should be given privately.	and honest dialogue.	programmes, etc. that will not be fully utilised by the facilitator.

Source: Adapted from Rossman (1999).

Another study conducted by Chang (n.d.) to determine the online learning needs of learners revealed the following information types required by the learners:

- **Assignments and grades:** Questions from the learners pertained to due dates, the facilitator's expectations, grading criteria of assignments, and course grades.
- Network access: Questions pertained to accessing the Internet network and online course materials in the course site.

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- Online discussion: Questions pertained to clarification, reflections, and suggestions of online discussion.
- **Group activities:** Questions pertained to group activities.
- Other course material access: Questions pertained to accessing textbooks, study guides, the university and local libraries.

The results indicated the most requested type of information related to network access and the second most requested type of information related to assignments and grades. Chang (n.d.) does however note that the rank order of the most requested information may differ in different learner characteristics.

This point is confirmed in a recent study of learner expectations conducted by Choy et al (2002), which found that prompt feedback on assignments, regular contact with facilitators and support for learning were among the most essential requirements. In a similar vein, Briggs (n.d.) found through his study one strong expectation which is "considerable involvement of the facilitator to maintain a feeling of a learning community". The results of his study also indicated that learner queries need to be answered promptly, assignments marked and returned promptly, and any other assistance that may be needed is provided.

With some of the online learning needs identified in this section, Briggs (n.d.) concludes that:

The ability to satisfy the student's learning expectations is a powerful motivator to have the student complete a course of study and to enroll in other courses of study. This suggests that more research is needed in the area of online learning expectations.

2.3.3 Elements that Constitute a High Quality Online Learning Experience

The main concerns of learners who opt for online learning are flexibility, convenience, and relevance (Kettner-Polley, n.d.). This could be due to online learners being the products of "a fast moving society that values time, productivity and measurable results" (Gibbons & Wentworth, 2001). In a study on 'quality

learning' from a learner's perspective, Cashion and Palmieri (2002) posit four most important quality features for learners (in order):

- Flexibility: To be able to work at the time, place and pace that the learner chooses; accessibility, convenience, and blended delivery approaches to provide a variety of pathways.
- Responsive facilitators: Motivators and helpers who respond promptly, thoughtfully, and in an informed way to learners' requests; keeping in contact by phone, email, bulletins, etc; building good relationships with learners and developing trust.
- Quality of materials and course design: Well-designed, interactive, up-to-date materials that are fast to download and easy to read and navigate.
- **'Self' (learner)**: The individual attributes that learners require in succeeding online, e.g. managing time, interacting with others, and learning style.

Results from this study also suggest that hybrid modes of delivery are generally the best and may include a mix of online and face-to-face deliveries.

A visual representation of the key quality features is provided in Figure 2.2.

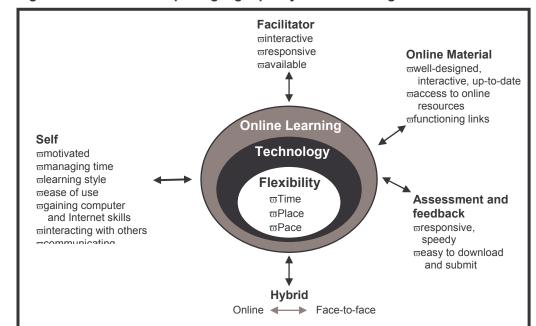


Figure 2.2 Factors comprising high quality online learning: The learner's view

Source: Adapted from Cashion and Palmieri (2002).

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Cashion and Palmieri (2002) also identified the key features of a quality online learning experience from a facilitator's perspective. The results are very similar to those identified by the learners, with the exception of additional emphasis on learner support issues and placing attention on organisational and professional development aspects regarding the introduction and delivery of online learning.

2.4 Role Profile of the Online Facilitator

Charles Darwin⁸ once said: "It's not the strongest of species who survive, nor the most intelligent, but the ones most responsive to change". This sentiment rings very true for the learning facilitators of today, operating in a world where change is the only constant. This opinion is further supported by Hatch (2002) when he remarks that "The move to online learning challenges the whole notion of teachers' work patterns, pedagogical approaches, assessment methods and methods of group, teacher/student and student/student interaction". Hatch (2002) elaborates on this point by citing Ellis, O'Rielly and Debrecency (1998), stating that: "These new challenges of online teaching pose problems for even the experienced distance teacher let alone a teacher that has only taught in face-to-face classroom situations and requires significant professional development to be put into place".

The role of the instructor has definitely changed through the introduction of online courses. The role shifts from that of transmitter of knowledge to that of a facilitator of learning who acts as a leader and guide in the learning process (ANTA Online Teaching & Learning Styles Projects, n.d.).

2.4.1 Defining Online Facilitation

The Oxford Dictionary (1989) defines *facilitation* as the act of "making easy". WordWeb⁹ takes it a bit further by defining facilitation as an "act of assisting or

⁸ Source: www.ucalgary.ca/~srmccaus/71fl1.htm (Charles Darwin)

⁹ WordWeb source: http://wordweb.info/free/

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making easier the progress or improvement of something". An online facilitator is therefore someone who guides learners in constructing their own knowledge.

Focus is placed on the process rather than the content (Rossman, 1999). This implies a change in the learning approach of the traditional teacher/instructor, from being teacher-centered to a more learner-centered approach (Hootstein, 2002). Benfield (2001) asserts in a similar vein that: "The centre of control has moved markedly away from the teacher to the students". In a study conducted by Saba and Shearer (1994, cited in Andrusyszyn, n.d.), they found that an increase in the level of *learner* control increased the rate of *dialogue* and an increase in the level of *instructor* control increased the rate of *structure*.

Hootstein (2002) remarks: "The essential quality of learner-centeredness is most relevant when learners are personally challenged with a problem to solve, a project to complete, or a dilemma to resolve". To achieve this, according to Batovsky (2002), the online facilitator has to:

- Make it easy for learners to communicate their experiences in order to enhance them.
- Encourage and help learners to reflect upon their experiences.
- Assist learners to develop their own learning processes, making them better learners.

With the teacher-centered model progressively giving way to the learner-centered model, the role of the instructor is also changing from a "sage on the stage" or teacher to a "guide on the side" or facilitator (Hootstein, 2002 and Broadbent & Legassie, 2002). The success of online learning depends on the skills of the facilitator and the communication behaviour and actions of all members of the collaborative learning community. Facilitators need to develop their own philosophical approach to online learning through a range of learning experiences (Ambrose, 2001).

2.4.2 The Profile of an Online Facilitator

Berge (1996) identifies four broad areas as conditions for successful online facilitation:

- The first area is the pedagogical (intellectual; task) area where focus is placed on
 the academic process of achieving the learning outcomes. The role of online
 facilitators pertains to their duties as an educational facilitator, which may include
 providing information and additional resources, questioning, supporting, pacing
 and leading.
- The second area is the **social** area where the facilitator is responsible for creating a friendly and sociable environment that is receptive to learning, promoting human relationships and acknowledging learners' inputs. To ensure success, the facilitator needs to maintain the group as a unit and provide opportunities for the learners to develop a sense of group cohesiveness.
- The third area is the **managerial** area (organisational; procedural; administrative) that requires the facilitator to set the agenda and pace for the online intervention: "the objectives of the discussion, the timetable, procedural rules and decision-making norms" (Berge, 1996).
- The last area is the technical area where the facilitator's proficiency and comfort
 level pertaining to the technology is essential. The facilitator must ensure that the
 learners are also comfortable with the system and software that will be used
 during the learning event.

Hootstein (2002) proposes a similar model as Berge, in which an online facilitator "wears four pairs of shoes", acting as:

- **Instructor:** Consultant, guide and resource provider.
- **Social director:** Creator of collaborative environments.
- **Program manager:** Director of the agenda.
- **Technical assistant:** Model of proficiency.

One may note that the roles identified thus far, are no different from the roles of a classroom instructor. However, a study by ANTA (cited in Cohen, 2000) shows that:

Facilitators of online learning environments consistently report that greater cognitive effort, a wider range and depth of skills and more time was required

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for effective facilitation... elegantly designed learning environments can fall over and have less impact if the facilitator does not have the range of skills to engage with learners and support them as they develop their own learning systems.

Kettner-Polley (n.d.) reflected on his online facilitation experience and noted that a different set of interpersonal skills is required by facilitators in the online environment than the traditional f2f classroom:

Professors who think that they can teach online by posting their lectures to the web are in for a rude awakening. Virtual professors are not merely providers of information. Their role is to select and filter information for student consideration, to provide thought-provoking questions, and to facilitate well-considered discussion.

Berge (1996) suggests the primary facilitative tasks of an online facilitator are:

- Providing information to assist learners in completing their assignments.
- Suggesting ideas or strategies for learning.
- Assisting learners to connect content with prior knowledge.

The tasks that an online facilitator has to execute during the five stages of online learning, as identified by Dr Gilly Salmon, can be depicted in Table 2.3 (please refer to section 2.2.3 of this chapter for more information on the *stages of online learning*).

Table 2.3 Facilitative tasks for each stage of online learning

Stage	Facilitation Tasks
Stage One: Access and Motivation	Make contact with each learner to offer assurance, welcome, and motivation to stay and participate in the course.
Stage Two: Online Socialisation	Encourage 'lurkers' and 'browsers' to join the discussion.
	Encourage group discussion and make room for purely social interaction among learners.
	When necessary, step in to maintain an atmosphere in which learners feel safe in expressing opinions.

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Stage	Facilitation Tasks
Stage Three: Information Exchange	Facilitate course activities using standard teaching strategies that involve preparation and planning.
	Provide stimulation and guidance in constructive use of learning materials and effective information sharing.
Stage Four: Knowledge Construction	Assist learners by stimulating, summarising, and weaving together course discussions.
	(Note : At this stage the role of the facilitator changes from leading course activities to facilitating discussion)
Stage Five: Construction	Support and respond to learners as they define and lead their own discussions.

Source: Adapted from Holmlund (n.d.).

Over the last couple of years much has been written about the subject of online facilitation, which makes it difficult to acknowledge all the valuable contributions. Table 2.4 summarises some of these contributions pertaining to the roles, tasks and skills that one needs to be an effective online facilitator.

Table 2.4 The role profile of an online facilitator

Role	Tasks	Skills
Program Administrator	Distribute course material (pre- course/post course)	Project Management skills
	Provide logistical support and service to programme participants	Time Management skills
	Keep record of learners and programme	
Strategist	Optimise learning by employing relevant	Planning skills
	instructional techniques.	Observation skills
	Cater for students' different learning styles	
Educational /	Set the climate for learning	Interpersonal skills
conceptional Facilitator	Prepare learner for the intervention	Questioning skills
	Understand the learner's need	Feedback skills
	Clarify expectations	Communication skills
	Set clear objectives	Writing skills
	Provide direction to a certain degree	Learning Technology
	Provide learners with sufficient information about the learning process	skills • Energising skills

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Role	Tasks	Skills
	Demonstrate confidence in knowledge	Observation skills
	Provide learner with feedback	Understanding of Adult
	Draw attention to apposing perspectives	learning
	Request responses	
Moderator	Facilitate discussions	Communication skills
	Respond to email communications	Decision making skills
	Monitor discussions	Conflict handling skills
	Encourage participation	Understanding of Adult
	Deal with group dynamics	learning
Quality Assuror	Maintain a clean and virus free environment	Learning Technology skills
	Maintain an organised learning environment	Problem solving skillsPlanning skills
	Work systematically using efficient and effective methods	
Communicator	Introduce learners and build a sense of community	Interpersonal skills
	Model good behaviour (i.e. respond by	Observation skills
	saying "thank you")	Communication skills
	Remind learners about "netiquette ¹⁰ " or ground rules	Learning Technology skills
	Invite learner to share his/her views	
	Use a variation of discussion techniques	
Motivator	Encourage deeper discussions	Interpersonal skills
	Encourage learners to participate	Questioning skills
	Explain the objective of the intervention	Learning Technologies
	Provoke the learner's curiosity	
	Provide the learner with time tables	
Manager	Initiate procedural rules to be followed during the intervention	Coaching skills Communication skills
	Maintain discipline	Leadership skills
	Monitor progress of group discussion	Managing skills
	Guide the learner to a certain degree	
Evaluator	Implement group assignments	Questioning skills
	Ask (text) questions	Communication skills
		Feedback skills

Sources: Adapted from Ambrose (2001); Berge (1996); Broadbent and Legassie (2002); Davie (1989); Varvil Jr (2001); White (2001); Cohen (2000); Wheeler et al (2000); EDC (2000).

Netiquette refers to the basic principles of courtesy and consideration of others that can keep communication on the Internet a pleasure for all.

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Not all of the roles identified in Table 2.4 need to be performed in their entirety by the same person (Berge, 1996). Wheeler et al (2000) agree with this statement and refer to Stephen Downes' triad model of online learning that identifies three key players:

- The Instructor who is mainly responsible for guiding learners in the learning journey, providing content specialist information, and assessing learner's contributions.
- The Facilitator who is responsible for providing technical support in the use of
 computers and online course materials. The facilitator is also a learning mentor
 who fosters peer-based learning communities without having to teach or evaluate
 the subject.
- The **Learner** who forms the third arm of the triad and can be any member of the community who wishes to participate in the learning process. Learners are covered in detail in Section 2.3 of this chapter.

When it comes to the development of online facilitators, Hoffman (2000) suggests that online facilitators should first participate as online learners before they start facilitating online courses. Gibbons and Wentworth (2001) support this suggestion and remark that this approach will "allow new facilitators to learn experientially under the same conditions as their future students". They further note:

This hands-on approach provides instructors an understanding of the differences in the online learner, online course delivery, and appropriate learning strategies, as well as fostering empathy for the online learner's needs and challenges... To allow instructors to teach online without formal training may be condemning the process to failure.

Just like a baby needs to crawl before it can walk, so should a facilitator become an online learner before taking up the role of an online facilitator. If a facilitator is willing and able to give up control of the learning process, amazing things can happen. Learners' self-esteem rises, as does their confidence in their abilities. The main task of online facilitators is to bring forth their best instructional practices and then get out of the way. Learners who may sit quietly and not do well in the traditional classroom may emerge as the leaders in the online classroom, presenting thoughtful and knowledgeable material for others to consider (Ambrose, 2001).

2.5 Research Issues

From the literature reviewed, it became obvious that there are deficiencies in several areas pertaining to online learning and the facilitation thereof:

- Online learning versus f2f learning: Many researchers have found that, through their studies, the majority of learners prefer f2f learning to online learning (Briggs, n.d; Ambrose, 2001; ANTA, 2002). The reasons for this phenomenon have not been properly researched.
- Learner characteristics: The vast changes in learning technology have created assumptions about learner characteristics that do not match clearly with actual learner experiences (ANTA, 2002). This issue is highlighted by the EDC (2000):

Facilitators should not simply "assume" that participants will have certain characteristics or will behave in a certain manners.

Facilitators and instructional designers should identify as much as possible about the technical sophistication of their learners, and design activities accordingly to maximize excitement while minimizing frustration in the learning context.

Choy et al (2002) elaborate on this point and state:

Not only are there assumptions being made about the self-directed learning skills of the student, but there are many assumptions being made about students' possession of information literacy, functional literacy and IT literacy skills required to use the medium.

Most of these mentioned assumptions are untested. Research into more scientific and reliable ways of identifying online learner characteristics and skills is required.

- Learner preferences, expectations and support: Further research needs to identify the expectations and preferences of potential online learners (Briggs, n.d; Hatch, 2002). This need is confirmed by Cashion & Palmieri (2002) when they found, through their study, that the facilitators thought the learners would need more support than the learners acknowledged they needed. To avoid this, Batovsky (2002) urges facilitators to "determine the learning preferences for the current group of learners and structure course activities appropriately to aid their learning intervention". Choy et al (2002) emphasises the fact that more research is required regarding the nature of support that learners expect.
- Learner and facilitator perspectives: Many aspects of online learning have been researched, but the scope of such studies has rarely considered the perspective of

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online learners (Cashion & Palmieri, 2002). This point is echoed by Choy et al (2002), stating that, "due to the embryonic stage of online learning, feedback of students' expectations and experiences of online learning has been quite limited". There is inadequate research from the learners' perspective of what they expect and experience in the form of support for online learning. Little has been written on the degree to which learners and facilitators perceive the most important tasks of the online facilitator to be (ANTA, 2000).

2.6 Conclusion

There are notably many area's that require additional research to provide the necessary guidance to successful future development in the online learning domain. However, for this study, it is impossible to collate all these requirements in a single effort and expect the outcome to be supportive of all the identified issues.

The focus of this study will be maintained on both the online facilitator's and online learner's perspectives regarding the most important tasks of online facilitators that will promote high quality online learning experiences. The identification of these underlying perceptions will hopefully represent some form of guidance to future facilitators when delivering an online learning intervention.

Many issues and deficiencies were mentioned that will ensure a best fit for online learning, but these will require in-depth investigation on each topic to provide the best solution. However, as previously stated, due to the constant change in the technological arena's, the solutions provided must be conducted in an iterative manner to ensure a best fit at all times.

Chapter 3

Research Design

This chapter outlines the research design and discusses the planned methods to be implemented to collect the required data, namely the Delphi Technique and Q-sort Technique. Details regarding the planned implementation of the PQMethod to analyse the collected data will conclude this chapter.

3.1 Introduction

Generally, educational research studies balance on a continuum that ranges from *interpretive* to *positivist* research. Typical ontological¹¹ assumptions in *interpretive* research are that people are not passive; they simply respond to structures. This subjectivist view is thus based on the belief that reality is socially constructed (Kulwaum, 1999). Epistemological¹² assumptions regarding interpretive studies are firstly that the researcher interacts with the research participants and secondly that it is the researcher's role to understand people's interpretation of events, rather than the events themselves – this is achieved by discovering meaning rather than by measurement (Kaboub, n.d.). Myers (1997) adds: "the philosophical base of interpretive research is hermeneutics" that can also be treated as a specific mode of analysis and is primarily concerned with the meaning of text.

¹¹ Ontology is a theory of being and is concerned with what exists (Hyperdictionary, 2003). In the social sciences, all theories and methodologies make assumptions about what kinds of things do and can exist, the condition of their existence, and the way they are related.

¹² Epistemology is a theory of knowing or how we obtain knowledge of the external reality. It is the branch of philosophy that deals with questions concerning the nature, scope, and sources of knowledge (De Rose, 2003).

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Positivist research, on the other hand, is characterised by an objectivist epistemology whereby reality is described by measurable properties that are independent of researchers and their instruments (Myers, 1997). Working from within a positivist, objectivist framework involves a methodology where researchers have usually minimal contact with the research participants. The methodology of positivism is experimental and manipulative and begins with a hypothesis on how "reality" works, followed by the gathering of data under carefully controlled conditions and then testing the data against the hypothesis (Kulwaum, 1999).

This study is designed to support an *interpretive* approach for data collection and analysis. Figure 3.1 places this subjectivist study into a macro perspective of the research approach.

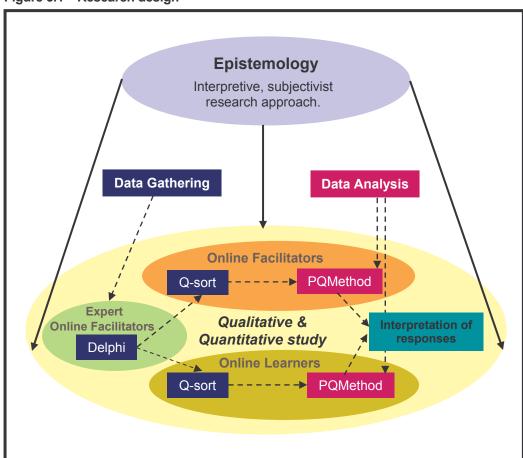


Figure 3.1 Research design

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- Epistemology: The researcher will be very much part of the research process, interacting with various research participants. Focus will be placed on the social construction of the participants' ideas and concepts regarding the roles and tasks of an online facilitator.
- **Data Gathering:** The data to be collected will relate to the views, opinions and perceptions of the participants which are based on their experiences. This will be achieved through the implementation of the:
 - | *Delphi Technique*, using a group of expert online facilitators (Group 1); | *Q-sort Technique*, using a group of online learners (Group 2) and a group of online facilitators (Group 3) which will be additional to the group that will participate during the application of the Delphi Technique.
- Data Analysis: The results from the Q-sort will be electronically analysed, using
 the *PQMethod* software programme. Both qualitative and quantitative
 methodologies will be implemented where data is presented in both descriptive
 and statistical form. Here, the researcher expects patterns, trends and themes to
 emerge from the research process that will be ready for interpretation. Kulwaum
 (1999) elaborates:

The analysis of the data involves the exercise of interpretation by the researcher, but the data is interpreted by the researcher in a particular way: it is an attempt by the researcher to read into the meanings of what the respondents think, feel and say about the problems.

In this instance, it is not the researcher who decides what counts as knowledge, but what the participants view as knowledge, emerging from interactions between the participants and the researcher.

3.2 Investigation Methods, Instruments and Subjects

Figure 3.1 depicts the Delphi technique as the first research technique to be applied within the research approach. The results from the Delphi application form the basis for further research which will include an analysis session, referred to as *Q-sort*, with selected online learners and facilitators (external the to Delphi group). The outcomes from this effort will be further analysed, using an electronic data analysis programme called *PQMethod* that results in the identification of distinct subgroups that share a

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similar perspective regarding the importance of the roles and associated tasks of an online facilitator.

3.2.1 The Delphi Technique

Delphi is a research technique that was developed during the 1950's with the aim of shaping accurate forecasts in the defence warfare environment. Most Delphi applications aim at exploring ideas or producing information in a creative and reliable manner (Illinois Institute of Technology, n.d.). This technique combines quantitative and qualitative methods to explore the future (Ludwig, 1997). Nowadays, Delphi is widely used in business, medical and educational disciplines.

The success of Delphi depends on its ability to get a group to produce a better quality result than any individual could achieve acting alone – a phenomenon Turoff and Hiltz (n.d.) refer to as "collective intelligence". The Delphi technique is a structured communication process during which a series of questions are posed to identified experts whose responses are analysed and feedback provided in a systematic and anonymous approach. The purpose of the Delphi technique is to "elicit information and judgments from participants to facilitate problem-solving, planning, and decision-making" in a reliable and structured manner (Dunham, 1996).

3.2.1.1 Purpose of the Delphi technique

The aim is to identify the roles and associated tasks of online facilitators. To achieve this, specialists have to be identified to partake in the process. The results of this technique will form the basis for further analysis to be conducted external to this group.

3.2.1.2 The Delphi process

The Delphi technique involves identified participants providing individual brainstormed ideas in a structured format based on a series of questionnaires. These ideas are then mailed anonymously to the researcher who subsequently sends the results in a tabulated format back to all the participants. Using the responses to the first question as basis, a second questionnaire is then prepared that consists of a consolidated list of all the

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participants' ideas. Participants are then required to comment on or refine each idea or identify new ideas based on the existing ones. These responses are once again anonymously returned to the researcher. This process is repeated until such time that no new ideas are forthcoming. The researcher then evaluates these ideas and prepares a report based on the findings (Ludwig, 1997). The opinions of the experts are summarised statistically and not in terms of a majority vote – this approach therefore increases reliability and reduces biased interpretations (Illinois Institute of Technology, n.d.).

The following steps in the procedure for administering the Delphi technique were identified in a research report on chronic pain (www.sncpr.org.uk/delphi.htm):

- 1. Recruitment of team members to participate in the Delphi process.
- 2. Construction and distribution of questionnaire #1.
- 3. Collation and categorisation of results.
- 4. Construction and distribution of questionnaire #2.
- 5. Collation of results.
- 6. Construction and distribution of questionnaire #3.
- 7. Re-collation of results.
- 8. Possible further questionnaire, requests for rationales.
- 9. Achievement of group consensus.
- 10. Calculation of summary statistics.

Based on these steps, the researcher devised the following strategy to ensure the successful implementation of the Delphi process:

PARTICIPANT RECRUITMENT

Non-probability sampling, as applied in educational research, is a non-random method used to select participants (Decker, 1997). For this study, "purposive sampling" is selected as a non-probability sampling option. This selection decision is based on the uniqueness of the population for the study, namely people who are skilled in facilitating online courses. Random sampling is not an option, as it would be impossible to obtain a list of every person eligible to be part of the population under study. Subjects will be handpicked, according to predetermined criteria (refer to p43), to participate in the

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study. The plan is to contact the identified experts telephonically to determine their willingness to participate in the research prior to sending out the first questionnaire via email.

Ludwig (1997) indicated that most Delphi studies employed between 15-20 participants, while Brockhoff (1975) believes that groups as small as four can perform well (as cited in Illinois Institute of Technology, n.d.). Dalkey, Rouke, Lewis and Snyder (1972) believe that an increase in-group size positively impacts the reliability of group responses (as cited in Ludwig, 1997). This sentiment is shared by Bowles (1999) who adds that more people can be consulted through Delphi than could be brought together in an interpersonal setting, thus enhancing reliability and generalisability. However, reliability with a correlation coefficient close to 0,9 was found with a group of 13 participants (Ludwig, 1997). Taylor-Powell (2002) advises that the number of participants will be determined by the purpose of the study and the diversity of the targeted population – they suggest a group of ten to 15 people in instances where the population is not very diverse. Based on this advice, it was decided – for the purpose of this study – to obtain at least ten experts to participate in the Delphi process.

Q U E S T I O N N A I R E C O N S T R U C T I O N

Careful thought went into the construction of the first questionnaire where it is expected of the participants to engage in an individual brainstorming activity that requires them to produce the following information:

- 1. The roles of an effective online facilitator: Participants will be required to "brainstorm" the macro activities of a facilitator, specifically related to online facilitation.
- 2. The tasks linked to each identified role: Participants will be required to provide more detail of each role through the association of tasks with each identified role. The rationale behind this questioning approach is to allow the learners to initially go through a macro thought process, easing the effort to go into the detail of each macro activity.
- 3. The consequences of not executing those identified tasks: The last step in this Delphi process is for the participants to rate the importance of the identified tasks, using a measurement scale. The fact that the participants will go through a thought process of what the consequences would be for not executing the tasks, will hopefully ease their effort in rating each item's importance.

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The second questionnaire, reporting all the ideas sent in response to the first questionnaire, will be emailed back to the participants with the aim of soliciting what these ideas mean to each participant personally.

The third and final questionnaire will be constructed with the aim of allowing the participants to rate each idea, using a rating scale.

QUESTIONNAIRE DISTRIBUTION

The Illinois Institute of Technology (n.d.) underlines the importance of ensuring that all participants understand the goal of the Delphi exercise, otherwise participants may answer inappropriately or become frustrated and lose interest. The strategy is to, together with the first questionnaire, provide the participants with more detailed information regarding the purpose of the research than what will be conveyed to them during the first telephonic discussion between the researcher and the participant.

The questionnaires are to be individually addressed and emailed to each participant.

RESPONSE ANALYSIS

Turoff and Hiltz (n.d.) identify the following objectives for analysing participants' responses:

- To achieve a better understanding of the participants through analysing their responses to produce feedback that is representative of the participants' range of opinions and considerations.
- To detect disagreements and judgment biases that should be revealed for further clarification.
- To detect information gaps or ambiguous interpretations by participants.
- To identify patterns of information and critical items to be focused upon.

These objectives will serve as guidelines during the response analysis process. The results of this Delphi technique exercise will form the basis for further analysis to be conducted, using the Q-sort technique.

3.2.2 Q-sort Technique

The second analysis technique to be implemented, is referred to as the Q-sort technique where the "participants weigh statements, in response to a question, in accordance with how *they* see the issue at hand" (Donner, 2001). Q-sort is therefore a technique for studying human subjectivity with the aim of constructing "typologies of different perspectives" (Woods, n.d.). William Stephenson developed this technique in 1935 and combines the strengths of both qualitative and quantitative research approaches (Schmolck, 2002).

3.2.2.1 The Q-sort process

The researcher is interested in the participants' individual points of view, and will instruct them to rank the statements along a continuum from "most important" at one end to "least important" at the other. To assist in the Q-sorting task, the participant will be provided with a scale and a suggested distribution as proposed by Brown (2003). An example of such a distribution can be viewed in Figure 3.2. In this example, the participant has to sort 15 key issues into five piles using the distribution grid. Participants were instructed to place two statements in the "most important" position, three in the next most important, and so forth. Five statements could be placed in the "neutral" position. Patterns or groups of participants can then be identified by means of a factor analysis of Q-sort.

Least Most **Important Neutral Important** -2 -1 0 1 2 3 5 3 2 Number of statements 13 1 10 8 4 for this 11 5 15 6 2 column 3 9 7 12 Statement 14 Numbers

Figure 3.2 Q-sort distribution for key issues

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Based on the Q-sort process, the researcher devised the following strategy to ensure the successful implementation of Q-sort:

PARTICIPANT RECRUITMENT

There will be two groups of participants for the Q-sort activity: online facilitators (other than those who participated in the Delphi process) and online learners. The reason for the two groups is to determine to what extent their viewpoints agree or disagree with each other regarding the importance of the identified tasks of an online facilitator.

The strategy is to contact a virtual university within South Africa, called eDegree and request their assistance in identifying both online learners and facilitators that are presently employed/enrolled at eDegree. These potential participants will then be contacted telephonically to determine their willingness to participate in the Q-sort activity.

Q U E S T I O N N A I R E C O N S T R U C T I O N

The researcher realised that it would be difficult to arrange a face-to-face contact session with the participants due to their geographical location. This implied that an alternative to traditional Q-sort means was to be identified that will still provide the required outcomes desired. Using technology to the researchers advantage is the preferred option. All the enrolled learners are, by means of the prescribed policies of eDegree, required to have suitable infrastructure and be connected to the Internet. The primary objective for the researcher is to construct an online questionnaire that will allow the participants to sort the respective statements with the same ease as the traditional face-to-face Q-sort method.

To ease the process of analysis and to ensure the successful implementation of the sorting activity, three documents are to be compiled:

- A table containing the statements that were identified using the Delphi technique.
- An instruction sheet that explains the steps to be followed in sorting the statements.
- A questionnaire that requires participants to provide the researcher with some biographical information that could assist in the final interpretation of the data analysis results.

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WEBQ SORTING

Once the researcher received all the sorted statements, it will first be verified for correctness prior to further processing. The responses that are accepted will then be translated into the Q-sort distribution grid (refer to Figure 3.2. p36), using the pre-identified statement numbers. The distribution will only be determined once the number of statements is known.

The completed Q-sort distributions will then be further processed, using WebQ-sorting¹³ which is an online questionnaire that allows one to interactively rank-order and sort the statements on screen. The reasons for not involving the participants in the WebQ-sorting activity are twofold: firstly, too much scrolling is involved which could lead to a loss of concentration and an eventual loss of interest to complete the activity; secondly, the online instructions are complicated and may be difficult for the participants to follow.

The results of each WebQ-sorting activity are then automatically emailed to the researcher in such a format that it is compatible for further analysis, using PQMethod.

3.3 PQMethod

PQMethod¹⁴ is a software programme associated with quantitative analysis due to its involvement with factor analysis. It is a "statistical program tailored to the requirements of Q studies that allows for the capturing of the Q-sort data" (Schmolck, 2002). Brown (1991) maintains that the PQMethod provides a foundation for the systematic study of subjectivity and concludes that:

The focus is all on quality rather than quantity, and yet some of the most powerful statistical mechanics are in the background, but sufficiently so as to go relatively unnoticed by those users of Q who are disinterested in its mathematical substructure.

¹³ Link to WebQ: http://www.rz.unibw-muenchen.de/~p41bsmk/qmethod/webq

¹⁴ Link to the PQMethod manual: http://www.rz.unibw-muenchen.de/~p41bsmk/qmethod/pqmanual.htm

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The final outputs of the PQMethod are (Donner, 2001):

- Distinct groups with common perspectives regarding a specific issue.
- Contention elements.
- Consensus elements.

Donner (2001) further identifies five steps to be performed in order to generate the mentioned outputs:

- 1. Load and launch PQMethod.
- 2. Enter the statements and data.
- 3. Extract initial factors.
- 4. Group participants.
- 5. Generate the data run(s).

The same steps will be followed when implementing the PQMethod for this study. In this instance, the steps will be performed twice, once for the online facilitators' responses and once for the online learners' responses. Figure 3.3 represents the main dialogue screen for the PQMethod.

Figure 3.3 Main screen for PQMethod

```
The QMethod Page:
| http://www.rz.unibw-muenchen.de/~p41bsmk/qmethod/
| http://www.rz.unibw-muenchen.de/~p41bsmk/qmethod/
| http://www.rz.unibw-muenchen.de/~p41bsmk/qmethod/
| Current Project is ... C:\PQMETHOD\PROJECTS/TasksFP
| Choose the number of the routine you want to run and enter it.

1 - STATES - Enter (or edit) the file of statements
2 - QENTER - Enter q sorts (new or continued)
3 - QCENT - Perform a Centroid factor analysis
4 - QPCA - Perform a Principal Components factor analysis
5 - QROTATE - Perform a manual rotation of the factors
6 - QUARIMAX - Perform a varimax rotation of the factors
7 - QANALYZE - Perform the final Q analysis of the rotated factors
8 - View project files TasksFP.*
X - Exit from PQMethod

Last Routine Run Successfully - (Initial)
```

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3.4 Conclusion

This chapter has focused on procedures for conducting this study as well as the planned strategies for gathering the desired data. Taken in conjunction with a detailed description of the planned data analysis approach, this chapter provides the reader with all the considerations important to ensure the successful implementation of the research design.

The next chapter discusses the actual implementation of the data gathering and analysis strategies and the consequent results of each activity facilitated by the researcher.



Data Collection & Analysis

The first part of this chapter describes the actual processes followed during the implementation of the research design to collect the required data. The second part explains the analysis procedures followed to prepare the collected data for detailed examination. This chapter concludes with a quantified translation of the participants' unique perspectives.

4.1 Introduction

Figure 4.1, on the following page, provides a macro overview of the implementation strategy of the research design as well as the envisaged results of each of these methods. A phased approach is to be supported during the execution of the data collection strategy:

- Phase One consists of one group of expert online facilitators participating in the
 Delphi data gathering technique. The expected result from this activity is a
 consolidated list of roles and associated tasks of an online facilitator that were
 identified by the individual members of the group.
- **Phase Two** consists of two groups (one group of online facilitators and one group of online learners), participating in the Q-sort data gathering technique. The expected result from this activity is a prioritised list of the tasks, identified in phase one, that are completed individually by the members of the two groups.

The results of the phase two data collection strategy are then analysed per group, using an electronic software programme, referred to as PQMethod. The results are then statistically presented, indicating consensus and contention items as well as subgroups with a similar pattern of responses. The researcher finally translates these results into a qualitative representation of the responses.

DATA COLLECTION Phase One Delphi Technique Group 1: Expert Online facilitators Result: Roles and associated tasks of the online facilitator **Phase Two** Q-sort Technique Q-sort Technique Group 2: Online Group 3: Online Learners **Facilitators** Result: Sorting of identified tasks of Result: Sorting of identified tasks of the online facilitator from least the online facilitator from least desirable to most desirable desirable to most desirable **DATA ANALYSIS PQMethod PQMethod** Data analysis of the Data analysis of Q-sort results the Q-sort results **Quantitative Results: Quantitative Results:** Consensus Items Consensus Items Contention Items Contention Items Subgroups with a similar • Subgroups with a similar pattern of responses pattern of responses Result: Quantified translation of participants' unique responses

Figure 4.1 Research methods and expected results

4.2 Data Collection

This section provides a detailed description of the implementation of the data collection methods, namely the Delphi and Q-sort techniques.

4.2.1 The Delphi Process

The steps performed in implementing the Delphi process, are presented in the following section.

4.2.1.1 Identifying and recruiting online facilitation experts

Selecting participants, is a vital activity, as the quality of the outputs will be determined by the quality of contributions made by the participants (Taylor-Powell, 2002). This realisation prompted the researcher to compile a selection criteria list prior to recruiting the participants:

- Knowledge and experience in the field of online facilitation.
- Ability to make valuable contributions towards posed questions.
- Ability to express priorities on a measurement scale.
- Good written communication skills.

Online facilitation experts that adhered to the selection criteria and that were already known to the researcher, were approached and they in turn, after explaining the qualifying criteria, identified and recommended additional experts known to them (a phenomenon referred to as *snowball sampling*). This approach was persued due to the belief that participants who know each other and who have a history as a social group, tend to present better quality inputs, even though anonymity is maintained, than groups where participants are unknown to each other (Turoff & Hiltz, n.d.). Other experts were also identified through online databases and listserves.

4.2.1.2 Round one: Initiating first contact

Twelve experts were identified in South Africa. The researcher contacted these experts telephonically and briefly explained the planned process to determine their willingness to participate. All 12 potential participants indicated that they were willing to partake in

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the process. In the end, of the 12 potential participants, ten responded and committed themselves to participate in the full process.

A total of 18 experts were identified via online databases and listserves. None of these potential participants, who were solely contacted via email, did respond to the request to participate in any manner. The reason for not contacting these experts telephonically was the cost implication, as all resided outside the borders of South Africa. This is just an indication of the importance of having the first contact personally, either face-to-face or telephonically. Following this approach, the research effort was personalised by exposing the participant to the researcher's voice and not only to the written text that was addressed to the participant.

4.2.1.3 Round two: Distributing the first questionnaire

Participants were provided with more detail regarding their participation in the process via email than what was provided during the telephonic contact. Figure 4.2 is an example of the email message that accompanied the first questionnaire.

Figure 4.2 Example of the email message accompanying the first questionnaire to the participants

Dear ...

Earlier today, I briefly explained the planned process to you during our telephonic discussion and highlighted the importance of completing this activity within the presented period. This time, I would like to provide you with all the detail regarding the process. But before we get to the mentioned detail, the outcomes from your participation will comprise the following:

- The roles of an effective online facilitator.
- The tasks linked to each identified role.
- The consequences of not fulfilling those identified tasks.
- A prioritised list of tasks for the online facilitator.

To achieve the above results, your specialist contributions into the initial process will be in the form of a tiered approach. By completing the tables presented to you during your participation, the received information will be analysed, processed and interpreted. Once this is completed, the results will form the basis for an analysis session to be held with online learners and facilitators (external to this specialist group). The expected outcomes from this effort will highlight the perceptions of the online facilitators and learners regarding the roles and tasks of an effective online facilitator. Using a technological sifting and analysis method, the respondents will be categorised into groups that display similar perceptions. This will assist me to identify aspects online facilitators have to consider when delivering online learning.

Your participation in the process is therefore as follows:

Continued on the next page ...

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Step 1: Complete the table

- Attached you will find a MS Word document containing an empty table.
- Please save this document with your name.
- Complete all the empty columns of the table (you will note that I have provided an example of the information needed in each of the columns).
- There is NO limit to the information to be provided by you the more information, the better the end result!
- When you have completed the table, please email it back to me at: lindiel@absa.co.za
- Your feedback is required by Friday, 8 August.

Step 2: Solicit meanings to the brainstormed ideas

- Once I have received everyone's completed tables, I will consolidate everyone's responses into one table and send it back to you.
- See if you can add your personal meaning to each of the statements presented in the table and email your response back to me.
- This feedback is required by Wednesday, 13 August.

Step 3: Rate the tasks of an online facilitator

- I will once again consolidate everybody's responses into a single table which I will email to you.
- Finally, you are requested to rank the identified tasks in a column provided next to the tasks.
- Please email me these "ranked" tasks by Friday, 15 August.

If anything regarding the above process is unclear, please do not hesitate to contact me!

Questionnaire 1:

Please complete the table below. You can add as many entries as you wish.

What do you think should be the roles of an effective online facilitator?	Next to each identified role, please write down the tasks needed to fulfil that role	Next to each identified role, please write down the consequences of not fulfilling this role
Example: Communicator (Note: Roles should always be identified with the execution of a function, e.g. manager, administrator, etc.)	Example: Introduce learners Build a sense of community Initiate interaction Please feel free to add to this list!	Example: No interaction No assistance No feedback No sense of community Please feel free to add to this list!
	•	•
	•	•

As can be viewed from the email message in Figure 4.2, participants were provided with a deadline date to respond. The researcher also reminded them of this date, two days prior to the target date.

Once the feedback was received, the researcher analysed the content, deleted duplications and consolidated each participant's response anonymously into a single

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table. To ensure that there were no gaps, the researcher conducted a literature survey on the roles and tasks of an online facilitator and compared this to the participants' responses. The outcome was that most of the information discovered in the literature was already covered by the learners' responses as well as additional statements that were not documented in the reviewed literature. Only four statements derived from the literature study were added to the total list of 148 statements.

4.2.1.4 Round three: Distributing the second questionnaire

On completion of the analysis of responses conducted by the researcher, a list of 152 statements/tasks were identified and divided into 11 roles (these roles were derived from the participants' responses to the first question on the first questionnaire). The participants were then requested to present their personal meaning to each of these statements and to refine those statements that were unclear to them. There was a valid concern about the commitment of participants to complete this activity, as this effort was time consuming. Participants requested that the deadline date be extended by a week and the researcher had no alternative but to oblige.

Initially, the researcher contemplated constructing meanings to each statement and then to request the participants to confirm, refine or change these meanings. This approach would have definitely saved the participants some time, however, it was sensed that this might be a biased approach, "putting words in their mouths" that will interfere with the individual thought processes.

Once the feedback was received, the researcher analysed the meanings and, where necessary, changed the original statements according to the presented meanings (an example of the second questionnaire can be viewed in Addendum A).

4.2.1.5 Round four: Distributing the last questionnaire

As a final step, the participants were requested to rate the final list of statements/tasks on a scale of 1 to 5 (1 being the most desirable and 5 the least desirable) in terms of their importance. The participants identified the consequences of not executing the tasks in

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the first round of questions and they were once again reminded to think of those consequences while responding to the questionnaire - the aim was to make it easier for the participants to perform the ratings. Figure 4.3 is an example of the final questionnaire.

Figure 4.3 Example of the final questionnaire

Questionnaire 3

The purpose of the ballot is to solicit your personal evaluation of the importance of each task of the online facilitator.

Please rate each task in the table on the following pages according to the following scale: 1 = Do not agree; 2 = Least important; 3 = Average importance; 4 = High importance; 5 = Most important

You can either cross (x) or shade () the relevant space.

Note:

- The roles, e.g. Administrator, Host, etc. are included for your *convenience* only you should *not* concern yourself with the "correct" placement of each task under each role. Look at each task in isolation and rate its importance to you personally.
- It is suggested that you think of the consequences of not fulfilling the task (as you did in the
 first questionnaire). This thought process will assist you in rating the importance of each task.

Adı	Administrator							
Tasks								
1.	Remind learners of interim project deadlines.	1	2	3	4	5		
2.	If the candidates do not meet the entry-level requirements of the course, refer them to available introductory courses.	1	2	3	4	5		
3.	Explain what the technological requirements are in order to be able to complete the online course.	1	2	3	4	5		
Gu	Guide							
Tas	Tasks							
1.	Explain to learners how to access the online course via the learning management system (LMS).	1	2	3	4	5		
2.	Provide tips and guidelines to assist learners in achieving the learning outcomes.	1	2	3	4	5		
3.	Provide ongoing guidance to learners.	1	2	3	4	5		

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The results were presented to the participants regarding the points they assigned to the statements. The rank order of the statements was based on the total number of points received, for example:

- Statement #C2 received 45 points, for an average rating of 4,5.
- Statement #S6 received 30 points, for an average rating of 3.

Due to the high number of statements (152 in total), only the statements/tasks with an average rating of 4 and higher were selected for further analysis (please refer to Addendum B for viewing the averages allocated to each statement). This activity assisted the researcher to significantly reduce the number of statements to a more manageable amount of 60 tasks/statements. The results of this Delphi technique formed the inputs for further analysis as illustrated in Figure 4.1 of this chapter.

4.2.2 The Q-sort Process

During the Q-sort process, two groups of participants were required to individually sort the 60 tasks/statements (derived from the Delphi Technique) from most to least desirable. The steps followed to successfully execute the Q-sort process are explained in the following segments.

4.2.2.1 Identifying and recruiting participants

The researcher approached eDegree, a virtual university in South Africa, who supplied a contact list of their *online facilitators*. These facilitators, 25 in total, were contacted telephonically to determine their willingness to participate in the Q-sort process. Each individual indicated that they were willing to participate.

A list of names of *online learners* (mostly MBA students) was also kindly provided by eDegree. In addition to these learners, the researcher approached a number of online learners who are employed by the same financial institution as the researcher, namely Absa. In total, there were 30 online learners contacted telephonically and who indicated that they were willing to participate in the Q-sort process.

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Of the 25 facilitators, 18 responded and of the 30 learners, 19 responded positively to the questionnaires.

4.2.2.2 Distributing the questionnaires

Both online learners and facilitators were emailed the same list of 60 tasks identified during the Delphi process. In addition to this list, these participants were required to complete a Biographical Questionnaire that accompanied the list of 60 tasks (please refer to Addendums C and D to view these questionnaires). A third document was also attached to the same email that contained all the instructions the participants were required to follow in order to successfully complete the activity (Addendum E).

The participants were allowed two weeks to complete this activity as the researcher realised that they were in their examination period. Constant reminders were however emailed to the participants to ensure that the deadline date would be met.

4.2.2.3 Confirming the correctness of responses

The researcher verified the participants' responses for correctness. In other words, the researcher ensured that the participants prioritised the 60 tasks as requested. Some of the participants duplicated a number of the tasks in their final list of priorities and other participants left blank spaces in their lists. The researcher rejected all the responses that did not adhere to the instructions presented to the participants. On completion of the verification process, the researcher concluded that 14 responses from the facilitators and 15 responses from the learners adhered fully to the instructions and could be utilised for further analysis.

4.2.2.4 Capturing responses on WebQ

The researcher captured the two groups' responses individually into a Q-sort grid in the exact same order as the participants sorted it. In this instance, the participants' responses were sorted into nine groupings using the distribution shown in Figure 4.4. This approach eased the transition of the data to WebQ, an online software programme

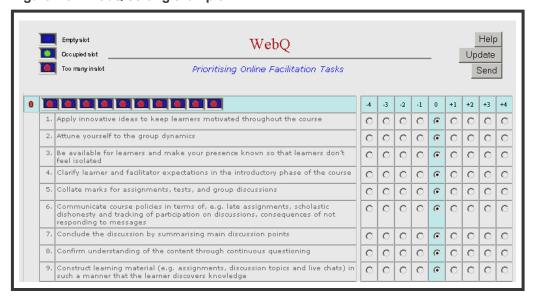
(using an Internet browser) that allows one to sort the participants' responses electronically (refer to Figure 4.5 for an example of WebQ).

Least Most **Important** Neutral **Important** -3 -4 -2 -1

Figure 4.4 Q-sort Distribution for Online Facilitator Tasks

The participants sorted 60 tasks into nine groupings using the distribution shown in Figure 4.4. Four tasks were placed in the most important position, six in the next most important position, and so forth. Ten tasks could be placed in the neutral position.





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On completion of each electronic sorting activity, the statistical results were automatically calculated per participant and emailed to the researcher's email address. These statistical results were now ready for further analysis.

4.2.3 PQMethod

The resulting data from the Q-sort method was analysed, using the QMethod Software. This process was repeated – once for analysing the online facilitator group responses and once for analysing the online learner group responses. Following the guidelines in the PQMethod Manual (Schmolck, 2003), eight factors were initially extracted for each group (learners and facilitators) using the principal component method¹⁵. After varimax rotation¹⁶, five factors were retained for each group for further analysis – this decision was based on the Eigenvalues that were produced, as explained by Donner (2001):

Eigenvalues are a measure of the relative contribution of a factor to the explanation of the total variance in the correlation matrix. Factors with an eigenvalue greater than one explain more variance than a single variable would. Thus, the maximum number of factors you would want to carry into the rotation step is equal to the number of initial factors with eigenvalues greater than one.

The Eigenvalues for the online facilitator group are presented in Figure 4.6. After selecting all the entries that define the factors (from here on referred to as subgroups), an extensive report that provides detailed statistical information regarding each subgroup, is produced. The information contained in the two reports (one for the learner responses and one for the facilitator responses) was now ready for detailed data analysis (refer to Addendums F & G for the reports).

1

¹⁵ The principal component method is a data reduction method that reduces the number of variables (StatSoft, n.d.)

¹⁶ Varimax is an abbreviation for 'variance maximising'. The extraction of principal components amounts to a varimax rotation of the "original variable space". The criterion for the rotation is to maximize the variance of the new factor while minimizing the variance around the new factor (StatSoft, n.d.)

Figure 4.6 Eigenvalues of the online facilitator group

Eigenvalues	As Percentages	Cumul. Percentages
1 3.5938	25.6698	25.6698
1 3.5938 2 1.8868 3 1.4491 4 1.1308 5 1.0110 6 0.9418	13.4775	39.1472
3 1.4491	10.3506	49.4979
4 1.1308	8.0768	57.5747
5 1.0110	7.2216	64.7963
6 0.9418	6.7268	71.5231
7 0.8521	6.0862	77.6093
8 0.7628 9 0.5790	5.4487	83.0580
	4.1360	87.1940
10 0.4681	3.3436	90.5376
11 0.4384	3.1313	93.6689
12 0.4053	2.8950	96.5640
13 0.2798	1.9982	98.5622
14 0.2013 Press (ENTER)	1.4378	100.0000

4.3 Data Analysis

In this section, a detailed description is provided of the process implemented in analysing the factor patterns generated in the two PQMethod reports.

4.3.1 Factor Q-sort Values

To achieve a macro view over the degree of agreement between each subgroup's perspectives on the statements/tasks, the researcher compiled a table reflecting the sort values for each statement/task. Table 4.1 below is an example of such a table.

Table 4.1 Example of subgroup Q-sort values for the online facilitators

		ubgroup	oups			
Num	Statements/Tasks	Group 1	Group 2	Group 3	Group 4	Group 5
		n=7	n=2	n=2	n=1	n=2
	Apply innovative ideas to keep learners motivated throughout the course.	1	4	-5	4	-3
2	Attune yourself to the group dynamics.	-2	-3	-5	4	1
	Be available for learners and make your presence known.	4	2	4	4	4
	Collate marks for assignments, tests, and group discussions.	-5	3	1	2	-5
5	Communicate course policies to the learners.	-4	1	3	-1	2
	Conclude the discussion by summarising main discussion points.	-2	-2	1	1	-5
	Confirm understanding of the content through continuous questioning.	1	1	1	1	1

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The number of participants per subgroup (n = 7; n = 2; etc.) was derived from the "Factor Characteristics" section of the PQMethod report. The Q-sort values per subgroup were also extracted from this report.

This activity was performed twice – once for the Facilitator Groups and once for the Learner Groups (to view the complete tables, please refer to Addendum H).

4.3.2 Normalised Factor Scores

To obtain a better sense of the relative priorities that each subgroup allocated to the statements/tasks, the researcher compiled a table for each subgroup (five tables for the learners and five tables for the facilitators), using the available data from the PQMethod reports.

Table 4.2 is an example of such a table (to view the complete tables, please refer to Addendum I).

Table 4.2 Example of Normalised Factor scores for Subgroup 1 of the Online Facilitators

Num	Statements/Tasks	Z-score
3	Be available for learners and make your presence known so that learners don't feel isolated.	1.885
55	Respond daily to the postings on the discussion forum in order to be able to guide the learners through their learning experience.	
56	Respond to email communications within an agreed time period, e.g. 24 hours.	1.536
53	Raise the level of discussion by elaborating on the topic in more detail and depth (add a new cognitive level to the old discussion).	1.472
40	Listen to and address learners' complaints.	1.463
26	Facilitate learners' discussions in a direction that will help them discover the answer on their own.	1.418
23	Establish an instructional bond and rapport with the learners that will reinforce their sense of commitment to specific learning objectives of the course.	1.356
41	Maintain momentum of the interaction between learners, e.g. sending regular content-related messages and inviting the learners to share their opinion.	1.313
17	Encourage learners to collaborate with each other to generate solutions to problems.	1.193
20	Encourage learners to share their knowledge and experience with each other.	1.114

The group ranked the items from the top of the table as most important and descends to less important at the bottom of the table. "The Z-scores show how far from the overall mean (measured in standard deviations) each item is for the group" (Donner, 2001).

4.3.3 Distinguishing Characteristics

To identify the key differences among the various subgroups, the researcher compiled a table, using the relevant data from the PQMethod reports to reflect these differences.

Table 4.3 is an example of such a table (to view the complete tables, please refer to Addendum J).

Table 4.3 Example of distinguishing characteristics for subgroup 1 of the online facilitators

Group 1 Statements significantly different than overall mean @ p<0.5 (bold @<0.01)			actor 1 Fa		Factor 2 n=2		or 3 =2	Factor 4 n=1				Fact n=	or 5 =2
No	Statement/Task	RNK	Z	RNK	Z	RNK	Z	RNK	Z	RNK	Z		
	Raise the level of discussion by elaborating on the topic in more detail and depth.	4	1.47	-3	-0.61	-5	-1.11	-5	-1.31	-2	-0.53		
	Maintain momentum of the interaction between learners.	3	1.31	-4	-1.10	1	0.00	-1	0.00	-3	-0.90		
4	Clarify learner and facilitator expectations.	1	0.19	3	1.19	4	1.89	4	1.75	4	1.74		
36	Introduce yourself as facilitator with email address and telephone number.	-1	-0.24	2	0.73	3	1.56	-5	-1.31	4	1.80		
11	Create a friendly environment in which a climate for learning is promoted.	-2	-0.48	4	1.40	-5	-1.27	3	1.31	4	1.96		

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Table 4.3 illustrates that the seven participants in subgroup 1 rate statements 53, 41 and 4 higher than the average allocated by the other subgroups, and statements 36 and 11 are rated lower than average.

4.3.4 Summary Profile of Subgroups

To compile a summary profile of the subgroups, the researcher utilised the factor values for the subgroup from Table 4.1 and placed these in order of the factor-specific sort from Table 4.2.

Table 4.4 is an example of such a table (to view the complete tables, please refer to Addendum K).

Table 4.4 Example of a profile summary for subgroup 1 of the online facilitators

Num	Statements/Tasks	Score	Note
3	Be available for learners and make your presence known so that learners don't feel isolated.	4	High
55	Respond daily to the postings on the discussion forum in order to be able to guide the learners through their learning experience.	4	High
56	Respond to email communications within an agreed time period, e.g. 24 hours.	4	High
31	Identify discussion points that the learners have not considered before.	-2	Low
32	Inform learners about meeting times and virtual office hours.	-2	Low
38	Invite subject matter experts to provide content-based explanations when required.	-3	Low

This table could now be used for interpretation. Those statements/tasks that have a high importance to the subgroup would be found at the top of the table and it descends to statements/tasks of low importance at the bottom of the table.

The importance of each statement is determined by comparing the Z-values from Table 4.3 with zero. The importance values are illustrated in Table 4.5.

Table 4.5 Classification of importance values

lf	Then
Z > 0	High Importance
Z = 0	Average Importance
Z < 0	Low Importance

4.3.5 Allocating Tasks to Roles

To ease the effort in uncovering and labeling the different and unique perspectives of each subgroup concerning the tasks of an online facilitator, the researcher allocated each task to a role. The roles were identified by referring to the responses of the participants in the first questionnaire as well as reviewing existing literature. Consequent to identifying the roles, the researcher defined each of these roles in such a manner that it compliments the purpose of the study:

- Administrator: A person tending to administrative matters. These matters have nothing to do with content-related issues. It ensures the smooth running of "behind the scenes" activities.
- **Conversationalist**: Someone skilled at conversation. In this instance it is a person who is skilled at picking up threads of conversation and integrate it into a deeper level of online discussion.
- **Guide**: Someone who shows the way by leading or advising and offers basic information or instruction assisting learners to find paths through unexplored territory.
- **Host**: A person responsible for the social welfare of the learners throughout their participation in the learning programme. This person is responsible for making the learners "feel at home" while participating in the course.
- Manager: A person who controls and maintains all operational learning activities exercising authoritative control over the learning activities - enforcing rules and regulations.
- **Motivator**: A person who has a positive emotional or cognitive impact upon the learners that arouse interest in the learners to explore further.
- Quality Assuror: A person that employs certain measurements to ensure high standards of quality learning is achieved and maintained.

• **Supporter:** A person who contributes to the fulfillment of the learners' learning needs. A person who helps learners and treats learners as customers.

The tasks were allocated to the roles in accordance with the definitions provided above (to view these task allocations, please refer to Addendum L).

4.3.6 Identifying Unique Task and Role Selections

The researcher compiled a table with the aim of determining the task selections that were unique to a specific subgroup. This was achieved by calculating the number of occurrences a task was selected. The researcher was interested in those tasks with a total result of one (out of five). This result indicated that the specific selection has been performed by one subgroup only and is not shared with the other groups. The higher the total score, the less unique that specific task is to the subgroups. Table 4.6 is an example of such a table (please refer to Addendum M for the complete results).

Table 4.6 Example of unique selections performed by the online facilitator subgroups

Num	Important Elements	Roles*	G1	G2	G3	G4	G5	Total
5	Collate marks for assignments, tests, and group discussions.	А	0	1	0	1	0	2
14	Distribute a list of all the learners' contact details.	Α	0	0	0	0	0	0
	Inform learners about meeting times and virtual office hours.		0	0	1	0	1	2
34	Inform the learners where to communicate online with each other.	А	0	0	0	0	1	1
59	Track learner participation.	А	0	0	0	1	0	1
7	Conclude the discussion by summarising main discussion points.	С	0	0	1	1	0	2
16	Encourage interaction between learners and the facilitator.	С	1	1	0	0	1	3
41	Maintain momentum of the interaction between learners.	С	1	0	0	0	0	1
53	Raise the level of discussion by adding a new cognitive level to the old discussion.	С	1	C	0	0	0	1

^{*} Roles: A = Administrator; C = Conversationalist

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Each group was colour coded to make it easier for the researcher to identify the unique selections for each specific subgroup. Table 4.6 also illustrates the contention and consensus items between the subgroups. If all five groups selected the same task, there will be a total of five, and if all five groups did not select the same task, there will be a total of nil. Both cases are indicative of high agreement/consensus between the subgroups. A total of one indicates that the specific task is a high contention item, as only one subgroup placed a significant priority on that specific task. The results of the subgroups' unique selections are presented in Tables 4.7 and 4.8.

Table 4.7 Unique task selections by the online facilitator subgroups

Group 1 More Important Unique Focus Areas	*Role(s)	Role(s)	Group 1 Less Important Unique Focus Areas
 Maintain momentum of the interaction between learners. Raise the level of discussion. Praise the discussant behaviour you seek. 	• C • G	MaQA	 Communicate course policies. Construct learning material in such a manner that the learner discovers knowledge.
Group 2 More Important Unique Focus Areas	Role(s)	Role(s)	Group 2 Less Important Unique Focus Areas
Help learners connect content with prior knowledge and experience.	• G	None	• None
Group 3	Role(s)	Role(s)	Group 3
More Important Unique Focus Areas	11010(3)	11010(3)	Less Important Unique Focus Areas
More Important Unique Focus	• G • S	Ma	Less Important Unique
More Important Unique Focus Areas Suggest the pace for learning activities. Invite subject matter experts to provide content-based	• G		Less Important Unique Focus Areas Establish and maintain a

*Roles: C = Conversationalist; G = Guide; Ma = Manager; QA = Quality Assuror; S = Supporter; A = Administrator; H = Host.

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Group 5 More Important Unique Focus Areas	*Role(s)	Role(s)	Group 5 Less Important Unique Focus Areas
Inform the learners where to communicate online with each other. Encourage learners to introduce themselves to each other.	• A • H	• C • G • Ma	 Use innovative ideas to stimulate lively discussions. Facilitate learners' discussions in a direction that will help them discover the answer on their own. Facilitate synchronous learning events and set the tone of the discussion. Manage the virtual classroom environment.

^{*}Roles: C = Conversationalist; G = Guide; Ma = Manager; A = Administrator; H = Host.

Table 4.8 Unique task selections by the online learner subgroups									
Group 1 More Important Unique Focus Areas	*Role(s)	Role(s)	Group 1 Less Important Unique Focus Areas						
 Create an informal, supportive atmosphere. Establish and maintain a learning community. 	• H • Ma	• Mo	Provide constructive individual feedback to the learners.						
Group 2 More Important Unique Focus Areas	Role(s)	Role(s)	Group 2 Less Important Unique Focus Areas						
Provide ongoing guidance to learners.	• G	• S • Mo	 Apply innovative ideas to keep learners motivated. Clarify learner and facilitator expectations. Encourage learners to collaborate with each other. 						
Group 3 More Important Unique Focus Areas	Role(s)	Role(s)	Group 3 Less Important Unique Focus Areas						
 Track learner participation. Praise the discussant behaviour you seek. Thank the learners for their contribution(s). Intervene diplomatically in situations that threaten to undermine course cohesiveness. Praise independent thinking, but do not allow one learner to dominate the scene. 	• H • Ma • G • A • Mo	• Ma	 Ensure that the subject matter expert respond to the learners within an agreed time. Respond to email communications, within e.g. 24 hours. 						

^{*}Roles: H = Host; Ma = Manager; Mo = Motivator; G = Guide; S = Supporter; A = Administrator; QA = Quality Assuror; C = Conversationalist.

Continued on the next page ...

Group 4 More Important Unique Focus Areas	*Role(s)	Role(s)	Group 4 Less Important Unique Focus Areas
 Inform learners about meeting times and virtual office hours Inform the learners where to communicate online with each other. 	• A	• QA • C	 Conclude the discussion by summarising main discussion points. Confirm understanding of the content through continuous questioning.
-	i .		
Group 5 More Important Unique Focus Areas	Role(s)	Role(s)	Group 5 Less Important Unique Focus Areas

^{*}Roles: G = Guide; A = Administrator; QA = Quality Assuror; C = Conversationalist.

Through the identification of the unique characteristics of each subgroup, it was now possible to devise a profile description for each of the mentioned subgroups.

4.3.7 Profile Descriptions of the Subgroups

The final step in the data analysis process was to consolidate all the quantitative data analysis findings for each subgroup into a qualitative description of each subgroup's preferences pertaining to the tasks of an online facilitator. This was achieved by first obtaining a holistic view of each subgroup's preferences in terms of the priorities allocated to each task (refer to Table 4.4). Secondly, the researcher took the unique characteristics for each subgroup into consideration and lastly explored the consensus and contention items for each group individually in order to provide a unique label to each of the subgroups.

4.3.7.1 Profile description of the Online Facilitator Subgroups

A qualitative description of the profile of each of the five subgroups in the *Facilitator Group* will now be presented. These descriptions were derived from the quantitative analysis results described in this chapter.

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GROUP 1: DISCOURSE MANAGERS This group of facilitators places a high priority on the online interaction between learners, constantly picking up threads of content-related conversation among the learners, and integrating these into a deeper level of cognitive discussion. This group's main focus is on the content and will always guide or redirect the learners back to the topic of discussion whenever they stray. Course policies are this group's least point of concern due to their belief that learning takes place through online content discussions and not through course policies. Adhering to standards for online communication is however an important consideration for this group to ensure course cohesiveness. The construction of learning material is another activity that features very low on their list of priorities as they believe that it is their duty to guide the online discussions in a direction that will help the learners discover the answers on their own – learners are therefore constructing their own learning material.

GROUP 2:
ASSIMILATORS

A characteristic that stands out from this group of facilitators is the uniquely high priority they place on the activity of assisting learners to connect learning content with prior knowledge and experience to make instruction more meaningful. Emphasis in this group is therefore placed on meaningful learning experiences. By linking new information to the learner's prior knowledge, interest and curiosity is activated that leads to an intrinsic motivation to learn. This brings us to another important focus of this group, namely motivation that is backed by providing the learners with constant feedback on their progress during their learning experiences. This feedback can be either in a verbal or written (e.g. marks for assignments) format. To ensure a meaningful learning experience, this group believes in providing ongoing guidance to the learners through the provision of tips and advice in an informal, supportive learning environment. In contrast with the Discourse Managers, this group places more emphasis on interaction between the facilitator and the learner than between the learners themselves. These facilitators assist the learners to find pathways through unexplored territory.

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GROUP 3: EVENT MANAGERS

This group of facilitators is very much in control of the learners' learning process.

Emphasis is placed on the pace of learning activities where attempts are made to ensure that each learner progress through the learning process at the same speed. Awareness of the learners' own learning process is highlighted by encouraging them to reflect on what they have learnt. These facilitators are not necessarily subject matter experts in the field of study and would therefore invite subject matter experts to provide content-based explanations if and when required. When referring subject matter questions to the expert, these facilitators will take it upon themselves to ensure that the expert respond within an agreed time. Keeping learners to the procedural rules of the learning institute, is another important consideration and informing learners about meeting times and virtual office hours is high on their priority list.

GROUP 4: DATA INSPECTORS

activities. Tracking online learner participation and collating marks for assignments and tests are some examples of administrative duties they perceive as highly important. These facilitators have a much more "business-like" approach towards their facilitative duties where less emphasis is placed on the learning experience of the learners and more emphasis placed on the implementation of the procedural rules of the learning institution. Establishing an instructional bond and rapport with the learners and activities such as interaction between learners and reflection on their learning are not

greatly encouraged. They will however ensure that they are available for the learners

This group of facilitators has a strong administrative flavour added to their mixture of

GROUP 5:

This group of facilitators' main focal point is on the social welfare of the learners by attuning themselves to the group dynamics. Their activities are centred on making the learners feel at home by being pleasant and supportive towards the learners. This is achieved by explaining to the learners how to access the online course and informing them where to communicate online with each other. Learners are encouraged to introduce themselves to each other with the aim of getting support from their peers when required. Emphasis is also placed on encouraging the learners to collaborate with each other to generate solutions to problems. Providing content related tips and

and guide them as and when the need arises.

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guidelines is another important feature in their portfolio of high priority activities. Feedback plays an important motivational role and is provided to the learners in a constructive manner. Matters of less importance are activities related to management, administration and facilitation of online discussions between learners.

4.3.7.2 Profile description of the Online Learner Subgroups

A qualitative description of the profile of each of the five subgroups in the *online learner group* will now be presented. These descriptions were derived from the quantitative analysis results described in this chapter.

GROUP 1: THE INDEPENDENTS

This group of learners wants online facilitators who will be mainly looking after their social welfare. They want their learning experience to take place in an informal, friendly and supportive environment. Facilitators must ensure that the learners know how to access the online course and that they are au fait with the online learning tools that they will use during the course. Contact with other learners in their group is important to them, as they want to establish a learning community that is supportive of each other. These learners do not want to feel isolated and want to be constantly aware of the online presence of their facilitator and peers. A feeling of connectedness among the learners is the main point of focus and they perceive the most important function of the online facilitator to be the coordinator of activities that will ensure group cohesion. The learners do not, however, want the facilitator to intervene with issues such as rules and regulations, constant feedback and having third parties contribute to the online discussions. They would rather have the facilitator encourage reflection sessions where they can obtain insight into their own learning processes.

GROUP 2: QUALITY SEEKERS Quality is the main prerogative for this group of learners. They want an online facilitator that employs certain measurements to ensure high standards of quality learning is achieved and maintained. These measurements could be in the form of marks for assignments, constant corrective feedback and guidance to the learners and encouraging and assessing further content-related discussions among the learners. By employing these measures, the facilitator should be able to identify problem areas early

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in the course and rectify those as soon as possible. These learners require the facilitator to listen to and address their concerns and they want to be kept updated on the status of unsolved matters and concerns. Feelings of "teamness" with their peers are not a high priority for these learners. Reflecting on what they have learnt, takes precedence over tapping into the knowledge and experience of their peers. The learners would rather depend on the facilitator to guide them through their learning experience than independently taking ownership of their learning and sharing the newly acquired knowledge with their peers.

GROUP 3: REWARD PURSUERS

This group prefers to learn primarily through online discussions with a strong presence of the facilitator that mainly fulfils the role of a "guide on the side". This implies that facilitators should only stimulate content-related discussions between learners without volunteering their opinions pertaining to the topic under discussion. Interaction between the learners and the facilitator is not as high on their priority list as the interaction between the learners themselves. The facilitator is responsible for maintaining the momentum of their asynchronous discussions by tracking the online participation of learners. These learners need to be guided in their learning process through the provision of feedback, based on their online discussions. When the learners add positive value to the discussions, they expect the facilitator to acknowledge their contributions. These learners do not tolerate situations that may undermine course cohesiveness and they expect the facilitator to intervene if and when necessary. To maintain course cohesiveness, the learners believe that it is important to set some ground rules in the form of determining and adhering to standards for online communication. Common courtesy also plays a vital role in their learning experience and the learners therefore expect the facilitator to thank them for their contributions, no matter whether correct or incorrect.

GROUP 4:
PROTOCOL
SUPPORTERS

This group of learners wants to be treated as customers by the online facilitator. It is imperative that the facilitators acquaint themselves with the learners, inform these learners where they can communicate online, and what the meeting times and virtual office hours are. The facilitator should ensure that the learners know how to access the

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online course and that they are au fait with the online learning tools that they will use as they progress through the course. These learners would like to acquire the required knowledge and skills independently, with the support of their peers, rather than the facilitator. These learners would like to be introduced to their peers and the facilitator should coordinate this activity by stimulating lively discussions amongst the learners. Whenever these learners experience any problems, they expect the facilitator to listen to and manage their complaints to their satisfaction.

GROUP 5: THE

This group of learners has a strong sense of dependency on the facilitator. Learners find it important that facilitators acquaint themselves with the learners and that they create a friendly environment in which a climate for learning is promoted. These learners do not want to feel isolated and is highly dependent on the online presence of the facilitator to keep them motivated in their learning process. Principles of "fair play" and courtesy is one of the main concerns of this group which is evident on the high priority they place on reaching consensus regarding standards for online communication. These learners expect the facilitator to manage their learning environment and to take control of their learning process through the continuous assessment of their progress and the provision of corrective feedback that will contribute towards learner confidence. Administrative duties such as the distribution of courseware, communication of course policies and the pre-notification of assignments, feature very low on their list of priorities. Emotional support from the facilitator takes precedence over academic support.

4.4 Survey Results of Learners and Facilitators

The findings from the biographical questionnaires are presented separately for the learners and facilitators who participated in the Q-sort activity described in section 4.2.2 of this chapter.

4.4.1 Profile of the Online Learner Participants

All the participants, 15 in total, completed the biographical questionnaires.

The distribution of the participants within each age group is illustrated in Figure 4.7. The sample was divided into 26% female and 74% male responses. The majority of the participants (59%) were between the age of 30 and 39 years. Only 7% were aged between 15 and 19 years, 7% between 40 and 49 years and 7% were aged 50 years and above. There were 20% of the sample between the age of 20 and 29 years.

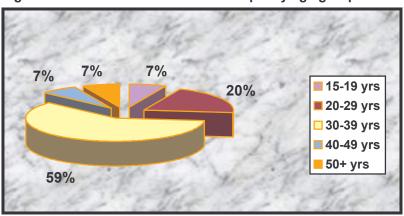


Figure 4.7 Distribution of learner sample by age group

All the participants were employed. The majority of online learners who participated in this study were studying at a range of courses at postgraduate level (86%). Only 14% were studying at certificate level.

Most (66%) of the sample participated only once in an online course. About 7% participated between two and four times while 27% participated five times and more in an online course.

The responses showed that 47% of the learners' online learning took place at home. About 27% participated in online learning at their workplace and 20% indicated a combination of home and workplace online learning. Only 6% of the sample said their learning took place at a rented business office due to a lack of infrastructure at home.

A large proportion (60%) of the participants indicated that they perform most of their online learning activities after normal working hours while 26% learnt during working hours. Only 14% participated in the online learning activities during and after working hours.

4.4.2 Profile of the Online Facilitator Participants

All the participants, 14 in total, completed the biographical questionnaires.

The distribution of the participants within each age group is illustrated in Figure 4.8. The sample was divided into 43% female and 57% male responses. The majority of the participants (42%) were between the age of 30 and 39 years. Only 29% were aged between 20 and 29 years, and 29% between 40 and 49 years.

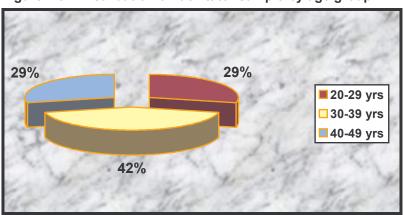


Figure 4.8 Distribution of facilitator sample by age group

The majority of online facilitators who participated in this study were facilitating a range of subjects at postgraduate level (79%). Only 21% were facilitating certificate level online subjects.

Most (57%) of the sample facilitated an online course five or more times. About 43% facilitated between two and four times.

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The responses showed that 57% of the facilitation activities took place at the office. About 36% facilitated online learning courses both at home and at the office. Only 7% of the sample facilitated from home only. In addition to these facilities, other facilities or geographical areas identified by the online facilitators are hotel rooms, Internet Cafés, overseas and from wherever they are on holiday.

A large proportion (64%) of the participants indicated that they perform most of their online facilitation activities after normal working hours while 21% facilitated during working hours. Only 15% facilitated online learning activities during and after working hours.

4.5 Conclusion

This chapter begins by providing a macro overview of the data collection and analysis strategies to be pursued for this study. This is followed by a detailed description of the actual implementation and consequent results of these strategies. The final results of the data analysis process are presented, namely a profile description of each of the five distinctive groups found among the online facilitators and the profile description of each of the five distinctive groups found among the online learners. These results are inferred from the research participants' responses pertaining to their opinions regarding the importance of the tasks of an online facilitator. This chapter concludes with a profile description of the respondents (online learners and online facilitators) who participated in the Q-sort activity. These descriptions were retrieved from the Biographical Questionnaires they completed.

Discussion & Recommendations

This chapter discusses the value of the research findings presented in Chapter 4 and is accompanied by recommendations.

5.1 Introduction

On completion of the data analysis process, five online learner subgroups and five online facilitator subgroups were identified. These subgroups were classified in accordance to the priority they placed on the tasks of an online facilitator. The purpose of this study is not to label the facilitators or learners and their requirements but rather provide insight to the most suitable solutions that will enhance the online learning experience for both the learner and facilitator. The ideal would be to have a best fit between the facilitator and learner subgroups with regard to their priority selections, but this is not the case as human characteristics and needs are unique and thus a perfect fit will not be a common occurrence. It is actually quite obvious from the results that the priorities identified by the facilitators vary extensively from the learner priorities. It is however important that online facilitators take cognisance of this phenomena – they need to be aware of the learners' priority requirements – and not only focus on their own: *one perception does NOT fit all.*

5.2 Mapping Skills to Learner and Facilitator Profiles

The value of the findings are realised through the identification and recommendation of online facilitation skills that are essential in addressing the requirements of each of the distinctive subgroups. To complete the picture, certain online facilitator attributes are identified which are vital to ensure that high quality online learning experiences are achieved. Table 5.1 firstly depicts the five learner subgroups with the prioritised facilitator tasks that these learners require. This information is a summary of the findings in Chapter 4. Secondly, the recommended skills and attributes needed to successfully perform the tasks are also presented in the table.

Table 5.1 Recommended facilitator skills and attributes per online learner subgroup

Learner Subgroup	Facilitator Tasks	Recommended Facilitator Skills	Recommended Facilitator Attributes	
The Independents	 Establish an informal, friendly and supportive environment. Assist learners with accessing the online course. Ensure learners are familiar with the online learning tools. Establish contact between the learners. Coordinate online learning activities. Communicate constantly with the learners. Encourage reflection sessions among the learners. 	Online teambuilding skills Summarising skills Generic skills: Learning technology skills Interpersonal skills Writing skills	Accessible Approachable Supportive Generic attributes: Intellectually versatile Passionate about online learning Creative	
Quality Seekers	Employ measurements to ensure quality learning. Identify course-related problem areas and rectify as soon as possible. Listen to and address learner concerns. Guide learners through their learning process.	Observation skills Assessment skills Problem-solving skills Administrative skills Coaching skills Generic skills: Learning technology skills Interpersonal skills Writing skills	Results driven Insightful ('read between the lines') Assertive Intellectually versatile Resourceful Generic attributes: Intellectually versatile Passionate about online learning Creative	

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Learner Subgroup	Facilitator Tasks	Recommended Facilitator Skills	Recommended Facilitator Attributes
Reward Pursuers	Stimulate content-related online discussions among the learners. Maintain momentum of the discussions without volunteering own opinions. Provide constant feedback based on online discussions. Acknowledge learner contributions. Thank the learners for their contributions. Intervene in situations that may undermine course cohesiveness. Establish "ground rules" for online learners.	Critical thinking skills Feedback skills Conflict handling skills Weaving skills Management skills Motivational skills Generic skills: Learning technology skills Interpersonal skills Writing skills	Intellectually versatile Insightful ('read between the lines') Assertive Courteous Sincere Orderly Generic attributes: Intellectually versatile Passionate about online learning Creative
Protocol Supporters	 Treat learners as customers. Get acquainted with the learners. Inform learners about meeting times and virtual office hours. Explain to learners where they can communicate online. Assist learners with accessing the online course. Ensure learners are familiar with the online learning tools. Introduce learners to each other. Encourage peer support among the learners. Stimulate lively discussions amongst the learners. Listen to and manage learner complaints. 	Time management skills Online teambuilding skills Problem solving skills Weaving skills Motivational skills Critical thinking skills Coaching skills Generic skills: Learning technology skills Interpersonal skills Writing skills	Courteous Sincere Orderly Supportive Open minded Generic attributes: Intellectually versatile Passionate about online learning Creative
The Dependents	Get acquainted with the learners. Establish a friendly learning environment. Communicate constantly with the learners. Reach consensus regarding standards for online communication. Continuously assess learners' progress. Provide corrective feedback. Provide learners with emotional support. Assist learners in becoming confident online learners.	Motivational skills Feedback skills Management skills Coaching skills Assessment skills Generic skills: Learning technology skills Interpersonal skills Writing skills	Courteous Accessible Approachable Orderly Assertive Sincere Supportive Emotionally intelligent Generic attributes: Intellectually versatile Passionate about online learning Creative

As for Table 5.1 that was compiled for the learner subgroups, extracts of the research analysis results are merged to provide similar descriptions for the

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facilitator subgroups in Table 5.2. However, in this instance, there is the likelihood that the recommended skills per subgroup are already part of the specific facilitator's portfolio. The reason one can ascertain the likelihood is due to the fact that the facilitators' experience platform influenced their decisions regarding the most important tasks of an online facilitator. It is therefore further recommended that online facilitators be individually assessed to determine their composition of skills and attributes. To ease the effort in identifying possible online facilitator skill gaps per learner subgroup, it is assumed that the skills and attributes identified in Table 5.2 already form part of the online facilitators' portfolio of that specific subgroup. For example, Discourse Managers already possess critical thinking skills, weaving skills, management skills, coaching skills, online teambuilding skills, observation skills, learning technology skills, interpersonal skills and writing skills.

Table 5.2 Facilitator skills and attributes portfolio per online facilitator subgroup

Facilitator Subgroup	Facilitator Tasks	Facilitator Skills	Facilitator Attributes
Discourse Managers	Stimulate content-related discussions among the learners. Keep online discussions on track in order to achieve the predefined learning outcomes. Establish standards for online communication. Assist learners in taking	Critical thinking skills Weaving skills Management skills Coaching skills Online teambuilding skills Observation skills Generic skills	Orderly Supportive Generic attributes
	responsibility for their own learning.	 Learning technology skills Interpersonal skills Writing skills 	 Intellectually versatile Passionate about online learning Creative
Assimilators	 Connect learning content with prior knowledge and experience of the learners. Create interest and curiosity among the learners regarding the subject matter. Provide constant feedback on 	 Critical thinking skills Motivational skills Weaving skills Feedback skills Assessment skills Coaching skills 	InsightfulSupportiveAccessible
	 learners' progress. Provide content-related tips and advice to the learners. Create an informal, supportive learning environment. Maintain interaction between the facilitator and the learner. 	Generic skills Learning technology skills Interpersonal skills Writing skills	Generic attributes Intellectually versatile Passionate about online learning Creative

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Facilitator Subgroup	Facilitator Tasks	Facilitator Skills	Facilitator Attributes
Event Managers	Suggest the pace for learning activities. Encourage learners to reflect on what they have learnt. Invite subject matter experts to provide content-based explanations when required. Keep learners to the procedural rules of the learning institute. Inform learners about meeting times and virtual office hours.	Time management skills Summarising skills Management skills Motivational skills Generic skills Learning technology skills Interpersonal skills Writing skills	Orderly Generic attributes Intellectually versatile Passionate about online learning Creative
Data Inspectors	Track online learner participation. Collate marks for assignments and tests. Keep learners to the procedural rules of the learning institute. Guide learners through their learning process when necessary.	Administrative skills Management skills Observation skills Assessment skills Coaching skills Generic skills Learning technology skills Interpersonal skills Writing skills	Results driven Orderly Resourceful Generic attributes Intellectually versatile Passionate about online learning Creative
Hosts	Create a pleasant and supportive learning environment. Explain to learners how to access the online course. Inform learners where to communicate online with each other. Encourage learners to introduce themselves to each other. Encourage learners to collaborate with each other. Provide content- related tips and guidelines to the learners. Provide constructive feedback on learners' progress.	Motivational skills Feedback skills Online teambuilding skills Assessment skills Generic skills Learning technology skills Interpersonal skills Writing skills	Courteous Supportive Assertive Generic attributes Intellectually versatile Passionate about online learning Creative

There are 17 skill sets identified of which three are generic and extend across all subgroups. The following first three bullet points are the generic skills. These skills are defined in context with this study:

• Learning technology skills¹⁷: Online facilitators should have the ability to use various online facilitation tools such as Learner Management Systems (LMS) that are used to host courses, track learner participation, collate marks, etc. They should be able to manage email (e.g. send, receive, attach files, etc.), discussion

¹⁷ There are various online questionnaires facilitators can complete to assess their educational technology skills, e.g. http://www.toolboxcentral.com.au/

- boards (e.g. posting a topic, replying to a question, etc.), and synchronous chat sessions (e.g. logging on to a chat system, raising a discussion point, etc.).
- Interpersonal skills: Understanding human behaviour, online facilitators should be able to develop good online facilitator-learner relationships. They should get to know the learners and allow the learners to get to know them. Online facilitators should learn how to identify the strengths and weaknesses of the learners and assist them to build on these strengths and improve on the weaknesses.
- Writing skills: The keyboard replaces verbal communication in the online
 environment. The online facilitator should feel comfortable communicating in
 writing, as text forms the basis for all learning processes. Facilitators need to
 know how to be good communicators through text.
- Administration: Tracking learners' progress, grading assignments, and developing supportive learning material.
- Assessment: Online facilitators should be able to monitor learners' progress and provide feedback, assessing and correcting online learner responses. The facilitators should have the ability to apply various questioning techniques.
- Coaching: As the facilitator tracks the performance of the learners, it is important to consider and identify actual and potential performance problems. These problems should be dealt with through coaching, for example, showing learners how to start new topics or showing them how to use the online learning tools.
- Conflict handling: Online facilitators should be able to apply conflict handling techniques online, for example, focusing discussions on common ground.
 Facilitators should know how to identify causes of conflict and how to communicate effectively during conflict situations.
- **Critical thinking:** Online facilitators should have the ability to assimilate theory into practice in order to allow learners to apply their newly acquired knowledge and skills in the workplace.
- Feedback: Online facilitators should be able to provide timely, objective, honest
 and constructive feedback regarding learning progress to the learners. Feedback
 should be provided in such a manner that it leaves the learner feeling good and
 confident. Facilitators should be aware of the impact of positive and negative
 feedback on the learners.
- Management: Online facilitators should have the ability to plan, monitor and
 control the flow of work in the virtual classroom. They should point learners to
 the standards of netiquette, establish and maintain guidelines and ensure that
 policies and procedures are adhered to.

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- Motivational skills: Online facilitators must understand motivation theory and be
 able to put it into practice, using their communication skills in online interactions
 with the learners. They should actively encourage online participation to
 contribute to group learning; bring in visiting experts and guest lecturers; praise
 learners by name; show interest and demonstrate confidence in the learner;
 acknowledge learner contributions.
- **Observation:** Online facilitators should have the ability to observe learners' behaviour and responses to online activities and adjust their facilitation strategies accordingly. They should pay attention to the tone of the online messages received and respond appropriately.
- Online teambuilding: Online facilitators should be able to foster an online community of learners, helping them work effectively. They should be able to create and maintain friendly relationships among the learners.
- Problem solving: Online facilitators should have the ability to identify and solve
 possible and actual problem areas in the learning environment.
- **Summarising:** Online facilitators should be able to summarise online discussions and provide closure prior to introducing the next topic. They should encourage learners to reflect on their learning experience and provide feedback.
- Time management: Online facilitators should be able to allocate clear and definite timelines for assignments and activities, suggesting the pace for learning activities. They should be aware of and apply various time management techniques.
- Weaving: Online facilitators should have the ability to broaden the scope of online
 discussions, stimulate exchange of ideas, introduce new ideas. They should know
 how to draw abstractions from online discussions and find unifying threads of
 conversation, taking it to a deeper level of cognitive discussion.

The *attributes* identified in Tables 5.1 and 5.2 will not be defined in this study and requires further research. It is, however, important to note that these attributes are essential aspects to consider for quality online learning. Three of the attributes run across all the subgroups (intellectually versatile, passionate about online learning and creative), however, one may argue that all the identified attributes do actually span across all ten subgroups. Some of these attributes may already be instilled in most online facilitators, while others will develop over time as the facilitators gain more experience. Online facilitators need to take cognisance of these attributes and understand that, together with the identified skills, it will hopefully form a

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combination of essential ingredients that will ensure enhanced online learning experiences.

5.3 Creating a Skills Gap Matrix

Using the information identified in Tables 5.1 and 5.2, one can now enter these details into a matrix, Figure 5.1. The matrix provides the reader the ability to identify the skills gap per facilitator subgroup. This effort will supply critical information to facilitators when various learner groups are encountered. The three legends used in the matrix table are firstly, the tick (representing facilitator skills required by the learner subgroups, secondly the square (representing facilitator skills already acquired and finally, the black dot (represents the skills gap per facilitator subgroup.

Figure 5.1 Skills gap matrix

Skills	Learner Subgroups				Facilitator Subgroups					
	Ind	QS	RP	PS	Dep.	DM	Asm	EM	DI	Но
Online Teambuilding	1			1		۵	•	•	•	0
Summarising	1					•	•		•	•
Observation		1					•	•		•
Assessment		1			1	•	۵	•		
Problem solving		1		1		•	•	•	•	•
Critical thinking			1	1			۵	•	•	•
Feedback			1		1	•	۵	•	•	۵
Conflict handling			1			•	•	•	•	•
Weaving			1	1		۵	۵	•	•	•
Management			1		1	٥	•	۵	۵	•
Time Management				1		•	•	٠	•	•
Motivational			1	1	1	•	۵	۵	•	ū
Coaching		1		1	1			•		•
Administrative		1				•	•	•		•

Ind = The Independents; QS = Quality Seekers; RP = Reward Pursuers; PS = Protocol Supporters; Dep. = The Dependents; DM = Discourse Managers; Asm = Assimilators; EM = Event Managers; DI = Data Inspectors; Ho = Hosts

(**✓** = skills required; • = skills gap; □ = skills already acquired)

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The matrix in Figure 5.1 collates all the information of the research analysis and recommendations into a singular reference tool for facilitators and instructional designers to identify the skills gap and shortfalls when delivering online interventions to specific target groups.

Table 5.3 uses the information contained in the matrix to summarise the skills each facilitator subgroup have as well as the skills gap per learner subgroup. As previously noted, the information provided in this study provides a good basis to identify the gaps even though in reality these distinctions may not be as clear-cut. This information therefore serves as a guideline for the development of future facilitation skills.

Table 5.3 Facilitator skills gap per learner subgroup

Discourse Manager Skills: Online Team Building; Observation; Critical Thinking; Weaving; Management; Coaching							
The Independents	Quality Seekers	Reward Pursuers	Protocol Supporters	The Dependents			
Summarising	AssessmentProblem solvingAdministrative	FeedbackConflict handlingMotivational	Problem solvingTime managementMotivational	AssessmentFeedbackMotivational			
Assimilator Skills: Assessment; Critical Thinking; Feedback; Weaving; Motivational; Coaching							
The Independents	Quality Seekers	Reward Pursuers	Protocol Supporters	The Dependents			
Online Teambuilding Summarising	Observation Problem solving Administrative	Conflict handling Management	Online teambuilding Problem solving Time Management	Management			
Event Manager Skills: Summarising; Management; Time Management; Motivational							
The Independents	Quality Seekers	Reward Pursuers	Protocol Supporters	The Dependents			
Online Teambuilding	Observation Assessment Problem solving Coaching Administrative	Critical thinking Feedback Conflict handling Weaving	 Online teambuilding Problem solving Weaving Critical thinking Coaching 	AssessmentFeedbackCoaching			

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Data Inspector Skills: Observation; Assessment; Management; Coaching; Administrative						
The Independents	Quality Seekers	Reward Pursuers	Protocol Supporters	The Dependents		
 Online Teambuilding Summarising 	Problem solving	 Critical thinking Feedback Conflict handling Weaving Motivational 	 Online teambuilding Problem solving Critical thinking Weaving Time Management Motivational 	FeedbackMotivational		
Host Skills: Online Teambuilding; Assessment; Feedback; Motivational						
The Independents	Quality Seekers	Reward Pursuers	Protocol Supporters	The Dependents		
Summarising	Observation Problem solving Coaching Administrative	Critical thinking Conflict handling Weaving Management	 Problem solving Critical thinking Weaving Time Management Coaching 	Management Coaching		

The purpose of the above table is for the facilitators to identify and then take cognisance of their specific subgroup. Once the facilitators have identified their subgroup, they will have the necessary insight on the various learner subgroups. This will enable the facilitators to identify the skills lacking within the facilitator, which will ensure that these outstanding skills can be sourced from other areas or providers to secure effective learning interventions.

5.4 Research Limitations

A major limitation of this study is the small size of the research sample. There are 15 online learners and 14 online facilitators who participated in this study. With such a small number of participants and 5 categories in each group, it is very difficult to show meaningful results. Therefore, the findings from this study should be considered as tentative, and generalisation from the conclusions of this study

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should be very limited. A repetition of this study with a larger sample size is recommended in order to generalise meaningful conclusions.

5.5 Future Research Recommendations

To utilise the information in this study to its fullest potential, further research is recommended into how one determines the presence of the most dominant facilitator requirements among the learners. A psychometric battery needs to be developed that can be used to test the learner target group requirements prior to commencing with an online course – the results of such a battery should indicate which of the learner subgroups are the most dominant. This will assist in identifying an online facilitator who has the required skills, or it will assist in determining the skills the facilitator needs to develop prior to delivering an online learning intervention.

5.6 Conclusion

The initial question posed in this study was "what skills and attributes do online facilitators need to acquire to effectively address and satisfy the diverse needs of online learners?" Can a positive response to this question be extracted from this study? The process to gain some form of answer required that a formal research study be conducted. This study focused on available literature and analysis of data. The outcomes of the data were based on sound research principles and using iterative process methodologies, the results were refined to such a degree that tangible information was produced.

Identifying and documenting the learner expectations, required in-depth analysis into learner profiles and thus grouping of learners was possible. This effort went further by noting that effective learning is not only due to the grouping of the learners but the facilitators also possessed unique capabilities. The effectiveness of learning would therefore not be based only on the learner but rather on both the

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learner and facilitator and attempting to group the unique requirements into a most suitable solution that will provide a formidable initiative.

As can be identified in the various tables and their supporting information, the capabilities and skills of an online facilitator will still take time to develop into the ideal profile. This effort can be enhanced gradually over time with the facilitator being involved with online activities, but there is no quick fix to this situation. Online facilitators are responsible for enhancing their own facilitative knowledge and skills. The information provided serves as a guide for the facilitative approach to be implemented.

To be able to implement the recommendations from this study, online facilitators can, for the interim (further research recommended in section 5.5), identify specific learner subgroups by requesting them to provide information on what their requirements are of the specific online facilitator. This approach may assist the facilitator in determining the most dominant requirements and link these to a specific learner subgroup identified in this study, thus ensuring a best fit between the online facilitator and the online learners. If facilitators know their learners, they should be able to determine the amount and kind of support the learners will need.

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