Cape Peninsula
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THE ROLE OF TECHNOLOGY IN THE TEACHING, TRAINING AND LEARNING OF HOSPITALITY STUDENTS

by

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DECLARATION

I, Joanne Wyngaard, declare that the contents of this dissertation represent my own unaided work, and that the dissertation has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

Signed **Date**

ABSTRACT

This study investigated the role of ICT in the teaching, training and learning of hospitality students at The International Hotel School (IHS), and was conducted in the form of a case study based on the teaching, training and learning techniques used at the three campuses of The International Hotel School (IHS) in South Africa, and involved purposive and stratified random sampling. It was conducted over an 18 month period, using survey questionnaires, focus group discussions, and interviews. The researcher had, over a considerable period while in the classroom, observed a trend by students to increasingly use the internet to source information while studying, rather than spending time in a classroom being taught the required information. Based on observations of how students chose to learn, the researcher also deduced that there needed to be a shift from traditional face to face teaching and learning in a classroom environment, in order to accommodate the changing learning needs of students. The aim of the research was thus to define the role of ICT within hospitality studies at the IHS and gauge the impact of teaching, training and learning on the current hospitality curriculum, as well as the long-term initiatives within the hospitality field. A sub-objective was to enhance the learning process of students by making use of ICT to assist the learning process and make the learning material more interactive. This would assist both the student and the lecturer.

The findings, based on the responses from students and academic staff at the Cape Town Campus of the IHS, and the interviews and focus group discussions with all IHS staff suggest the recognition for a move to the use of ICT's in the formal educational process at the IHS. The results of the study lead to the recommendations for a change towards the role of ICT in the teaching and learning process.

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GLOSSARY

For the purpose of this dissertation the following specific definitions apply:

Digital technology

'Digital technology may be defined as 'learning that is delivered, enabled or mediated using electronic technology for the explicit purpose of training, learning or development in organisations' (The National Educational Update of India, 2013:12). This definition has been used in this study to mean 'learning technology'.

Education

Systematic instruction, schooling or training in preparation for life, the world of work or some particular task including mentally and morally (Oxford Dictionary, 1975:268).

Hospitality management

'Hospitality management is both a field of work and a field of study. In the work sense, it refers to management of hotels, restaurants, travel agencies, and other institutions in the hospitality industry. As a field of study, it refers to the study of the hospitality industry and its management needs' (Wise geek, 2013:1).

Information and communication technologies (ICT)

Information and communication technologies (ICT) refer to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication technologies. This includes the internet, wireless networks, cell phones, and other communication mediums (TechTerms, 2010).

Open and distance learning (ODL)

Open and distance learning (ODL) is a general term to describe education (teaching and learning) that does not take place face-to-face in a classroom situation. Around the world, the academic community is discovering and exploring the internet, tele-conferencing, and related means to achieve an extended classroom or learning experience. A number of international conferences have been held on ODL (TechTarget, 2014).

Open educational resources (OER)

The term 'open educational resources' was first adopted at the 2002 United Nations Educational, Scientific and Cultural Organisation (UNESCO) forum on the Impact of Open Courseware for Higher Education in Developing Countries. The term was defined as the 'open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-

commercial purposes' (UNESCO, 2002:24). The use of OER therefore allows lecturers and students at higher educational institutions to make use of these open resources and to adapt them for their own teaching and learning.

Tablet

This is a generic term used in this study instead of the word 'iPads'.

Technology

For the purpose of this study the researcher defines the word technology as it relates to the use of digital technology, ICT and ODL, being the scientific or systematic study of practical arts.(Oxford Dictionary, 1975:871).

Teaching

The context of teaching includes anything in the surrounding environment: physical, social, institutional and personal, that influences teaching and learning. The physical environment includes the classroom where teaching/learning occurs. The social environment, including the relationship between teacher and student and cultural norms, plays a significant role in what can and does occur in the classroom. (Teaching Standards, 2013:1).

Training

Salvi (2012:1) defines training as 'an educational process. People can learn new information, re-learn and reinforce existing knowledge and skills, and most importantly have time to think and consider what new options can help them improve their effectiveness at work. Effective training conveys relevant and useful information that informs participants and develops skills and behaviours that can be transferred back to the workplace', also, undergoing some form of physical work (Oxford Dictionary, 1975:901). The training done at the IHS refers to food preparation and serving and the front and back of house functions of an accommodation establishment. The IHS follows specific curricula for these modules.

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CHAPTER ONE
ORIENTATION AND BACKGROUND FOR THE STUDY

1.1 Introduction

'Today's new generation of digital technology is characterised by the concepts of networks, connectedness, collaboration and community. As well as increasing economies of scale, since digital material costs almost nothing to distribute, this technology also speeds up and intensifies the interactions between students and their lecturers' (Daniel, 2012:7). This author notes that today's students are exposed to various tools and media in the form of cell phones, tablets, Facebook and Twitter, and they seek readily available data where and when they need it. The internet has become the rule when seeking information, rather than the exception. (Daniel, 2012:7). The researcher applied Daniel's work while observing and interacting with students in the classroom situation, where they continuously seek the easiest way to do the required work. Materials for learning, such as textbooks and study notes should, therefore, be adapted. According to Butcher and Hoosen (2012:8), the modern student wants to actively participate in finding data, rather than being a passive recipient thereof. Students seek to find, download and change information to suit their needs. Daniel (2012:1), who was the President and Chief Executive Officer of the intergovernmental organisation, the Commonwealth of Learning, and former Assistant Director-General for Education for the United Nations Educational, Scientific and Cultural Organisation (UNESCO), made a statement that 'open education broke the iron triangle of access, cost and quality that had constrained education throughout history and had created the insidious assumption, still prevalent today, that in education you cannot have quality without exclusivity.' He further discusses the 'revolution of openness' in education and what it means. Openness in education should be 'open to people, open to places, open to methods and open to ideas.'

The researcher had, over an extended period, observed a trend by students to utilise the internet to source information while studying, rather than spending time in a classroom being taught the required information. Based on these observations of how students choose to learn, the researcher also deduced that there needed to be a shift from traditional teaching and learning methods in order to accommodate the current learning needs of students. 'Many educational institutions, especially higher education, have implemented technology into many of the traditional learning tools to enable teachers to stay afloat in a world of rapid technological advances' (Butcher & Hoosen, 2012:8).

Park (2009:1) conducted a case study at Stellenbosch University which discusses an integrated technology platform to enhance the virtual mobility of postgraduate students within the African higher education context. The author discusses various approaches to virtual learning, namely a blended approach, satellite-based technology and web-based learning, in order to improve access to learning and academic achievement of post-graduate students. The research was conducted in 2007 and the objective was to show-case the university's blended approach to learning to the South African Department of Higher Education.

1.2 Research problem

Following on from the statements made in the introductory paragraphs concerning ICT the researcher has focused the research on the following problem at the three campuses of The International Hotel School:

The role of technology does have a place in the teaching, training and learning in hospitality studies, but it is questionable whether this is so at the three campuses of The International Hotel Schools. When asked about the rationale behind the current system, Oosthuizen (2013) stated that students enrol in distance and traineeship programmes, and are expected to attend contact classes at the various campuses, in the form of tutorials.

This research study investigated the role of technology with regards to teaching and training methods and tools, the effects on the current hospitality curriculum adapted in 2012 by The International Hotel School (IHS), learning methods currently in use, and the ongoing influence of technological advances within the hospitality industry.

Sharples, McAndrew, Weller, Ferguson, Fritzgerald, Hirst, Mor, Gavel and Whitelock (2012:2) discussed a series of reports that explore new forms of teaching, learning and assessments in an interactive context and for a technologically-based society. The authors follow a range of educational theories and practices, and how these will impact on education in terms of innovation. The researcher interprets this to mean educational institutions using various forms of technology in the teaching and learning function.

The research resulted from a pilot study on technological advances in teaching and learning that was conducted by the International Hotel School of South Africa at all its campuses in 2012, and was conducted because the management of The International Hotel School wanted to test whether their teaching and learning methods were comparative with hospitality studies, both locally and internationally. A 2008 survey of first-year student expectations of information and communication technologies (ICT) in higher educational institutions was conducted (Rowlands, Nicholas & Williams, 2008:5). From this 2008 survey it can be clearly

stated that students like to use their own equipment to source data, and that institutions of higher education should therefore use technology to encourage students to increase their body of knowledge. This does imply that all staff, academic and support personnel, need to be skilled in the use of the various forms of technology (Rowlands et al., 2008:6).

These authors further noted that the 2008 Universities and Colleges Information Systems Association (UCISA) had witnessed the development over a number of years of the need for the provision and use of ICT, including 'streaming media, mobile computing and podcasting', which would allow students to use their own equipment, and to expect educational institutions to provide personal services to meet students' requirements.

1.3 Study aim

The aim of the study was therefore to investigate the teaching, training and learning at the IHS, so that meaningful suggestions can be made to promote the role of ICT in these functions.

1.4 Study objectives

The main objective of this study is to discuss the role of technology in hospitality studies at The International Hotel School and establish the role of teaching, training and learning using technology on the current hospitality curriculum, as well as possible long term initiatives within this field at the IHS. Specifically, the study seeks to determine how lecturers and students experience the role of learning technologies in a specific study field. The supporting objectives are:

- To establish lecturer and student views on the current role of technology on teaching and learning in hospitality studies at the IHS.
- To establish to what extent the use of technology influences the current hospitality study curriculum.
- To establish whether the use of current technology at the IHS assists students' learning in hospitality studies.
- To establish whether advancements in technology in the hospitality industry are met in the hospitality studies at the IHS.
- To establish whether the use of current and new technology will influence the teaching by the staff and the learning of the students in hospitality studies at the IHS.

1.5 Research questions

Using the study aim and objectives, the questions should determine the influence of advancements in technology in the hospitality industry and resulting role in hospitality studies at the IHS.

- Do lecturers and students view the use of technology positively in teaching and learning of hospitality studies?
- To what extent does the use of technology influence the current hospitality studies curriculum?
- Does the use of technology assist student-learning in hospitality studies?
- Do advancements of technology in the hospitality industry meet the hospitality studies requirements at the IHS?
- Will the use of current and new technology influence the teaching of staff, and learning of students, within hospitality studies at the IHS?

It is understood that the use of, and the role in, technology is synonymous.

1.6 Delineation of the Study

The study focuses on the three campuses of The International Hotel School in South Africa, namely Cape Town in the Western Cape, Durban in Kwazulu Natal, and the Sandton campus in Gauteng. The reason why this topic (the role of technology in the teaching, training and learning of the IHS hospitality students) was chosen was to expand on the 2012 pilot study at the IHS. As the researcher is employed at the International Hotel School's Cape Town campus, the study, therefore, endeavours to expand on the pilot study, but to focus the research on the role of technology on teaching, training and learning in the hospitality studies section of all campuses of the International Hotel School. Hospitality studies is used for the purpose of this research because the researcher has background knowledge of hospitality studies having completed qualifications and taught various modules in this field, and because the influences of the study may affect the current job description and performance of the researcher, namely lecturing hospitality studies. Currently the modules are taught in a classroom based on the face-to-face medium.

1.7 Research design

Research design refers to the methodology decided on for the study, and the tools used to gather the data needed to make decisions. Leedy and Omrod (2012:12) state that '…research methodology refers to the researcher's general approach in carrying out the research study'. More specifically, Mouton (2008:56) views research methodology as the

collection of data specific to the recipient, considering the research processes and the techniques that are needed in addressing the research problem, aim and objectives.
This research uses mixed methodology and a case study format that focuses on technologies in the teaching and training and learning methods of the lecturers, and the learning methods of the students, of the three campuses of The International Hotel School. Blumberg, Cooper and Schindler (2005:375) define a case study as '…an empirical inquiry that investigates a contemporary phenomenon within its real-life context'. 'The objective of a case study is usually to investigate the dynamics of a single bounded system' according to Welman, Kruger and Mitchell (2005:25), while Babbie and Mouton (2007:281) described the case study as '…an intensive investigation of a single unit'.

Educational research accepts two dominant methodological paradigms; the qualitative and the quantitative. Qualitative research states that the idea of reality is dictated by social norms which mean that a single event can be interpreted differently by different people (Merriam 2002:40). The qualitative approach is further defined by Babbie and Mouton (2007:278) as an investigation of the research problem in order to analyse and provide conclusions thereof through observation and evaluation of the data (Welman et al., 2005:24). According to Mouton (2008:108) qualitative research must be interpreted and analysed as the data is collected to ensure that the data is properly managed. The qualitative research aspect of this study is expressed in the form of interviews and focus group discussions conducted with management and members of staff at the different campuses of the International Hotel School.

Quantitative research is of equal importance in research as it helps to validate the research problem (Meadows, 2009:4-8). The focus of this type of approach will employ different tools that can be used in the teaching, training and learning of hospitality students. Quantitative research involves the collection of data and displaying this in some numerical format (Coldwell & Herbst, 2004:15). In this research study questionnaires were distributed to students and academic staff of The International Hotel School for completion. The distribution of the questionnaires was done through the survey application software used by The International Hotel School, known as *Survey Monkey*, and the link to complete the questionnaires was sent electronically to all respondents together with a covering letter explaining the requirements for the survey, including unpressured participation and anonymity (the researcher was granted special authority to adapt the Survey Monkey programme for this survey, providing no changes were made to the adapted programme installed specifically for the research). The respondents were encouraged to access the survey through the link provided and then exit the survey once completed. This method does ensure complete anonymity as respondents have no actual contact with the researcher, nor

provide personal details. The survey is completed electronically so it is not possible for the researcher to see who has provided what information in the completed survey. The type of information required is the perceptions of both students and staff with regards to the use of current and new technology in teaching, training and learning. The researcher gained information on how the students and academic staff at each of the three campuses of The International Hotel School perceive, and make use of technology within hospitality studies.

The data collection methods were questionnaires, interviews and focus group discussions, all of which were planned and refined with, and monitored by, the Cape Peninsula University of Technology statistician. Microsoft Excel was used to capture the data collected from the questionnaires. The reason for the use of Microsoft Excel software is to allow the data to be grouped and presented graphically in the form of charts and diagrams, and the software allows for comments relating to the data to be reflected alongside the graph. The questionnaires are categorised to ensure a logical flow, and questions concerning similar topics are grouped, as Welman et al. (2005:179) explain that this method, as stated above, allows respondents to focus on one question at a time, thereby eliminating confusion. The first category of the questionnaire focuses on biographical details, and the other categories focus on the technologies that can be used by lecturers and students. Two sets of questionnaires are used, one for students and the other for academic staff.

Interviews conducted with management of The International Hotel School, and focus group discussions with management, lecturers, subject coordinators and administrators of The International Hotel School, after the questionnaire data has been analysed, are the tools used for data collection. These interviews and focus group discussions were conducted by the researcher at the International Hotel School's annual conference (AGC), which all staff members from all campuses must attend, in October 2013. The type of information that should be obtained is the use of technology in teaching, training and learning at the campuses, the technology challenges currently faced, and the implementation of new technology.

Goddard and Melville (2007:34) suggest that a population consists of a set of people whose interests are used and represented by the researcher. The population is the management, academic staff and students at the three campuses of The International Hotel School within South Africa involved in studies in the hospitality industry.

A conveniently selected sample is used for the interviews and focus group discussions at the AGC and the sample is representative of the IHS population at the Cape Town, Durban and Sandton campuses, as it consists of management, academic staff and students within the

population and is selected from all three campuses. Sampling is a method of selecting a representative part of a population that can represent the characteristics of the entire population (Coldwell & Herbst, 2004:74). 'A sample should be representative of the large group and should include all elements of the population' (Brynard & Hanekom, 2005:44).

1.8 Significance of the research

The researcher believes that the successful completion of this research will provide valuable insights into the current and future role of technology in hospitality studies at the IHS. The researcher will endeavour to provide suggestions for improvements and successful implementation of technology-based teaching to improve teaching and training methods, the IHS hospitality curriculum, learning methods of the students, and a successful integration of technological advances in the hospitality industry in hospitality studies.

1.9 Ethical considerations

The researcher took all ethical considerations into account. Permission was obtained from the Dean of the International Hotel School to conduct the study, and all interviews, questionnaires and focus group discussions conducted by the researcher is preceded by a letter of consent (Appendix E) issued by the Dean of the International Hotel School. Ethical clearance was obtained from the Ethical Committee of the Business and Management Sciences Faculty of the Cape Peninsula University of Technology (Appendix F).

The following ethical principles guided the researcher in this study:

- Honesty - The researcher clarified reasons for the study to all participants.
- Objectivity – Anonymity is encouraged to avoid any bias.
- Carefulness - All data is checked and verified.
- Openness – Participants are encouraged to participate and to question the research.
- Respect for intellectual property – Participants identity remains confidential.
- Confidentiality - Participants remain anonymous.
- Beneficence and non-maleficence - All ethical data collection and dissemination procedures are strictly followed.
- Justice – Participation is encouraged by all academic staff and students to ensure fairness.
- Non-discrimination – As stated above, no group, for example race and gender, are exempted from the study.
- Legality – A permission letter to conduct the study was obtained from the Dean of The International Hotel School.

- Competence – All data is checked and verified (Resnick, 2011:2).

In this research the protection of the participants' interest and confidentiality is considered important. This is ensured by the following measures:

- Participation by IHS staff and students was voluntary and participants were informed that non-participation would not put them at a disadvantage. Because the data collection process was done on a voluntary basis, no record of participants was kept.
- For confidentiality purposes all interviews and questionnaires were completed anonymously and at no stage is a participant's personal details asked for or recorded. Participants are free, therefore, to express their views freely.
- The research participants in the interviews and focus group discussions are asked if the interview could be recorded and transcribed. In this study no objections were made to the use of this recording process.
- The participants are able to withdraw from the study at any time, but their responses to date are retained as part of the study process. There were no withdrawals from the interview and focus group discussions, but many academic staff and students declined to complete the questionnaire process. This point is discussed later in the study.

1.10 Overview of the Study

The study is conducted and reported as follows:

Chapter One – Orientation and background of the study

This Chapter identifies the research topic and an introduction is given about the study. The study problem and aim of the research is defined and the objectives stated. The researcher defines the delineation of the study, discusses what types of literature will be reviewed for the study, which research methods will be used and why, and discusses ethical considerations as well the significance of the research.

Chapter Two – Literature overview

Chapter two discusses some literature reviewed for the research study with reference to digital technology internationally and within South Africa.

Chapter Three – Research design

The researcher explains the different research methods and tools that are used, which includes questionnaires that will be electronically sent to selected students and academic staff of the International Hotel School, interviews with management of the International Hotel School, and focus group discussions held with academic staff and management of the International Hotel School.

Chapter Four – Data analysis and interpretation of findings

The data gathered by means of the questionnaires was analysed using the Survey Monkey statistical software programme and designed specifically and adapted for the researcher to collect statistical data. The results of the questionnaires are discussed in terms of their relation to the main and sub-problems of the research. The interviews and focus group discussions are analysed.

Chapter Five – Conclusions and recommendations

Chapter five contains the conclusions and recommendations obtained from the questionnaires, interviews and focus groups.

1.11 Summary

The role of technology in the teaching, training and learning of hospitality students is discussed. A research problem, study aim and objective with sub-objectives are defined. A delineation of the study is clearly explained, ethical considerations are discussed, and an overview of the study is given.

In the next Chapter literature relating to the study is reviewed.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

Universities need to constantly reconsider teaching and learning methods to provide for the needs of all students in all forms of the teaching/ learning function. New methods of teaching and learning need to be introduced as developing forms of technology places more demands on the acquisition of knowledge (Laurillard, 2004:5).

The researcher believes that as the educational world is changing and focusing more on information technology, so too should the teaching and learning functions in higher education. The researcher will therefore investigate the current status of teaching and learning with regards to the role of technology at the IHS, and define methods to better improve teaching and learning through technological innovations. This research was conducted in the form of a case study within hospitality studies in higher education at the IHS. The researcher will consider what other institutions of higher education are doing and how to align methods to improve the teaching and learning within hospitality studies at the IHS.

'In order to systematically select documents for the literature review, the documents have to meet stringent selection criteria in order to be declared *valid* and *reliable'* (Kitchenham, 2004:10). The type of literature to be reviewed includes academic papers, books, journals, official reports and websites.

Butcher and Hoosen (2012:1) considered global trends and challenges in education. They stated that in today's knowledge society, knowledge and skills play a major role in reducing poverty and promoting growth. Faced with funding shortfalls, many educational institutions are looking to new markets and adopting a more market-orientated approach to offset their operational costs. Technological change has brought, and continues to bring, profound changes in the roles that researchers, funders, research institutions, libraries and other intermediaries play in disseminating and providing access to quality-assured research outputs, in their goals and expectations and in the services they provide and use. The principle of allowing adaptation of materials provides one mechanism among many for constructing the role of students as active participants in the educational process, who learn best by doing and creating and not by passively reading and absorbing. Content licenses that encourage activity and creation by students through reuse and adaptation of that content, can make a significant contribution to generating more effective learning environments

Baule (2007:17) suggests that the following are the five ways of measuring the impact of Information and Communication Technologies (ICT) in education:

- Improvement in the scores on standardised tests.
- Increase in the ability of students in managing learning.
- Increase in the ability to promote achievement for the special needs of the students.
- Increase the knowledge of the real world, and
- Improvement of the access to information that increases knowledge, inquiry and depth of investigation.

2.2 Information and communication technologies

Madernach (2009:9) examines the impact of instructors' personalised multimedia supplements on student engagement in an introductory college level online learning platform. The research looks at the appropriate use of multimedia within an online course and endeavours to establish which methods would enhance student engagement. Hoadley (2009:1) researched curriculum approaches and discusses two models of curriculum, namely competence curriculum which highlights the characteristics that students should demonstrate in a particular field, and performance curriculum which highlights the required level of performance in a specific field, and the possibility of integrating the two to create an ideal curriculum model. The IHS endeavours to use online learning platforms and this review of the literature will assist in better understanding the structure.

Hinde (2013:1) suggests that although digital technology is risky and it's outcomes still uncertain, it can nevertheless be seen as an evolving and important phenomenon. He further suggests that digital technology will have a significant impact on higher education globally. Based on the above thoughts, the researcher believes that because digital technology has tapped into new markets by reaching out to student groups, it can be seen as an opportunity to generate income and should therefore be a new and entrepreneurial endeavour for the higher education sector. Higher education institutions have implemented digital technology to enhance the teaching and learning in their institutions. In the last decade in particular, the promotion, sharing and use of Open Educational Resources (OER) that include digital technology have been growing exponentially (Glennie, Harley, Butcher & van Wyk, 2012:1).

The term Open Educational Resources was first adopted at the 2002 United Nations Educational, Scientific and Cultural Organisation (UNESCO) forum on the Impact of Open Courseware for Higher Education in Developing Countries. The term was defined as '…the open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-

commercial purposes' (UNESCO 2002:24). The use of OER, therefore, allows lecturers and students at higher institutions to make use of these open resources and to adapt them for their own teaching and learning, something that needs to be seriously considered for the IHS.

At the 2009 World Conference on Higher Education entitled The New Dynamics of Higher Education and Research for Societal Change and Development (UNESCO, 2009), it was communicated that the open and distance learning (ODL) approaches and information and communication technologies (ICTs) present opportunities to widen access to quality education, particularly when Open Educational Resources are readily shared by many countries and higher education institutions (Glennie et al., 2012:3), and it is mainly the 'generation Z' that makes use of ICTs and digital technology. Schroer (2013:1) defines 'generation Z' as the group of individuals born between 1995 and 2012, while Parker (2013:3) suggests that educating 'generation Z' is different to educating previous generations because they are radically different and thus cannot be educated in the same way. They are 'tech-savvy' (Parker, 2013) and make use of mobile gadgets that access the world through social networks such as Facebook and Twitter. This generation views technology as a primary tool for communication. They use internet sites such as Google and YouTube to gain information, although this sometimes results in them lacking the critical-thinking skills needed to evaluate sources. According to Stanford University, this method of learning allows them to free up brain capacity and develop skills far earlier than previous generations. 'Generation Z' are fast becoming the most successful problem-solving generation (Parker, 2013:3). This explanation applies also to IHS students who are seeking alternate ways of learning the required curriculum content.

With regard to this computer generation ('generation Z'), the most promising and dominant application is computer-mediated communication (CMC) (Keegan, 2005:18). A decade ago CMC combined the telecommunications with computer capabilities to provide distinct methods of interacting educationally. Based on the statements discussed in this section there will be a need to be a shift in teaching and training in order to effectively enable students, specifically 'generation Z', to learn, and there needs to be a strong focus on utilising digital technology methods to enhance teaching, training and learning in higher education in the future.

2.3 International trends in on-line learning

Frydenberg (2007:4) discussed reasons why students who had completed studies at the University of California-Irvine withdrew from continuing education classes. The objective of that study was to determine the reasons for the University's high student "drop-out rate".

Frydenberg examined online learning and classroom style learning as an alternate form to determine which of the two styles is more suited for students in order to better understand instruction methods and to combat student withdrawal from continuing education.

Open on-line education is highly accepted in first world and some developing countries (Edudemic, 2013:1). By its very nature it is available to all, in the workplace, at home, and for those involved in any form of education. Distance has always been a problem in educational circles; students have to travel distances in rural areas and school and university accommodation is generally provided for 'out of town' students only. According to Edudemic (2013:1) online education allows for an increased number and greater variety of teaching programs. Van der Merwe (2004:16) noted that '…(D)igital technology, e-content and e-delivery had become buzz words' and that this form of learning is profitable to the educational institutions once start-up capital expenditures have been met; certainly something for the IHS Management to consider.

Latchem and Walker (2001:30) provide information and advice on the organisation and running of telecentres which are satellite centres in rural areas that allow access to learning for rural communities. They also explain opening of access to learning for rural and disadvantaged communities, as well as future learning methods through the use of learning telecentres. McBrien and Jones (2009:5) explore the role of online digital technology with regards to distance education. These authors discuss this teaching tool from a student perspective, and look at themes relating to dialogue structure, student autonomy and technical issues. The aim of their research study was to enhance online distance learning education for students in higher education. The findings of the authors are that those students are open to online learning, and suggest that this would enhance their learning, and this ***is*** to be considered for further teaching at the IHS.

After much consideration of technological advances in education and looking at various sources of literature, specifically UNESCO and The Commonwealth of Learning, four countries making use of ICT and OER were selected to establish the extent and magnitude of technology-based teaching and learning. These countries were selected because, when researching the information relating to technological advances in education, these countries proved to be the front runners in the literature reviewed, and their leadership has relevance to the South African situation, and to the IHS in particular.

2.3.1 United States of America (USA)

According to Edudemic (2013:1), the USA is the undisputed leader in on-line education in the world today, with hundreds of on-line colleges and thousands of on-line courses available to

students. A study by Edudemic in 2011 found that six million students in the United States are taking at least one on-line course, nearly one third of all those enrolled in higher education. Increases in enrolments in on-line courses are outpacing those of higher education as a whole with a 10% increase in on-line students between 2010 and 2011 compared to just a 2% rise overall. In response to the increase in enrolment, 65% of higher education institutions state that on-line learning is a critical part of their long-term strategy. According to Wheeler (2000:3), schools are making use of large screen video projection facilities powered by networks of Apple MacIntosh computers to teach students from five years of age upwards. Students are given a personal e-mail address and receive tutorials through individual or group work stations. This learning method of using ICT as a resource to research and communicate is enhancing the learning process by allowing the teacher to enable rather than take control of learning activities (Edudemic 2013:1).

2.3.2 India

A brief overview of the relevant literature reveals that India plays a major role in the growth of on-line learning opportunities on the Asian sub-continent. The development of numerous colleges and universities offering on-line learning programmes has created an interest in a population with large economic concerns. On-line learning allows students who are unable to take time off from work to go to traditional colleges, an opportunity to further their education. It is estimated that this learning phenomenon will increase revenue by US$1 billion by the end of the present decade (Edudemic, 2013:2). According to Garag (2010:2), the Indira Gandhi National Open University (IGNOU) is able to deliver long-distance learning to even the most remote districts. This is achieved through 134 video-conferencing centres, more than 800 tele-conferencing centres, 26 FM radio stations, four educational TV channels, 186 radio stations and 486 community-based information centres.

Garag (2010:5) further suggests that IGNOU is allowing educational access to the entire population through free broadband facilities provided to schools, colleges and universities. The creation of digitised learning materials and on-line educational portals allows the use of ICTs to facilitate equitable educational opportunities for all levels of the Indian population. The IHS is considering on-line learning into some Southern African Community Development countries.

2.3.3 The United Kingdom (UK)

Edudemic (2013:5) suggests that although on-line education in the United Kingdom (UK) has been in existence for some time, it was only in 2011 that it started to see a real increase in interest in this form of education. Due to increasing tuition costs in higher education the UK government created an on-line learning task force to investigate cheaper and more

convenient education options. The task force recommended that an investment of £100 million (in 2013) be made in on-line education. This investment is designed to assist the nation in the development of its own on-line brand and to make on-line learning more accessible to the UK population. The Open University is one of the mega-universities of the world, and research has shown that students from the Open University, both young and old, use technology differently (Daniel, 2012:7). The Open University's decision to move away from its traditional learning methods, consisting of books, video cassettes and CD-ROMs, to on-line learning has lowered their costs per student. This change has also lowered their fixed capital costs and made staffing structures for digital technology processes easier to align (Larsen & Lancrin, 2005:6).

2.3.4 Australia

According to Edudemic (2013:5) the economic crisis of 2008 and 2009, and the desire of Australians to further their education without putting their careers on hold, has made on-line learning popular. The on-line education market grew by 20% in the last five years (up to 2013) and was then estimated to be worth US$4.6 billion. Australia has also developed on-line learning programmes that teach students primarily from Asia as the country received many post-school students from other countries close to it. This type of learning is expected to increase Australia's international students by millions within the next 10 years (to 2022) thereby making Australia one of the world leaders in on-line education (Edudemic, 2013:5-6).

The New Media Consortium's Technology Outlook for Australian Tertiary Education 2012-2017, identified the following as popular emerging technologies:

- Cloud computing, which is the ability to store data over the internet instead of the computer's hard drive.
- Learning analytics which relates to analysing patterns of learning data in order to personalise learning for students.
- Mobile apps. These are applications that allow users to connect to the internet using cellphones or tablets instead of using a traditional computer.
- Tablet computing, which is a wireless, portable computer (Tracey, 2013:1).

2.4 African trends in information and communication technologies and open and distance learning

The New Partnership for Africa's Development (NEPAD), identifies ICT as central in the struggle to reduce poverty on the sub-continent. NEPAD further suggests that information technologies help overcome social and geographical barriers by increasing access to education in poor countries (South Africa. Department of Education, 2004:7).

Four areas in Africa, based on the above literature were selected, namely the Southern African Development Community (SADC) region Nigeria, Kenya and South Africa and discusses the impact of ICTs and ODLs in these countries/areas.

Contributions to the Commonwealth of Learning Journal (2012) discuss open educational resources, and articles in this journal discuss improvement of access, affordability and quality of education on a global scale that has specific relevance for African countries. Other articles include promotion of international support of open educational resources from the Commonwealth of Learning conference held in Paris in June 2012, improvements in digital technology programmes, updated management programmes, mobile technology in India, training and research in West Africa, skills development initiatives in Africa, flexible learning in the Caribbean, as well as the Commonwealth of Learning's three-year plan for development of learning. These countries were chosen by The Commonwealth of Learning members as part of their strategy to foster governmental support for Open educational resources internationally (OER).

2.4.1 Southern African Development Community countries (SADC).

There have not been many developments with regard to higher education enrolments in Southern African countries. In order to increase the enrolment rate, higher education policies need to be developed. These policies need to focus on the following:

- Expanding student enrolments
- Strengthening the quality of academics
- Increasing the production of postgraduates
- Developing research capability
- Changing the traditional teaching methods of universities, and
- Improving governance.

If these changes are not made it is then projected that this region will only achieve a 16% higher education enrolment rate by 2050 **(**Kotecha, 2012:1). This author proposes a ten-point plan to improve higher education policies, with the most pertinent strategy relevant to this study the use of technology in higher education. According to Kotecha (2012:5) SADC countries need to modernise the higher education system through ICT infrastructure. He recommends the formation of a National Research and Education Network (NREN) in each of the SADC countries. The NREN's do work closely with each other regarding telecommunication agencies that control resources such as network capacities and licenses. Based on the available literature it is suggested that there is much work to be done in the

field of ICT and OER in higher education in the SADC region, and the HIS can benefit from this through open learning initiatives.

2.4.2 Nigeria

The National Open University of Nigeria (NOUN) is the first fully-fledged university that operates an exclusively open and distance learning (ODL) mode of education in Nigeria (Ogbonnaya Igwe, 2010:1). The university focuses heavily on a distance teaching and learning system, and delivers its course materials through print, in conjunction with ICT formats. Currently, (2010) NOUN has thirty study centres, which are stratified into the six geopolitical zones of the nation, and student enrolment capacity is projected at about 50 000 students. This figure leads one to conclude that the ODL mode of education holds great prospects for the future of higher education as it increases capacity in this educational sector. The greatest challenge with respect to ODL is power generation and the high cost of access to ICT facilities for both students and staff (Ogbonnaya Igwe, 2010:2).

ODL in Nigeria is becoming an accepted and indispensable part of mainstream educational systems. This growth is stimulated in part by the interest among educators and trainers in the use of new internet-based and multimedia technologies, and also by the recognition that traditional ways of organising education need reinforcement by innovative methods. Ogbonnaya Igwe (2010:2) however suggests that '…digital technology is, in all its forms, a relatively recent phenomenon in tertiary education that neither has radically transformed teaching and learning practices nor significantly changed the access, costs, and quality of tertiary education'. It is therefore evident that ICTs and ODLs have made an impact in higher education in Nigeria but, based on the above research, there are still more avenues that can be explored to enhance the process of ICTs and ODLs in the country.

2.4.3 Kenya

In 2005 the Ministry of Education, Science and Technology (MOEST) submitted a proposal to improve the delivery of education in Kenya through the use of ICT. The proposal summarises the following important topics relevant to the use of ICT:

- Increasing educational access in urban slums and Arid and Semi-Arid Lands (ASALs).
- Improving quality teaching and learning.
- Increasing and improving skills development programs for out-of-school youth and for women in the community.
- Improving educational policy and coordination.
- Improving educational management.

- Monitoring and evaluation in the education sector, and
- Considering costs and benefits of educational interventions.

MOEST (2005) proposed the following:

- The adoption of the draft National ICT Policy to ensure that a consistent framework is utilised for ICTs in education activities.
- The development of ICTs in Education Steering Committees to develop and revise the quality assurance guidelines for programmes.
- The accreditation of commercial institutions for the delivery of distance education.
- The development of guidelines based on the development of a Community Learning Centre, and
- The implementation of an 'e-rate' (education rate) to ensure that the cost of basic connectivity is affordable. (Kenya. Ministry of Education, Science and Technology, 2005).

This process is currently (2013) in its development stages in Kenya, and no new data exists regarding progress.

2.5 South Africa

According to South Africa Department of Education (2004:3), ICTs have the potential to improve the quality of education and training. It is for this reason that the Government has been quick to seize the opportunity presented by the practical benefits of ICT to support teaching and learning. The ICT revolution has had an impact on curriculum development and delivery, and continues to pose new challenges to education and training systems globally and in South Africa. These challenges can be summarised into three broad areas namely:

- Participation in the information society,
- The impact of ICT on access, cost effectiveness, and quality of education, and
- Integration of ICTs into the learning and teaching practices.

In South Africa there are a number of initiatives that involve the implementation of ICTs. In the higher education sector the initiatives of the University of South Africa (UNISA), Stellenbosch University, the University of Cape Town, The International Hotel School and the North-West University are discussed, and also the Khanya Project in secondary education in the Western Cape, by way of illustration.

The South African Institute for Distance Education (SAIDE, 2000) looked at the application of educational technologies in South Africa. The research study focused on the planning and

implementation of technology-enhanced learning, and discussed the implementation of this technology in other countries, and the challenges faced with using technology. The aim of that study was to look at improvements in order to successfully implement technology-enhanced learning.

SAIDE (2002:2) later investigated the role of learning centres and learner support in distance education. This study noted the methods and support needed to ensure that STUDENTS are able to engage optimally with the curriculum and learn regardless of constraints such as mobility and access to classroom learning. Within SAIDE (2009:4) discussions centred on the potential use of mobile phones in education within an African context. This study considered STUDENT support, sustainability, implementation and financial implications. The study also discussed the ability of educators to design and develop mobile learning opportunities for students, certainly applicable to the IHS in its aim to service education in the SADC.

2.5.1 Information and communication technologies and open and distance learning in the secondary education sector in South Africa.

The National Department of Communications leads all ICT initiatives in South Africa. They have endeavoured to develop a five-year national e-strategy that aims to enable and facilitate electronic transactions in the public interest, including the education sector (SA. DoE, 2004:3). There are many projects in schools, but for the purpose of this study only the Khanya Project of the Western Cape Education Department is discussed.

2.5.1.1 The Khanya Project of the Western Cape Department of Education (WCED).

The Khanya Project of the WCED is discussed because the case study for this research is based in the Western Cape. As per the IHS Cape Town 2013 geographical sales data, many of the students of the IHS matriculated from schools in the Western Cape. Many of these students have, therefore, learnt their computer skills by using the computers that were introduced to primary and secondary schools by the Khanya Project, which started in 2001 (Khanya, 2008). The main aim of the Project was to deliver and support curricula in order to provide for improving the quality of teaching and learning of all the schools in the Western Cape. A majority of teachers in the Western Cape received formal and informal computer and ICT training, and the Khanya facilities make it possible for teachers to have internet access to enable them to use educational software programmes for teaching and learning (Khanya, 2012). The Khanya Project aims to use ICT implementation in an effective way by helping learners to develop the mind-set for knowledge skills, values and attitudes in order to

be successful in terms of problem solving, high degrees of literacy and numeracy, and flexible, critical thinking of learners (Van Wyk, 2003:1). Van Wyk, in his writings, predicted the establishment and the specific outcomes of the Khanya Project.

2.5.2 Information and communication technologies and open and distance learning in the higher education sector of South Africa

Higher educational institutions rely greatly on technology for their teaching and learning. Examples of the development of technology in teaching and learning in higher education at Stellenbosch University, University of Cape Town (UCT), UNISA and the North West University are discussed:

2.5.2.1 Initiatives at Stellenbosch University

Stellenbosch University aims to make the university more accessible and academic achievement more attainable (Park & van der Merwe, 2010:10). To achieve this, the University has set in place alternative access routes enhanced by user-friendly technology, especially aimed at those postgraduate students who currently need to overcome significant barriers to participate successfully in higher education (Park & van der Merwe, 2010:10). In 1998, Stellenbosch University introduced the Division of Telematics Services (Matieland, 2010/2011:21). The Telematics Services system is based on a combination of satellite, cell phone (SMS protocol), smart card and web-based technology, and consists of an on-campus studio and twenty remote learning centres situated all over South Africa and Namibia. Together, these create a virtual learning environment to support synchronous and asynchronous education opportunities for postgraduate students spread across a widely dispersed geographical area. The Division has a state-of-the-art broadcast studio with formal and informal sets that can accommodate up to five presenters. The modern television and Chroma-key equipment make it possible to broadcast live interactive presentations complemented by computer applications (Park & van der Merwe, 2010:1).

The Division of Telematics, together with academic departments, serves almost 1 600 postgraduate students with approximately 400 hours broadcast in 2007 from the Stellenbosch studio to 28 classrooms all over the country (Matieland, 2010/2011:1). The postgraduate students, who are in classrooms all over the country, can see the lecturer on a television screen, and can also communicate with the lecturer verbally. The students in classrooms all over the country can hear the dialogue and participate in the conversation. This technology supports interaction, bridges distance and contributes towards high quality teaching and learning. Park and van der Merwe (2010:1) said that '…since 2000, more than

2 200 students' attained postgraduate qualifications, 251 were master's degrees at Stellenbosch University'. Furthermore, The Division of Telematics decided to upgrade the technology for satellite interactive telematic teaching. This will include user-friendly technologies such as cellphones and smartcards that will be installed in the interactive classrooms and the installation of two extra classrooms on the other campuses of Stellenbosch University connected to the main campus (Park & van der Merwe, 2010:1). According to the Matieland (2010/2011:1) new technology that broadcasts programmes from the studio to the personal computers of students, or their televisions allows students in remote areas who cannot come to the interactive classrooms to access the learning material.

Private companies can also make use of the telematics facilities of the University to establish in an effective manner communication networks in their respective environments. UNISA makes use of the interactive telematic technology to broadcast their programmes to approximately 30 000 undergraduate students. This synergy between UNISA and Stellenbosch University makes it possible for Stellenbosch University to have access to UNISA classrooms all over the country (Matieland, 2010/2011:2).

The Western Cape Education Department (WCED) approached the telematics services to create a platform for additional learning support for Grade 12 learners. This project was so successful that in 2010, 120 schools participated (Matieland, 2010/2011:21). This project now includes additional learning support for Grade 11 and 10 learners. The WCED provides an example of how the telematics platform can be utilised to support communities by providing virtual learning opportunities. By using a technological platform, the telematic services can create virtual learning spaces that include satellite broadcasts and interaction through a web-based discussion forum (Park & van der Merwe, 2010:1).

2.5.2.2 Initiatives at the University of Cape Town (UCT)

In 2007 the Shuttleworth Foundation funded an 18 month-long research project, called 'Opening Scholarship', to explore the opportunities that digital media and open dissemination models can offer for enhanced communication and more effective knowledge sharing at UCT (McGreal, Kinuthia & Marshall, 2013:34). A part of this project is a review of the current status of Open Educational Resources (OER) in South Africa and at UCT, as well as policies, and organisational, technological, legal and financial issues that needed to be addressed to maximise the approach to sharing the teaching and learning resources by individual academics at UCT. Subsequent to this research project the Shuttleworth Foundation funded a year-long project in 2009 to implement OER at UCT (McGreal et al., 2013:34). This project undertook to:

- Develop a central UCT-branded searchable directory of OER created by UCT senior staff and students;
- Provide processes and infrastructure support to UCT staff to facilitate the sharing of open and potentially open teaching resources as OER, published under appropriate licenses (such as Creative Commons), and
- Promote the visibility of UCT-published OER on appropriate search engines, on OER aggregators and amongst appropriate target communities.

A team was established to explore the range of resources already being shared at UCT. Many of the educational resources range from individual images, audio podcasts, videos and PowerPoint presentations to intertwined Web pages. In order to provide the layer of discovery for these materials, the OER team explored a number of strategies that could provide the functionality of an OER directory. The key decision which emerged from this process was to create a directory that allowed academics the functionality to add materials to the directory independently. The OER team decided that the type of resources can dictate the most valuable hosting space. For instance, images can best be hosted on websites in the Cloud, such as Flickr, to take advantage of tagging, linking and geo-tagging facilities. It was decided that from the outset the planned directory should operate as a portal for accessing content rather than hosting content, as initial investigations showed that most teaching materials at UCT were already online.

In order to make the materials on UCT Open Content globally discoverable, it is essential to choose an internationally acceptable metadata standard used in the OER landscape. The OER team added a field called ‘teaching and learning’ to the OER Commons frame work to enable contributors to specify how the resource may be used in the educational context (McGreal et al., 2013:37).

2.5.2.3 Initiatives at the University of South Africa (UNISA)

UNISA’s history is intertwined with the history of higher education in South Africa and dates back to 1873 when the University was founded as the University of Good Hope in Cape Town. Teaching and learning, research and community engagement are the core business areas of the University (UNISA, 2013). In 1946 UNISA was the first public university in the world to start teaching exclusively by means of distance education. As a result of on-going expansion over the years UNISA has now at its disposal an impressive arsenal comprising, among other matters, a world-class library – the largest academic library in Africa – and is one of the best-endowed in terms of information resources and technology (UNISA, 2013).

In 1959 UNISA became the world's first correspondence university, using study guides, cassettes and limited face-to-face tuition. UNISA continually adapted and improved the teaching and learning programmes of the institution, ODL was introduced, and the lecturers and the students were exposed to the technologies that were being developed in teaching and learning. 'While the university takes pride in what it has achieved, it is mindful that the innovation and technology developments of the 21st century will continue to shape its character' (UNISA, 2013).

UNISA is a leader in research and innovation and continues to explore new ways of delivering distance teaching (UNISA, 2013). This societal imperative is served by a number of chairs and institutes such as, among others, the Archie Mafeje Research Institute, the South African Research Chair Initiative (SARChI), the Research Chair in Development Education, and the UNESCO-UNISA Africa Chair in Nanosciences and Nanotechnology operating within the framework of the Nanosciences African Network. In addition, UNISA funds research chairs in the key areas of high-performance scientific computing, ecotoxicology, macroeconomic policy analysis, superconductivity energy technology, and topology (UNISA, 2013). Research is, however, not limited to UNISA but is a major function of all universities.

Following many decades of investment and expansion, UNISA now has a strong and growing community of researchers comprising more than 10 000 master's and doctoral students, and 1 850 academic staff. The latter group includes close on 130 researchers with National Research Foundation (NRF) ratings, including a significant number of young academics, and also two Department of Higher Education A-rated researchers. UNISA continues to introduce current technologies, for example cell phones, tablets and new trends in digital technology to assist the lecturers and students in their teaching and learning (UNISA, 2013).

2.5.2.4 Initiatives at the North-West University

Van Zyl, Els and Blignaut (2013), in their research study of the 'Development of ODL in a newly Industrialised Country according to Face-to-Face Contact, ICT, and E-Readiness' at the North West University, produced the following findings:

- North-West University has recently initiated m-learning and a web-based Moodle platform for pedagogical support, with free Internet access and mini-libraries available to teacher-students at 36 study centres.

- Currently, study information is sent to students' mobile phones, while some students, on their own or assisted by other students use their mobile Internet connection to access relevant study information from the university Web site.
- North-West University already makes use of short message services (SMS) to remind students of contact classes.

Furthermore, the study recommended that the North-West University implement the use of Internet-based systems through which multimedia materials (text, video, and graphics) are delivered through computers and that there should be a focus on a personal contact with students on the ODL delivery mode, with computer and Internet access at study centres throughout all provinces (van Zyl et al., 2013).

A further research study conducted by Esterhuizen, Blignaut and Ellis later in 2013 concluded that the North-West University employs few learning technologies to teach and support students within an ODL model of course delivery, and that in order to enable student participation in the information society, teaching and training should include the use of information communication technology (ICT). The University also introduced synchronous computer mediated conferencing using interactive whiteboards (IWBs) at tuition centres to advance from physical travelling to lectures at one tuition centre (Esterhuizen et al., 2013).

Based on the above discussions, the researcher concludes that in terms of advances in teaching and learning, the four foregoing higher education institutions are paving the way in South Africa and provide the basis for digital technology activities at the IHS.

2.5.2.5 Initiatives at the International Hotel School (IHS)

In an interview with Johann Oosthuizen (2013), Managing Principal of the Online Campus of the International Hotel School, the following ICT and ODL initiatives and their rationale are discussed: The current curriculum consists of hospitality management which refers to the general management of a hotel and culinary programmes which relate to cooking and kitchen management

- IHS on-line programmes are generally web-dependent programmes, that is, online participation is required in some form or other whether it be to access course content or for communication purposes. This model is used to supplement face-to-face (FTF) instruction. The customised learning system allows for a dedicated website enabling the delivery of study material (excluding textbooks) in electronic format, submission of assessments to a tutor which are then marked online and returned to the student, performance tracking through detailed reporting, and collaborative and interactive tools in the form of discussions and forums aimed at supporting and maintaining the

social aspects of learning. The system is largely characterised by asynchronous communication.

The model, however, is felt to provide minimal support for students, and it is difficult to identify at–risk students who are in jeopardy of failing. The logistical implications of the tutorials and resultant costs to IHS, the student, and employer are of concern. Employers are furthermore increasingly reluctant to release students for tutorials as this affects productivity. It is within this context that IHS embarked on a project in 2010 to enable learning and support of distance learners through a system of on-line learning. At that time the broad aims of the project were to:

- Systematically deliver content and assess student performance over time;
- Improve dialogue between lecturers (tutors) and students leading to increased academic support and overall engagement, whilst streamlining feedback and response times;
- Negate or reduce the need for face-to-face (FTF) contact classes, and the costs associated with such interventions for the employer, student and IHS, and,
- Provide technologies aimed at satisfying student needs, and in keeping with trends in world-wide education.

The success rate of the programme has not been fully determined yet, but remains an ongoing project for the IHS for the foreseeable future. However, Oosthuizen (2013) concluded that the current technology is stable and reliable in delivering the basic entry-level functionality expected from an on-line learning system. It is acknowledged however that a migration to a customised Moodle platform which is a web based learning programme, could potentially enhance the overall experience as it is in keeping with international learning trends. Further initiatives would include syncronised learning and e-books.

2.6 Trends in digital technology and education

Bates (2011:3) identified that '…online and distance education continues to grow at a rapid rate,' He argues that the intelligent use of technology can help higher education to accommodate more students, improve learning outcomes, provide flexible access and do all of this cost effectively. Naidoo (2012:1-2) states that the new trends in ICTs are influenced by global collaboration, and collaboration across geographies and time zones. Increasingly people are starting to work, play, learn and socialise whenever and where ever they want to. He further states that ICTs are important factors when focusing on the education system.

A selected number of literature sources have been discussed in this section leading to the conclusion that with the growing popularity of digital technology, new trends will evolve which will allow huge improvements in this field.

Ivela (2011:1) discussed the implementation of digital technology at a University of Technology (UoT) in South Africa. In the research she looked at the process of integrating Information and Communication Technologies (ICTs) at a UoT and discussed the implementation of a Learning Management System (LRM) at a university. The paper also discussed the approaches to the implementation of the LRM as well as its successes and challenges. Ivela (2013:1), in her case study, discussed the Cape Peninsula University of Technology's experience in mainstreaming ICT in teaching and learning. The author reports on how ICTs are mainstreamed, the uptake of ICT in teaching and learning as well as the challenges encountered. The author also discussed the history of the evolution of online learning at the Cape Peninsula University of Technology

2.7 Higher Education trends

Because current trends (2013) in digital technology and education have been discussed in the previous sections, the researcher feels that it would therefore be pertinent to this study to further discuss trends in higher education as well.

Choudaha (2013:1) suggests that there are three trends that will take place in higher education in the future. These are:

- Funding: More institutional self-sufficiency and competition.
  Governments in many countries are facing fiscal challenges with unlikely improvements. These budgetary issues will have an effect on the higher education sector, which will in turn result in a need for institutions to become more self-sufficient (Choudaha, 2013:2).

- Regulations: An increasing focus on managing risk and assuring quality. According to Choudaha (2013:3) another consequence of the global financial crisis has been the toughening of the regulatory environment for higher education institutions. Overall, student visa-related scandals have created immigration dilemmas for some countries in protecting the integrity of their immigration systems without tarnishing the welcoming image they want to provide for genuine international students. In 2013, regulatory environments are not expected to be relaxed due to increasing demand from stakeholders to justify the costs and benefits of higher education. This resulted in

increasing expectations around quality assurance and risk management of students and immigration.

- Technology: Maturation of Massive Open On-line Courses (MOOCs). The most talked-about educational innovation of 2012 was Massive Open On-line Courses, or MOOCs (Choudaha: 2013:4). At the beginning of 2012, MOOCs were virtually unknown, but by the end of that year they had compelled many leading universities worldwide to voluntarily or involuntarily integrate them into their strategies. In 2013, MOOCs continued to confront many barriers. They are unlikely to influence the traditional segment of international students going abroad, however, the unique confluence of content, delivery, technology, quality and cost could transform expectations of a particular segment of 'global' students and bring into question the sustainability of infrastructure-heavy branch campuses (Choudaha: 2013:4). As the IHS is marketed as an international school, and attracts both local and international students, these trends will affect the school as it needs to keep up with global standards in order to ensure its success.

2.8 The influence of Information and communication technologies and open and distance learning on teaching and learning

'The exploding information and telecommunication technologies offer new potential for producing and distributing knowledge…' (van der Merwe, 2004:32). At that time education and learning was often considered only in terms of information transmission or delivery of content in a classroom. ICTs enable this transmission of content to cross geographical and time boundaries, it is often considered to be the 'perfect marriage' (van der Merwe, 2004:34). He further suggests that instead of viewing computers as information machines and ICT as simply the transmission of information, ICT can be used in the teaching and learning process for active explanation and experimentation as well as for facilitating discussion and reflection. Daniel (1998) argued, almost 20 years ago, that new technologies, notably the internet and the World Wide Web, may provide superior ways of creating these academic learning communities.

Considering what has been written above, the information and communication technologies do not play a significant role in teaching, training and learning at the HIS, as discussed specifically under section 2.5.2.4. While the current online courses are web dependant, very little support is offered to online students. The full time courses still rely on face-to-face learning and using textbooks as the main resource for information. Therefore, by way of this study, the researcher aimed to investigate the role of technology

in teaching, training and learning at the IHS and provide recommendations to improve the current process.

2.9 Summary

As explained in this Chapter, ICT and OER form an important part of teaching and learning both internationally and locally. These concepts are important as they focus on improving the teaching and learning of the new generation of students who are growing up in the digital age. Education needs to constantly evolve to meet new and emerging needs. It is therefore imperative that the education system constantly evaluates its relevance to current and emerging scenarios (Garag, 2010:1). In order to understand the role of technology in the teaching, training and learning of IHS hospitality students, it is imperative that the components of technology-based learning are understood. The researcher has discussed these in limited detail.

The researcher considered different types of information and communication technologies that enhance the learning processes, and these different typologies are the focus of this Chapter. The emphasis is on the components of digital technology in higher education, international digital technology trends, digital technology trends in Africa, new trends in digital technology and education, and higher education trends.

In Chapter Three the researcher discusses the research design and the collection and analysis of the data related to the study.

CHAPTER THREE
RESEARCH DESIGN

3.1 Introduction

'Research design involves processes, tools and procedures, tasks and individual steps and objective procedures' (Mouton, 2008:56; Erean, 2011:99). This Chapter focuses on the research process, the decisions taken to conduct the research and the methods that were used to obtain the information for the research. The main purpose of research methodology is to explain the nature of, and the process for, the research in order for the researcher to conduct the research and find answers to the research problem and questions. According to De Vaus (2001:1), Gerhardt (2004:4) and Strydom (2011:21) research design defines the strategy that needs to be adopted according to the specific research. The purpose of this strategy is to ensure that the research questions match the research objectives, and that the whole process is aligned to provide data that will offer meaningful information to address the research problem. According to Welman et al. (2005:2) and Wiid and Diggines (2013:59), the research design considers and explains the logic behind the research methods and techniques. In short, research design is the term used to describe both methodology and the techniques (tools) used in a research exercise.

Collis and Hussey (2003:47) identified two main research paradigms or philosophies, namely the positivistic (quantitative) and the phenomenological (qualitative) paradigms (Venkateshi, Brown & Bala, 2012-2013). Both the quantitative and the qualitative research methods are used in this research study and the definitions of these methods, as well as the motivation for using them, are explained in sections 3.3 and 3.4 of this Chapter. Qualitative research methods assist the researcher with the choices of methods and techniques used to implement the qualitative research study. Quantitative research may be viewed as a deductive approach to validating the research theory (Meadows, 2009:8).

A case study approach was followed for this research as a result of a pilot study on technological advances in teaching and learning conducted by the International Hotel School of South Africa on all its campuses in 2012 (Rowley, 2002).

Welman et al. (2005:25) state that '…case studies may be classified as descriptive research as they may be best used to answer the *why* question.' Through using a case study, the researcher observes contemporary events as they unfold in reality. The researcher's aim is to interpret these events and therefore provide a detailed account of the specific case.

Qualitative and quantitative methodologies are defined and explained later in this Chapter in sections 3.3 and 3.4.

All academic staff across all three campuses were invited to participate in the survey. The link was sent to 65 staff members and a deadline date for completion was given. The deadline date was later extended to allow academic staff more time to complete the questionnaire and to enable the researcher to obtain more participants. Eventually only 17 lecturers and academic support staff completed the questionnaire (26%) despite repeated requests for co-operation by the researcher and the Academic Dean of The International Hotel School. This low percentage means that the questionnaire data cannot be deemed as fully valid, as explained in section 3.7. Possible reasons for non-cooperation could be due to lack of understanding of the significance of the research. All students across all three campuses were also invited to participate in the survey. Implications of the low response rate are discussed under section 3.9.

All students had exposure to the hospitality industry and were therefore fully aware of industry requirements which links to the training provided at the IHS. The link was sent to approximately 150 students and a deadline date for completion was given. The deadline date was later extended to allow students more time to complete the questionnaire and to enable the researcher to obtain more participants. Despite the requests by the researcher and campus Managing Principals, only 20 students (13%) completed the questionnaire and this low response is addressed under section 3.9. The data collected through the questionnaires were analysed using the Survey Monkey data analysis tool.

Briggs and Coleman (2007:143) defined an educational case study as follows:

- A case study conducted within a localised boundary of space and time
- Includes interesting aspects of education activity, or programme, or institutional system
- Mainly in its natural context and within an ethnic respect for persons
- In order to inform the judgements and decisions of practitioners or policy-makers
- Or of theoreticians who are working to these ends.

3.2 Research process and research design

Babbie and Mouton (2009:73) state that the research design involves the planning of a scientific inquiry to specify what needs to be investigated, and to determine the best way to go about this. The research design can be considered as the logic that links the data to be

collected and the conclusions to be drawn to the initial questions of the research study to ensure its coherence (Rowley, 2002:16). According to Blumberg et al. (2005:69), the research design is the blueprint for fulfilling the objectives and answering the research questions.

By creating a research design that includes different research methods, the researcher should be able to achieve greater insight into the research topic namely the role of technology with regards to teaching, training and learning within hospitality studies at The International Hotel School campuses. Therefore, a multi-strategy approach was used; the reason for this is explained in the next paragraph. Rubin and Babbie (2008:417) differentiate between qualitative and quantitative research by describing quality as the essential character or nature of something, and quantity as the amount. Quality refers to the 'what' or 'why', while quantity refers to the 'how much'.

Multi-strategy research integrates both quantitative and qualitative approaches into the research design and is also known as a mixed methodology. This is based on the stages of data collection and data analysis (Bryman, 2006:98). Creswell (2007:14) agrees with this statement, which therefore allows the researcher the confidence to adapt the mixed methodology for this study. This combination was used because it allowed the researcher to gain a comprehensive understanding of the opinions of staff, management and students at the various campuses of The International Hotel School. Different approaches of data collection were used for each of the survey groups, i.e. management, staff and student, as each group had their own preferred method of communicating. The multi-strategy approach also highlighted the number of participants in each of the afore-mentioned groups that were willing to participate in the research through their willingness to complete the questionnaires and interviews.

3.3 Qualitative research

According to Berg (2003:6) '…qualitative research seeks answers to questions by examining various social settings and the individuals who inhabit these settings'. Furthermore, Berg (2003:7) and Wiid and Diggines (2013:86) state that qualitative techniques allow researchers to share in the understandings and perceptions of others and to explore how people structure and give meaning to their daily lives.

- Qualitative research is implemented to explore and describe a specific situation, in this case the nature of student-support when technologies are implemented in the learning and teaching process.

- The qualitative research approach often leads to tentative answers that provide a focus for further research. The research aimed to show that the implementation of technology in teaching and training methods and learning strategies should improve the learning outcomes in hospitality studies at The International Hotel School campuses, that is, the role of technology to improve the transfer of knowledge.

According to Brynard and Hanekom (2005:29) qualitative data are derived from the insights that the participants provide. This is especially true for interviews and case studies that provide room for interpretation of respondents' reactions. However, the researcher's interpretation of this data should be objective and, in the context of the research study, to allow for meaningful conclusions to be drawn from the data. 'According to the phenomenologists, what the researcher observes is not the reality as such but an interpreted reality. We cannot detach ourselves from the presuppositions of our cultural inheritance, especially concerning the philosophical dualism (between the observable body and the intangible mind)' (Welman et al., 2005:191). Cerbone (2006:94) states that phenomenology often characterises itself as a purely descriptive enterprise. The phenomenological method therefore requires observation and objectivity. Despite this, the researcher of this study endeavoured at all times to meet ethical criteria of objectivity in the observations and interpretations while conducting the research and gathering and the interpretation of the data from the questionnaires, focus groups and the interviews.

Interviews were conducted with interested stakeholders at the IHS and a case study (described in section 3.3.2) was done as part of the qualitative research method. The interviews were conducted with experts in the field of hospitality studies at the IHS. The interviews were conducted with the management staff and the rationale for conducting the interviews will be discussed later in this Chapter.

3.3.1 Interviews

Three types of interviews are used in research: structured, which consist of pre-prepared questions and schedules; semi-structured, which contains a guide of topics to be discussed, and unstructured interviews where the interviewer and interviewee discuss topics related to the research in an informal, conversational manner (Brynard & Hanekom, 2005:32; Welman et al., 2005:165-167). Interviews are open response questions to obtain data from participants about how they '…conceive of and give meaning to their world and how they explain events in their lives' (McMillan & Schumacher, 2010:423). According to De Vos (2001:299) in-depth interviews with individuals are defined as one or more face-to-face interactions between an interviewer and interviewee, where the purpose is to understand the

interviewee's life experiences or situations as expressed in his/her own words. Maree (2012:87) further explains that an interview is a two-way conversation in which the interviewer asks the participant questions to collect data and to learn about the ideas, beliefs, views, opinions and behaviours of the participant. For the purpose of this study, semi-structured interviews were used. The rational for using semi-structured interviews is discussed in section 3.6.4.

The quantity and quality of data often depends on the skills of the interviewer (Monnette, Sullivan & De Jong 2005:178). In order to ensure that the researcher obtains meaningful data, and does not influence the answers of the participants, the following research interviewing techniques were used:

- The researcher asked one question at a time.
- The researcher clarified points where the meaning was unsure.
- Key questions were repeated throughout the interview.
- Participants were given time to reflect on their answers, and
- The interviews were concluded with general, open-ended questions such as "Is there anything further that you feel is important?"

Leedy & Ormrod (2005:146) caution that people might recall what might or should have happened in an interview and this could be problematic as it could alter the data and impact on the findings of the research. This was taken into consideration when conducting the interviews. Once the interviews were completed the researcher sent a written account of the interview to the interviewee so that s/he could verify the answers and make any changes, if necessary. This process took ethical considerations into account.

An interview was conducted with the Dean of The International Hotel School to gain an overall understanding of the impacts of technology on the organisation, as perceived by the management of the IHS. Interviews were also conducted with the academic heads at all campuses to gauge an understanding of how technology impacted teaching and learning at each campus. The rational for using interviews as a data collection method was because the Dean and Academic Heads at each campus set the academic goals for the campuses. By using the interview technique instead of questionnaires, the researcher was able to get a better, in-depth understanding of their views with regards to the research topic.

3.3.2 Case study

Case studies may be classified as descriptive research, as they may be best used to answer the *why* question (Welman et al., 2005:25), while McNiff (2013:3) argued the case for 'action research. By using a case study, the researcher observed events as they unfolded, and to

interpret these events and therefore provide a detailed account of the specific case. The case in point was the role of technology in the teaching, training and learning of hospitality students at the three campuses of The International Hotel School.

Yin (2009:18) explained that a case study should be an empirical enquiry that investigated a contemporary phenomenon in-depth, and within a real-life context, especially when the boundaries between phenomenon and context were not clearly evident; the role of technology in the transfer of knowledge at the IHS was the topic in the case study. In 2010 The IHS embarked on a project to enable learning and support of distance students through a system of online learning. At that time the broad aims of the project were to:

- Systematically deliver content and assess student performance over time,
- Improve dialogue between lecturers and tutors, and students leading to increased academic support and overall engagement, whilst streamlining feedback and response times as mentioned previously.
- Negate or reduce the need for face-to-face (FTF) contact classes, and the costs associated with such interventions for the employer, student and The International Hotel School, and
- Provide technologies aimed at satisfying student needs, and in keeping with trends in world-wide education (Oosthuizen, 2013).

As the results of the success (or otherwise) of the aforementioned intervention had not yet been determined, and further research was requested by The International Hotel School's management team, the researcher therefore decided that this institution would be an ideal case study, as it provided an adequate sample for the population of this research. As stated in both Chapters one and two, the researcher is employed as a lecturer at The International Hotel School's Cape Town campus.

3.3.3 Focus groups

A focus group is a body of respondents to be interviewed in a group setting to investigate the phenomena in question (Burton & Barlett 2005:109). The reason for using this technique was to extract data from different viewpoints. Latess (2008:26) is of the opinion that a focus group should consist of six to nine participants in a group setting. Johnson and Christensen (2004:185) state that the focus group interview is one in which a moderator leads a discussion with a small group of individuals. The purpose of this research technique is to obtain general background information about a topic of interest.

The International Hotel School holds an Annual General Conference (AGC) that is attended by all staff members from all campuses. One of the planned discussion topics for the 2013 AGC was the use of ICT for teaching and learning. The researcher felt that this would be the ideal platform to hold focus group discussions as data could be gathered and different viewpoints analysed in relation to the research topic. The discussions were held on 29 September 2013 and 65 participants attended, being the entire academic and academic support staff of the IHS. The participants were divided into smaller groups of five or six and the discussions were led and moderated by Johann Oosthuizen, Managing Principal of the IHS Online Campus.

3.4 Quantitative research

Maree (2012:145) interprets quantitative research as a process that is systematic and objective in its ways of using numerical data from only a selected subgroup of a population (a sample) to generalise the findings of the population that is being studied. Quantitative research is done to evaluate objective data consisting of numbers that are produced by the questionnaires, or other techniques, that are completed by the respondents. Cresswell (2003:19) explains '…that a quantitative approach is one in which the researcher primarily uses post – positivist claims for developing knowledge, i.e. cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurement and observation, and the test of theories.' The advantage of quantitative research is that it allows one to see a general opinion and attach a quantitative value to this, allowing for majority or minority opinions. A disadvantage of this type of research is that participants may not want to participate, or may not participate fully, in the research thus creating a false representation or bias of the majority or minority opinion.

Survey questionnaires were used as the data collection method for the quantitative research component in order to get a general understanding of the system of teaching, training and learning with regards to technology of two groups at the IHS, namely academic staff and students. According to O'Leary (2004:7) if research findings are quantitative, generalisations can be made and they are relevant through the use of statistics. The research is formal and disciplined in character and the data collection is highly structured. In quantitative research the researcher assigns numbers to observations and data is produced (Brynard & Hanekom, 2005:29). Two sets of questionnaires were created, namely a questionnaire for academic staff and a questionnaire for students. In each questionnaire twenty questions were asked and this produced the data that the researcher required. The structure of the questionnaire as well as the type of questions asked is discussed in section 3.4.1.

3.4.1 Questionnaires

According to Kumar (2011:145) and Wiid and Diggines (2013:166) a questionnaire consists of a written list of questions, where the answers are recorded by respondents, while Grace (2001:3) states that questionnaires are one of the simplest forms of data gathering.

Welman et al. (2005:174) advise that when compiling a questionnaire, researchers should choose judiciously between open-ended and closed-ended questions. Open-ended questions in a questionnaire or interview schedule allow respondents to formulate their individual responses. Alternatively, the questions can be presented as multiple-choice statements (or Lickert-style statements in this dissertation) in which respondents have to select the response that best applies to them from among a number of alternative responses. An open-ended question is one in which the interviewer asks a question without any prompting with regard to the range of answers expected, and the respondent's reply is noted verbatim. The Linkert-style approach was used extensively in this study.

A closed or pre-coded question, in contrast, is one that offers the respondents a range of answers to choose from, either verbally or from a show card. In the case of a self-completed questionnaire, a range of possible answers is set out in the questionnaire and the respondent is asked to tick the appropriate boxes or give a 'yes' or 'no' answer (Brace 2008:46). The categories reflected in the alternatives should be mutually exclusive and exhaustive in order to make provision for each and every possible response (Welman et al., 2005:175). In a self-completed questionnaire a line or space is left for the respondent to write his or her own answer and there is no prior list of answers (Welman et al., 2005:174; Brace, 2008:46).

Two types of questionnaires were created for the purpose of this research, namely an academic staff (including academic support staff) and a student questionnaire. The purpose was to obtain different interpretations to the same research problem for both academic staff and students with regards to this study. The questions were created on the Survey Monkey on-line service and all campuses were e-mailed the link to enable them to access and answer the questions.

In order to gain effective data, the researcher asked the following types of questions:

- **Biographical** – These were asked to ascertain the age, gender, level of education and geographical position of the sample. The significance of asking biographical details is to determine whether participants of different age groups, genders and levels of education viewed technology differently. The reason for asking participants

to state their geographical location was to ascertain how the different campuses viewed and used technology in teaching, training and learning.

- **Typical behavioural questions –** These were asked to determine how the participants made use of technology within hospitality studies at the IHS. An example of a question used in this area was: 'How often do you make use of technology as a means of teaching/learning?'
- **Opinion, belief and conviction questions –** These were asked to determine the opinions and views that the participants had with regards to the role of technology within hospitality studies. An example of the type of question asked to obtain this data was: 'Do you feel that sufficient technology is provided by your institution to assist the students?'

3.5 Population

Welman et al. (2005:51) defines a population as being the study object and consists of individuals, groups, human products and events or the conditions to which they are exposed. Welman et al. (2005:51) further suggests that the population encompasses the total collection of all units of analysis about which the researcher wishes to make specific conclusions. Welman et al. are supported in their definition by Mark, Lewis and Thormill (2012:146). The population for this study was the three campuses of the IHS South Africa that provide hospitality studies. Other academic institutions were discussed in Chapter two and include:

- Stellenbosch University because of their Telematics Services systems.
- University of Cape Town for their Opening Scholarship programme.
- University of South Africa because of their history and extensive knowledge of distance education.
- The North-West University with m-learning and web-based Moodle platform.
- The International Hotel School because this research study is conducted at this institution.

From this extended population a sample was selected namely The International Hotel School. The sample represents academic staff and students at the Cape Town, Sandton and Durban campuses of The International Hotel School.

3.6 Sampling

Sampling is used to obtain a representation from the population, as it is often too expensive and time-consuming to include the whole population in a research study (Descombe, 2008:141; Wiid & Diggines, 2013:188)). Durrheim and Painter (2006:47) define sampling as participants that are selected from the population to answer the questions of the researcher.

They are of the opinion that the purpose and type of data of the study determines what type of sampling, data collection and data analysis the researcher could select in order to reach the aim and objectives of the study.

According to Blumberg et al. (2005:232-233) the ultimate test of a sample is how well it represents the characteristics of the population it represents. Representativeness of a sample depends on accuracy and precision, and according to Brynard and Hanekom (2005:43), the reason why a sample is used is to simplify the research, save time and to cut costs. Studying the entire population would be time-consuming especially if the population is very large or spread over a large geographical area. It is therefore more convenient to study a representative sample of a population than to try to study the entire population.

Welman et al. (2005:56) and Cohen, Manion and Morrison (2007:10) identify two main methods of sampling, namely probability and non-probability sampling. In non-probability sampling the selection of the sample is derived from the researcher targeting a specific group in the full knowledge that it does not represent the wider population. The selected group simply represents itself, and is generally the case in small-scale research studies. In the case of probability sampling it can be determined that the probability that any element or member of the population will be included in the sample.

To determine the sample size it should be kept in mind that sample size does not only depend on the size of the population but also on its heterogeneity; the greater the heterogeneity, the larger the sample which is required to obtain a high level of validity (Brynard & Hanekom, 2005:45). For this research study the size of the sample depended on the number of students and academic staff at The International Hotel School, which is explained in sections 3.6.3 and 3.6.4.

3.6.1 Purposive sampling

In this study purposive sampling, which is a non-probability sampling method, was used. For purposive sampling researchers rely on their experience and ingenuity to obtain units of analysis in such a manner that the sample they obtain may be regarded as being representative of the relevant population (Welman et al., 2005:69). ‘In a purposive sample the researcher selects the cases to be included in the sample on the basis of their judgment and particular characteristics. In this way they build up a sample that is satisfactory to their specific needs’ (Welman et al., 2005:69). In many cases purposive sampling is used to access people with knowledge of the particular issues at hand (Cohen et al., 2007:114-115). Purposive sampling also describes the process of selecting research participants on the

basis that they possess the necessary characteristics, role, opinions, knowledge, ideas and experience that may be particularly relevant to the research (Gibson & Brown, 2009:56).
Purposive sampling was chosen because the researcher considered it to be relevant to this research study as it enabled the researcher to select unique aims and objectives that were especially informative to the research question and to identify these particular types of aims and objectives for in-depth investigation. The researcher is a lecturer at The International Hotel School and is therefore best able to select the sample within the population that will produce suitable data needed for the research.

3.6.2 Stratified random sampling

Stratified random sampling is a probability sampling method (Welman et al., 2005:61), which states that a population is composed of various, clearly recognisable sub-populations called strata. These differ from one another in terms of a specific variable, where each sub-population is a stratum. In order to draw a representative stratified random sample the strata should first be identified. In this research study the strata were the students and the academic staff of the IHS because the role of technology, discussed in this research, would have an influence on both the learning methods of the students and teaching and training methods of the academic staff. Using the stratified random sample the researcher would be more certain of obtaining a representative sample from a population with clearly distinguishable strata.

3.6.3 Sampling for the questionnaires

Stratified random sampling was used to divide the population into the different strata that is, the IHS students and the academic/academic support staff. Two questionnaires were developed, one for the students and one for the lecturers. The following are reasons for using questionnaires with closed-ended questions:

- They are easy to administer and cheap to process,
- Allow the respondents to view the questionnaire,
- Are efficient and specific, and
- Are easier to measure, record, code and analyse (Brace, 2008:47).

3.6.4 Sampling for the interviews

Purposive and stratified sampling was used because the researcher had a list of themes and questions to be covered. The population and also the sample consisted of The Dean, Managing Principals and Vice Principals of the IHS. For this part of the survey interview guides were used. ‘An interview guide involves a list of topics and aspects of these topics that have a bearing on the given theme that the interviewer should raise during the interview’

(Bernard, 2006:212). Semi-structured interviews were used because, unlike completely structured interviews, they allowed the researcher to probe with a view to clarifying vague responses, or to ask for elaboration of questions which could not be answered completely in the questionnaires. According to Brynard and Hanekom (2005:32), semi-structured interviews offer the researcher the freedom to use leading questions to guide the interview. The nature of the questions asked in the interviews and the ensuing discussions meant that data was recorded by note-taking and by tape-recording the conversations.

3.6.5 Sampling for the case studies

The International Hotel School was used as the case study. Purposive and stratified sampling was used because, as previously mentioned, the researcher is a lecturer at the institution and had knowledge of the technology that was currently being used at the IHS by the students and the academic staff, but still needed to verify the role of technology and work methods. The population and sample was all academic staff and students at all three campuses of the IHS.

3.7 Validity and reliability

Blumberg et al. (2005:17) explain that the research process used should be described in sufficient detail to obtain reliable results. Omission of significant procedural details makes it difficult, or even impossible, to estimate the validity and reliability of the data. The process of research is the continuous interaction between the researcher and the topic for the research, during which the researcher has to make decisions in the pursuit of valid conclusions. Decisions have to be taken with regard to research methods used, and how they have to be used. From this the research design has to be developed.

In order to ensure validity and reliability of the data, the researcher needed to ensure that a minimum of 51% of the participants answer the questionnaires, take part the focus group discussions and allow interviews to be conducted. The validity and reliability of the sample will be discussed in Chapter Four of this research. The reason that 51% participation is needed is because it will represent the views of more than half of the population and sample which means that sufficient relevant data are obtained.

3.8 Ethical considerations

'Ethical considerations are a fundamental part of every research process and need to be dealt with through the entire duration of the study…' (Clandinin & Connelly, 2000:170). The matter of ethical considerations is important as it attempts to avoid uncomfortable situations for all participants (and the researcher) and is an important mechanism to protect the interests of all and ensure that no harm is caused to anyone (Scott & Morrison, 2006:88).

There are two critical ethical requirements for researchers, namely honesty and confidentiality (Brynard & Hanekom, 2005:4), and the researcher ensured that these two main ethical requirements were upheld throughout the research.

Written approval was received from all participants in this research study and they were not expected to disclose any private confidential information. All the information that was obtained from the questionnaires, interviews and focus group discussions was treated as confidential. The interests of the participants were taken into account and no confidential data was recorded or published. It is imperative for research participants to participate in a voluntary way, free from any coercion. The participants were informed of their rights to refuse to participate, or withdraw from the investigation at any given time (Silverman, 2010:155).

Morris (2006:246) explained that privacy, in terms of social research, meant that participants were required to share private information pertaining to their private lives. Taking this into account, the researcher informed participants that they could decide what to share and what not to share, and in addition, their names did not appear on the transcripts.

Confidentiality forms part of privacy, and is aimed at the assurance that the data will be treated as confidential. Informed consent means that the participants were informed of all the main aspects related to the research study, and that they could provide consent based on acceptance of these aspects. All participants signed a document acknowledging these conditions.

3.9 Data collection

The data from the questionnaires were collected using an online software service called Survey Monkey. This tool was used because it is the preferred method of data collection at The International Hotel School, and it was felt that this would be the best method to distribute the questionnaires as it was familiar to both academic staff and students. The questionnaires were set up on Survey Monkey and each questionnaire produced an online link. The relevant link was emailed to each participant accompanied by an invitation to complete the questionnaires. The ethical considerations, as discussed in section 3.8, were also sent to each participant. The link was sent in September 2013 with a deadline of 1 October 2013. This was later extended to January 2014 due to the low response rate, as discussed in section 3.1.

A focus group meeting was held on 29 September 2013 at the Annual General Conference of The International Hotel School. The discussions of the focus groups centred on the use of information and communication technologies (ICT) for teaching, training and learning. Sixty

five participants attended and the participants were divided into groups of five or six and the discussions were led and moderated by Johann Oosthuizen, Managing Principal at the Online Campus of the International Hotel School. The focus group discussions were centred on Themes 2, 3 and 4 which are discussed in Chapter Four. The questions asked, and data collected, was divided into three sub-sections.

Interviews were conducted by the researcher with the academic heads at the three campuses, including all managing principals and vice-principals. An invitation to attend the interview was sent to all concerned in January 2013 by the researcher but only two managing principals and one vice-principal agreed to be interviewed. A telephonic interview was also conducted with the Dean of The International Hotel School on 20 January 2013

The findings of the data collection are discussed in detail in Chapter Four.

3.10 Summary

This Chapter mapped the research methodology and techniques that were used for the research study. A multi-strategy approach was used that included both quantitative and qualitative research methods. The population and sample was defined as well as the sampling methods used and reasons for their use. The researcher also discussed ethical considerations, the data collection techniques and why this is pertinent to the research study.

In the next Chapter the data is collated, analysed and explained.

CHAPTER FOUR
DATA ANALYSIS AND FINDINGS OF THE STUDY

4.1 Introduction

This Chapter presents the findings of the study which investigated the role of technology in the teaching, training, and learning of hospitality studies at The International Hotel School (IHS), South Africa. Two sets of questionnaires were created, namely a questionnaire for academic staff and one for students. In each questionnaire twenty questions were asked and the responses produced the data used in this Chapter. The structure of the questionnaire, as well as the type of questions asked, was discussed in Chapter Three, while the results are presented in this Chapter. Nieuwenhuis (2011:77) is a strong supporter of grouping research data into relevant themes: which advice has been followed in the chapter.

4.1.1 *Biographical information*

In theme 1 the demographic details of the participants are briefly presented.

4.1.2 *The role technology in teaching of hospitality studies at the IHS discusses data under theme 2*

Under this theme, results from the following research questions are presented:

- Is there a role for technology in hospitality studies at the IHS?
- Has the use of technology influenced the teaching methodology of the academic staff?
- How has the use of technology influenced hospitality studies at the IHS?

4.1.3 *The role of the use of technology for student learning in the form of theme 3*

Under this theme results from the following research questions are presented:

- Has the use of technology within hospitality studies improved the learning of students?
- Has the use of technology influenced how students learn in hospitality studies at the IHS?

4.1.4 *Suggestions for changes or improvements in the use of technology at the IHS* is presented in *theme 4.*

All questions discussed in the themes are numbered as they appear on the respective questionnaires for academic/academic support staff and students (See Appendices A and B).

4.2 Theme 1: Biographical

ACADEMIC STAFF QUESTIONNAIRE

- Question 1: At which campus are you currently employed?
- Rationale for the question: This was asked to establish the distribution of academic staff (lecturers and academic support) across the three campuses of the IHS.

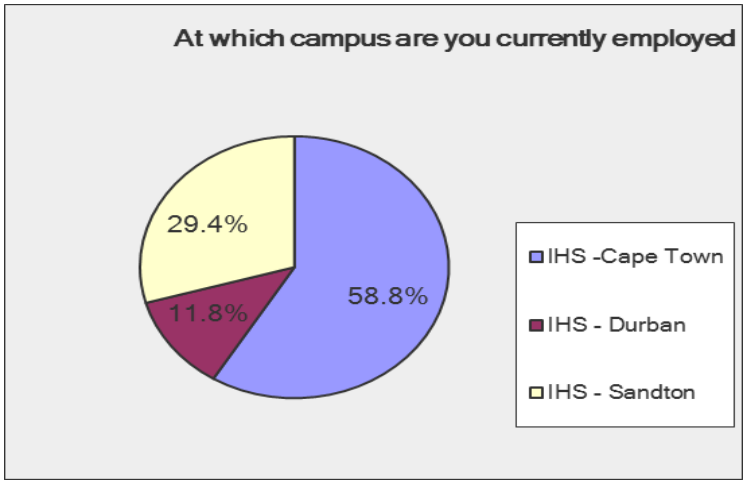

Figure 4.1 – Lecturer distribution per campus

Based on the results shown above the majority of academic participants were from The International Hotel School's Cape Town campus. They represented 58.8% of the participants. The Durban campus had the least participants with only 11.8%, with 29.4% at Sandton. It is interesting to note that the Cape Town campus has the smallest staff complement yet were the most active in responding to the questionnaires. It is difficult to reason why the other two campuses recorded low responses, other than to wonder at the degree of commitment to participating in the study. This low response rate was discussed in section 3.9.

- Question 2: Which course(s) are you currently teaching?

- Rationale for the question: The rationale behind asking this question was to determine which courses are being taught by the lecturers using technology, and therefore which courses could benefit from improved technological teaching,training and learning methods.

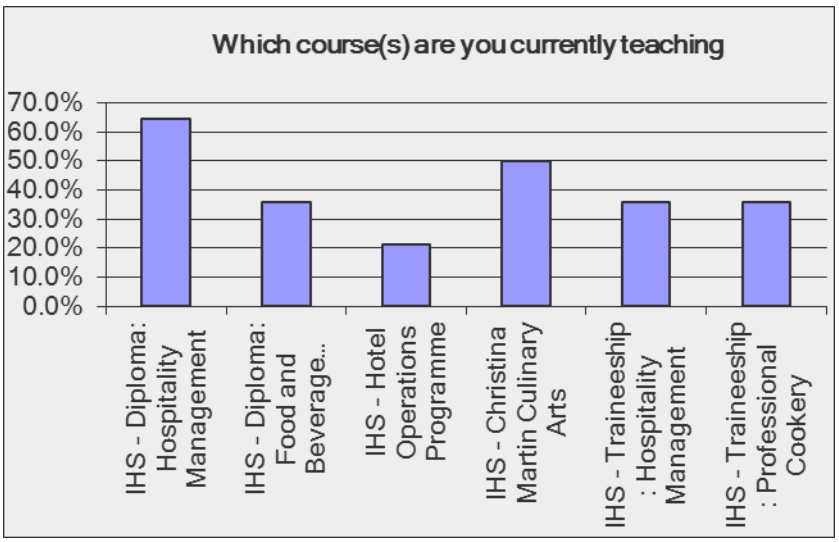

Figure 4.2 – Courses being taught

The findings indicate that the majority of participants (65%) teach the Diploma in Hospitality Management, followed by the Christina Martin Culinary Arts programme, while only 21.4 % teach the Hospitality Operations Programme. The reason for the high response with these programmes could be due to their popularity and the growing use of technology in the workplace within these fields. Other programmes offered enjoy only limited student interest, but are nevertheless offered at the IHS.

- Question 3: What is your current position?

- Rationale for the question: This question was asked to ascertain the positions held by the staff that chose to participate in the survey. This also determined which level of staff believed that the survey would have an impact on their day-to-day activities.

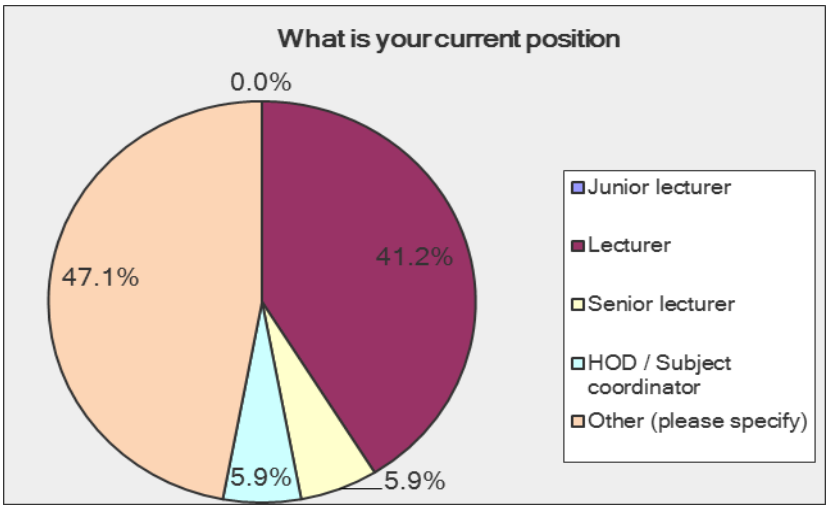

Figure 4.3 – Current positions

The majority of participants were in the academic section of The International Hotel School: 41.2% were lecturers, 5.9% senior lecturers and 5.9% HOD/Subject coordinators. Although the questionnaire was aimed at lecturers, 47.1% of academic support staff also chose to participate, including sales and administrative personnel who are responsible for managing the programmes and are required to have an extensive knowledge of these programmes. This impacts the findings as it shows that it is not only teaching staff that had an interest in the role of technology in teaching, training and learning, and suggests that the academic role of technology impacts all levels of staff at The International Hotel School. This is acceptable as it confirms that academic support staff is closely involved in the technology used by The International Hotel School.

- Question 4: What is your age group?

- Rationale for the question: This question was asked to ascertain the different age groups of the academic staff participants. It may be that the younger staff is more inclined to use technology.

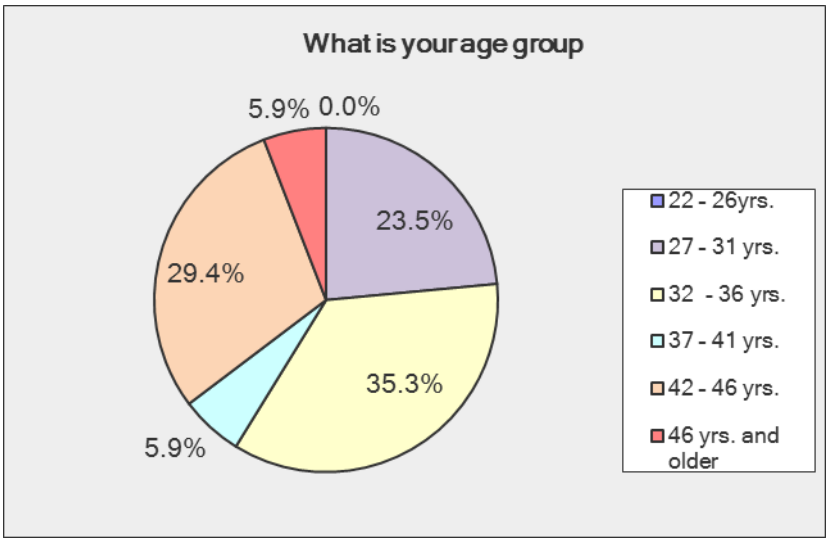

Figure 4.4 – Age groups

The results reveal that the majority of the participants were in the 32 to 36 year-groups, representing 35.3% of the participants. The second largest age group was the 42 to 46 year-group which represented 29.4% of the participants. There was no participation in the 22 to 26 years age group, which may reflect the IHS policy of appointing staff with relevant qualifications and experience.

- Question 5: What is your gender?

- Rationale for the question: This was asked to determine the gender of the participants.

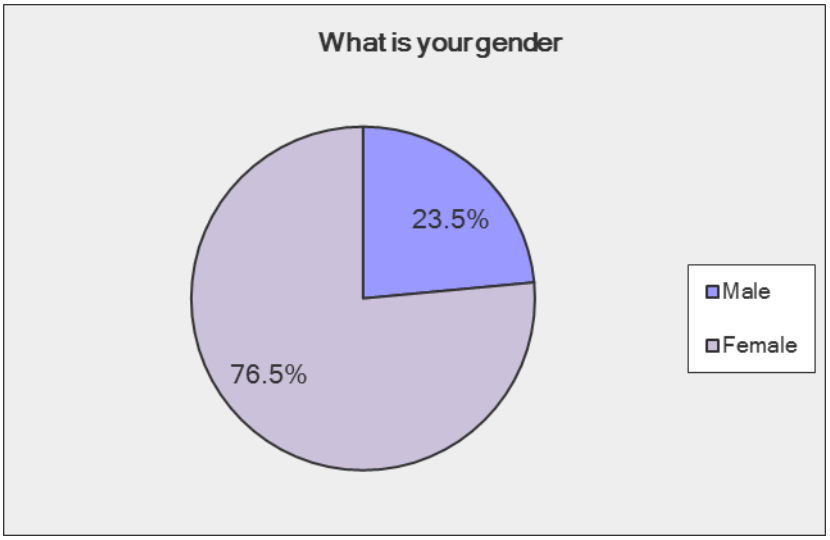

Figure 4.5 – Gender

Seventy six point five percent (76.5%) of the participants were females while only 23.5% were males. This is representative of the ratio of male to female employees at The International Hotel School and of those involved in the use of technology in the academic function.

STUDENT QUESTIONNAIRE

- Question 1: At which campus are you currently studying?

- Rationale for the question: This question was asked to determine which campuses the participating students represented and in doing so, the researcher could gain opinions of participants of the different campuses of the IHS.

The results showed that no students at the Durban or Sandton campuses responded to the requests for information, and the researcher therefore understands that bias could be interpreted in these results. The poor response to participation was addressed under section 3.9. However, as the same teaching methods are used across all three campuses, relevant conclusions could still be relevant.

- Question 2: Which course are you currently enrolled for?

- Rationale for the question: This question was asked to determine the courses which participants are currently enrolled for, and therefore to determine the technological needs of each course from the student's viewpoint.

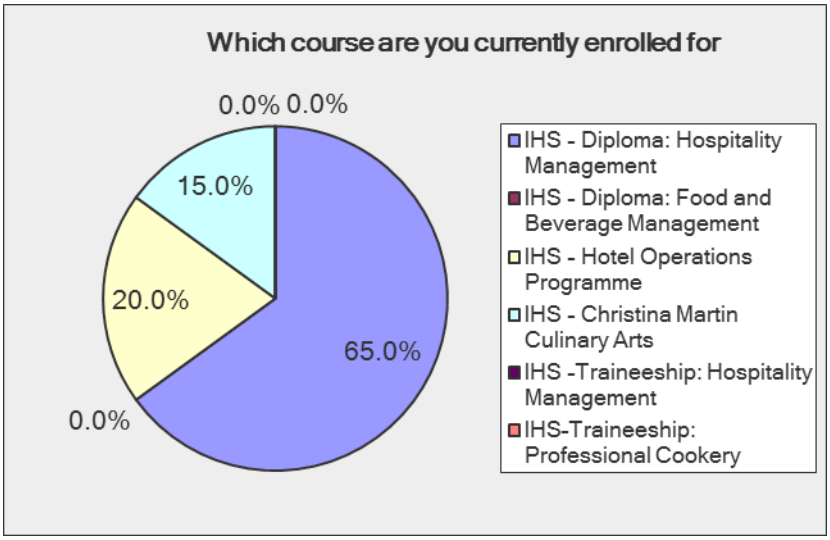

Figure 4.6- Courses students enrolled for

The majority of the participants are enrolled for the Diploma in Hospitality Management. This course is taken by 65% of the participants. Twenty percent (20%) of the participants were enrolled for the Hospitality Operations course, and 15% were enrolled for the Christina Martin Culinary Arts course. From the academic/academic support staff focus group discussions these data appear to represent all three campuses of the IHS.

- Question 3: What is your age group?

- Rationale for the question: This question was asked to determine the age groups of the students enrolled for their studies at the IHS who participated in this study.

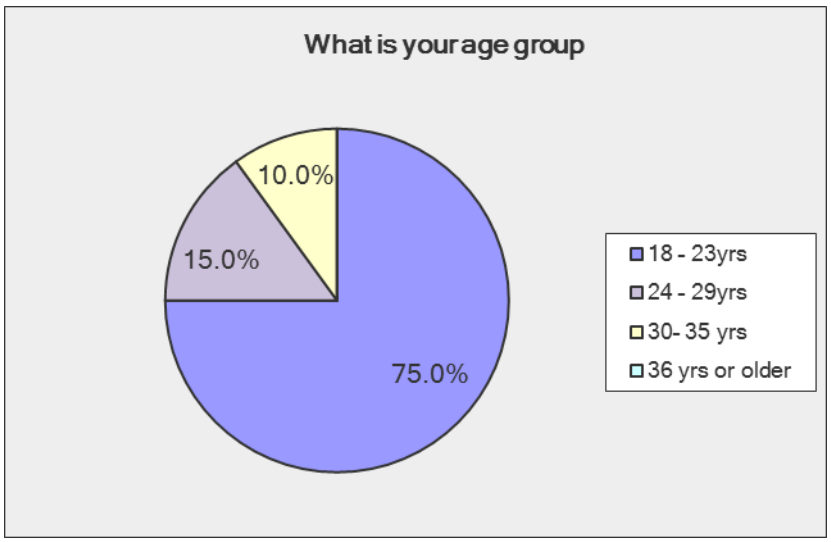

Figure 4.7- Age group of students enrolled

The data showed that 75% of the participants were between the ages of 18 to 23 years, 15% were between the ages of 24 to 29 years, and 10% were between the ages of 30 to 35 years. These groups were a true representation of the students enrolled at The International Hotel School's Cape Town campus and apparently, according to the staff focus group discussions, at the Sandton and Durban campus as well.

- Question 4: What is your gender?

- Rationale for the question: This question was asked to determine the gender of the participants.

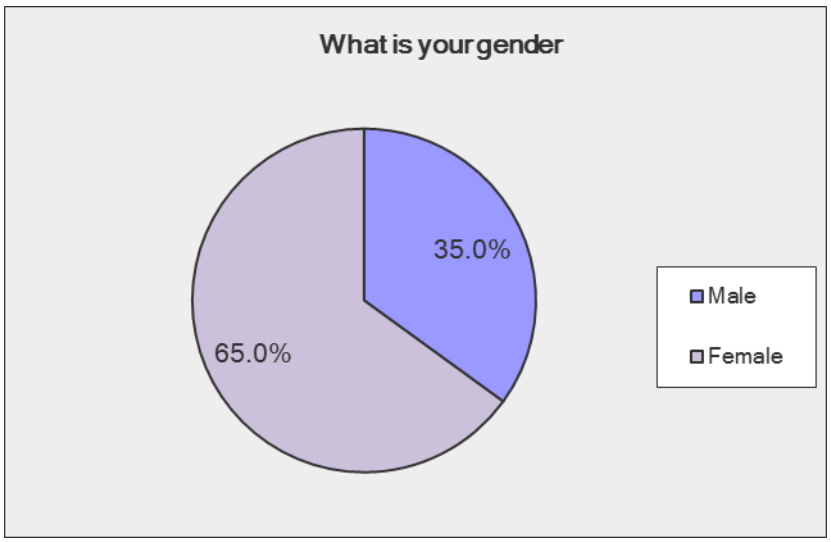

Figure 4.8 – Gender of the participants

The results indicated that 65% of the participants were female and 35% were male. This was a true representation of the gender make-up of students at the Cape Town Campus, and evidently at the Johannesburg and Durban campuses as well.

4.3 Theme 2: The role of the use of technology in teaching of hospitality studies at the IHS

A. *The role of technology in hospitality studies at the IHS.*

ACADEMIC STAFF QUESTIONNAIRE

- Question 7: What is your understanding of the role of technology?

- Rationale for the question: This question was asked to gauge the participants understanding of technology within the context of the institution's programmes and of this study. Participants were encouraged to select as many of the options that they deemed applicable. It is important to note that the results may exceed 100% because participants were allowed to select more than one option.

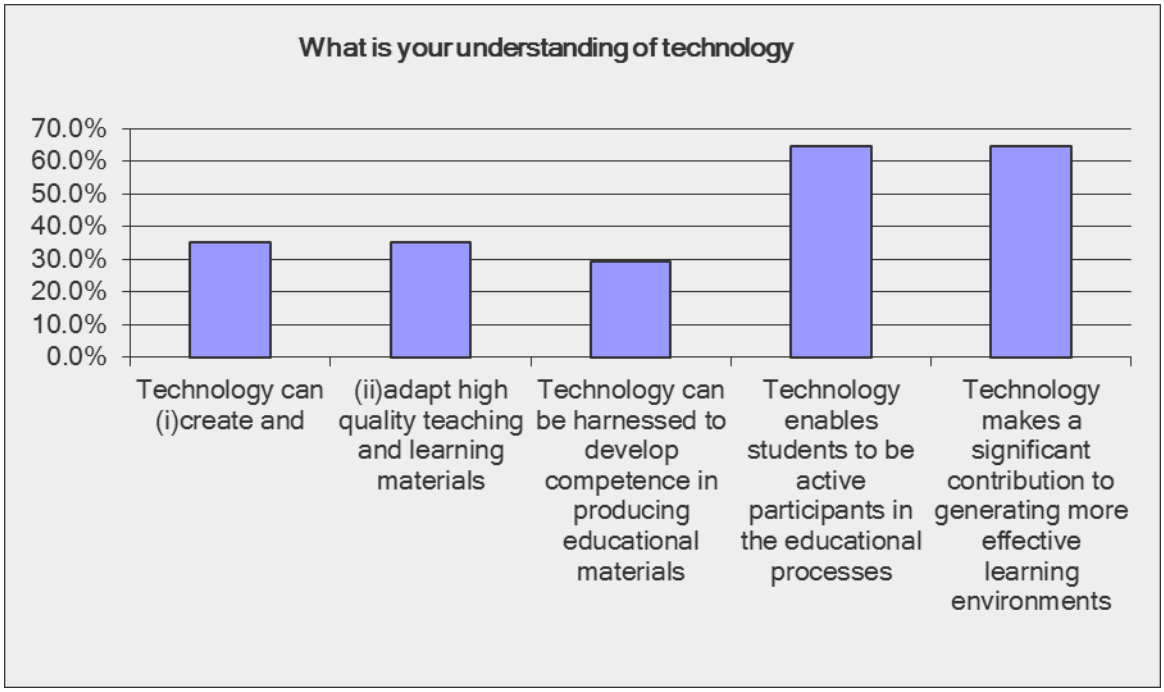

Figure 4.9 – Understanding of technology

Sixty four point seven percent (64.7%) of the participants believed that technology enabled students to be active participants in the educational process and that technology made a significant contribution to generating more effective learning

environments. Thirty five point three percent (35.3%) of the participants believed that technology could create, and be adapted to, high quality teaching, training and learning materials. Only 29.4% of the participants believed that technology could be harnessed to develop competence in producing educational materials (for example, the use of internet based resources to enhance learning materials). Based on these results, it was clear that academic staff felt that technology played an important role in teaching, training and learning. It was also evident that technology was thought to play a significant role in student participation in the educational process, as well as in improving learning environments.

- Question 8: What is your preferred method of teaching?

- Rationale for the question: This question was asked to determine how academic participants preferred to teach. Participants were encouraged to select as many options they deemed applicable. As participants were encouraged to select more than one option, the results do exceed 100%.

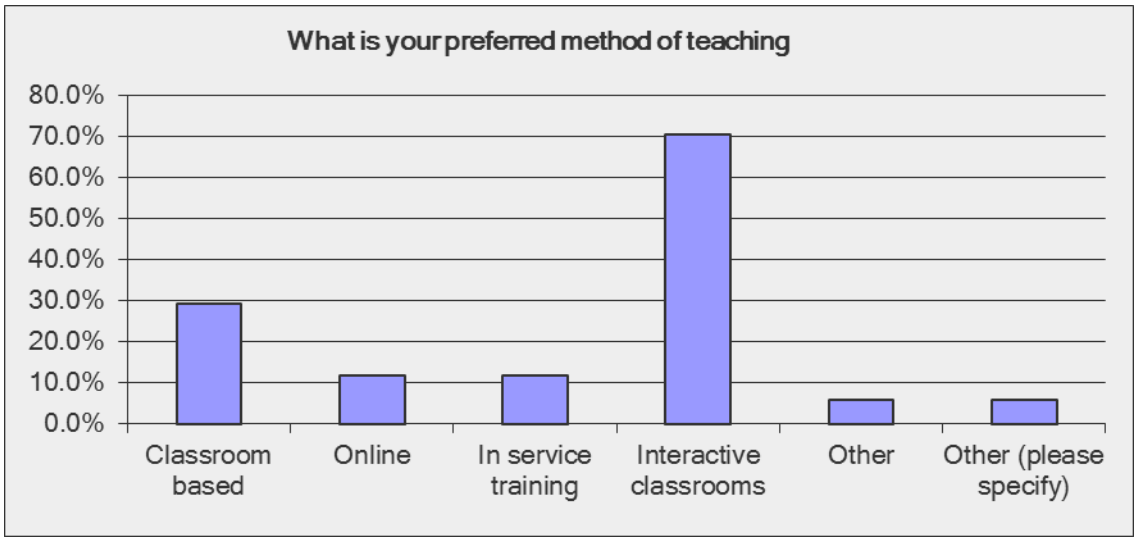

Figure 4.10 – Preferred method of teaching

Generally the preferred methods of teaching options are classroom-based, which is the traditional method where the teacher teaches students in a classroom, and on-line, which is in effect a virtual classroom, in service training where the students are taught in a 'real time' work environment and interactive classrooms, which will be explained in the paragraph below.

The majority (70%) of the academic participants preferred interactive classrooms where the teacher acts as a facilitator and students are encouraged to participate in structured learning discussions and activities. The benefits of this type of classroom are that it can be promoted with large numbers of students thereby encouraging a high level of knowledge-sharing. Only one participant (5.9%) preferred a blended teaching method which blends all the above mentioned methods (classroom based, on-line, in service training and interactive classrooms) in one course. It was therefore clear that the technological shift in teaching methods should be towards the enhancement of interactive classrooms. The data also shows that classroom-based teaching (30%) is still an important teaching method.

- Question 15: What type of technology do you feel will be beneficial to the courses that you teach?

- Rationale for the question: This question was course-specific and was aimed at ascertaining what technology would be most beneficial for the current courses being taught. Participants could select as many options as they deemed applicable. The technology currently used and envisaged for the future, is currently noted as options in this question.

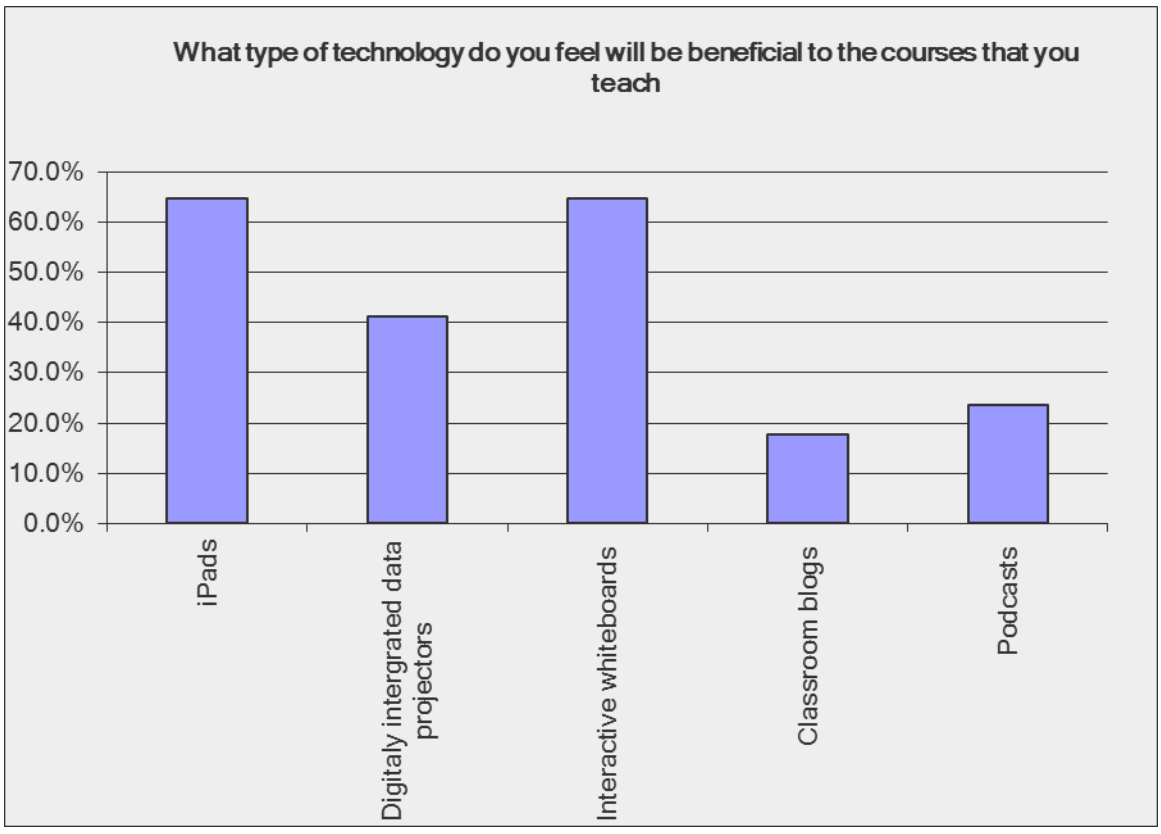

Figure 4.11 – Technology beneficial to courses being taught

Interactive white boards (65%) and tablets (65%) (presented by the word iPads in the graph) proved the most popular choices, followed by digitally integrated data projectors (41%) and podcasts (23%). This data further justified the need to invest in technology to enhance effective and efficient teaching, training and learning at IHS.

STUDENT QUESTIONNAIRE

- Question 5: What is your understanding of the role of technology?

- Rationale for the question: This question was asked to ascertain participants understanding of the role of technology within the context of the study. Participants were encouraged to select as many options as they deemed applicable, therefore the results exceed 100%.

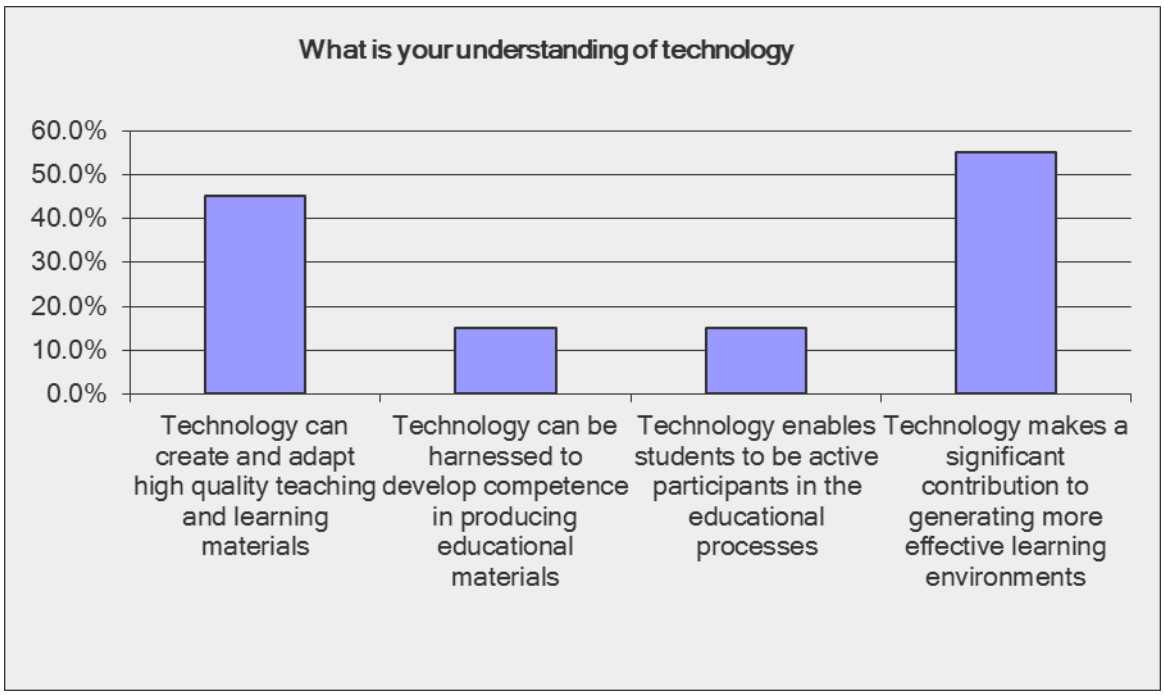

Figure 4.12 – Understanding of the use of technology

Fifty five percent (55%) of the students believed that technology made a significant contribution to generating more effective learning environments, 45% believed that technology could create, and be adapted to, high-quality teaching and learning materials, 15% believed that technology could be harnessed to develop competence in producing educational materials and 15% believe that technology enabled students to be active participants in the educational processes. Based on the results, the students' understanding of technology within the context of this study was that it

makes a significant contribution to learning in general. These results indicated that students perceived the importance of technology towards effective and efficient teaching and learning.

- Question 6: What is your preferred method of learning?

- Rationale for the question: The rationale behind this question was to establish how the student-participants preferred the course content to be taught. Participants were encouraged to select as many options as they deemed applicable; therefore the results will exceed 100%.

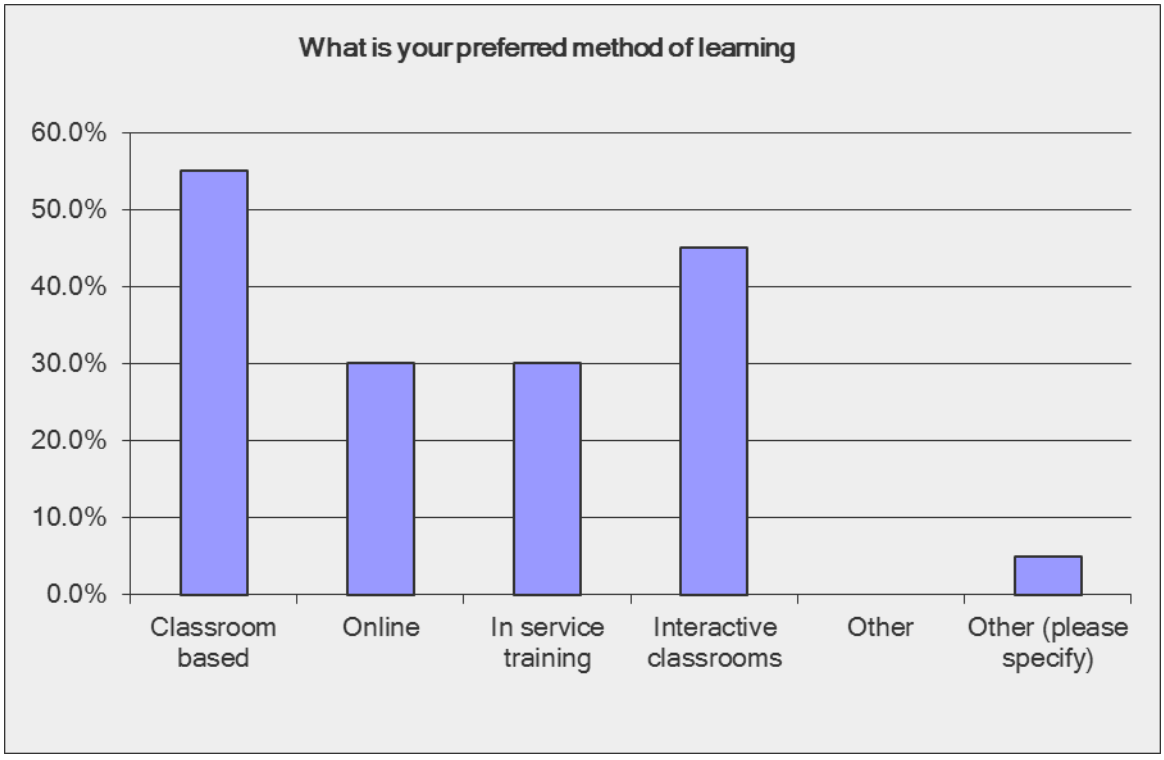

Figure 4.13- Preferred method of learning

- Discussion of the results

  Fifty five percent (55%) of the participants still preferred classroom-based learning, 45% preferred interactive classrooms and 30% preferred online learning and in-service training. Only one participant opted for self-study as a preferred learning method, and is represented by ‘other ‘in the above graph. These results were dissimilar to those discussed under Question 8 on the academic staff questionnaire, confirming that the majority of students prefer classroom-based teaching. This suggests that students and lecturers do not have similar preferences towards current teaching, training and learning styles.

- Question 8: What is your preferred method of studying?

- Rationale for the question: This question was asked to determine how participants preferred to study. Participants were encouraged to select as many options as they deemed applicable meaning that the results would exceed 100%.

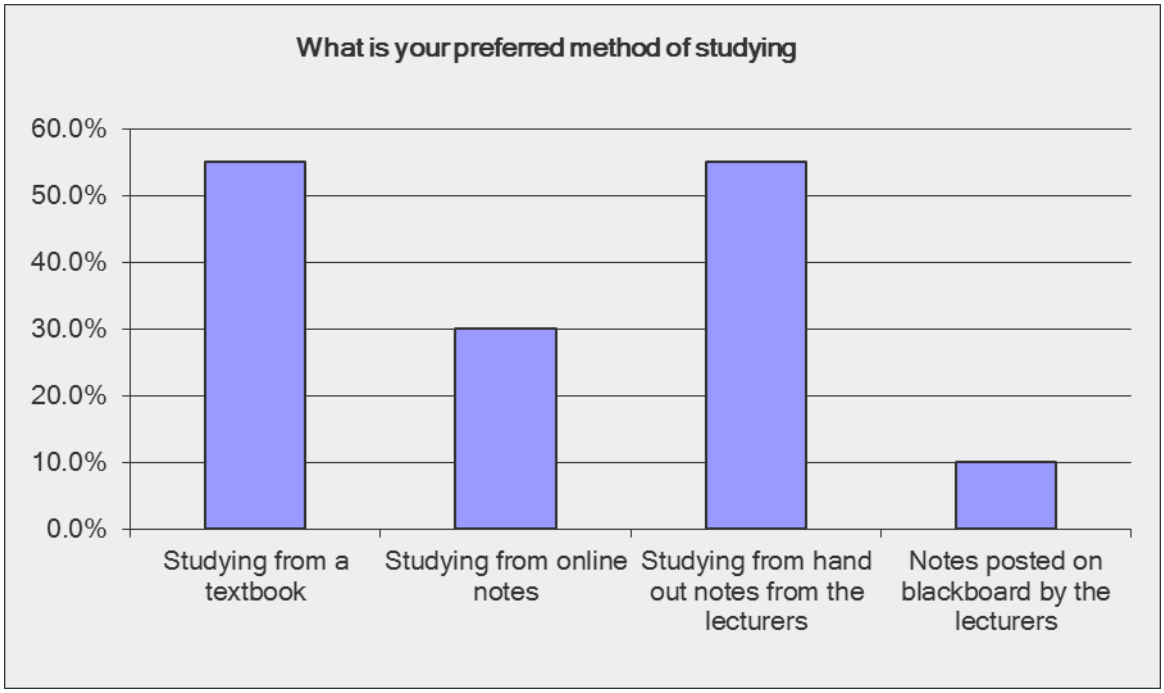

Figure 4.14 – Preferred method of studying

Fifty five percent (55%) of participants preferred studying from a textbook as well as handout-notes from lecturers. Thirty percent (30%) preferred studying from online notes, and only 10% of students preferred studying from notes posted on blackboard. While responses to Questions 5 and 7 indicated that students used technology daily, the above mentioned results showed that students still prefer studying from textbooks and hand-out notes from lecturers. This could be due to the fact that students did not trust online notes, or that the lecturers at The International Hotel School did not effectively make use of online notes and blackboard, which is an online platform that allows lecturers to post class notes for students.

- Question 14: What different types of technology do you feel will be beneficial for your studies?

- Rationale for the question: This question was asked to determine the various types of technology that student-participants felt would be beneficial to their studies. The participants could select as many options as they deemed to be applicable meaning that the results could exceed 100%.

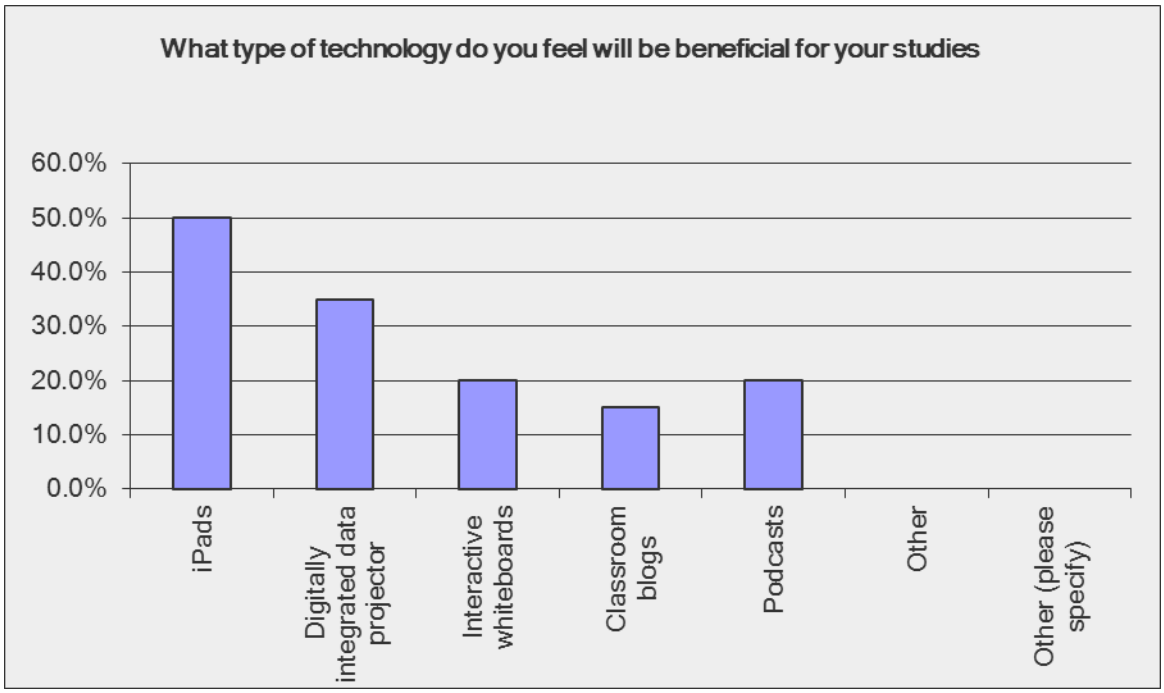

Figure 4.15 – Beneficial technology for students' studies

Fifty percent (50%) of the participants felt that the use of tablets would be beneficial to their studies. Thirty five percent (35%) felt that digitally integrated data projectors (which allows the viewing of interactive full motion audio visuals to an entire class) would be beneficial, while 20% had opted for interactive whiteboards and podcasts and only 15% of participants felt that classroom blogs would be beneficial. Participants were encouraged to add any other technology not mentioned that they might find beneficial to students' studies in the 'other' section of the question, but no responses were recorded in this section. In comparison to Question 15 of the academic staff questionnaire, both sets of participants believed that tablets (represented as iPads in the graph) would be most beneficial to teaching and learning.

B. *The role of the use of technology on the teaching methodology of the academic staff.*

ACADEMIC STAFF QUESTIONNAIRE

- Question 9: How often do you make use of technology as a means of teaching?

- Rationale for the question: This question was asked to determine how frequently technology is frequently used in teaching at The International Hotel School.

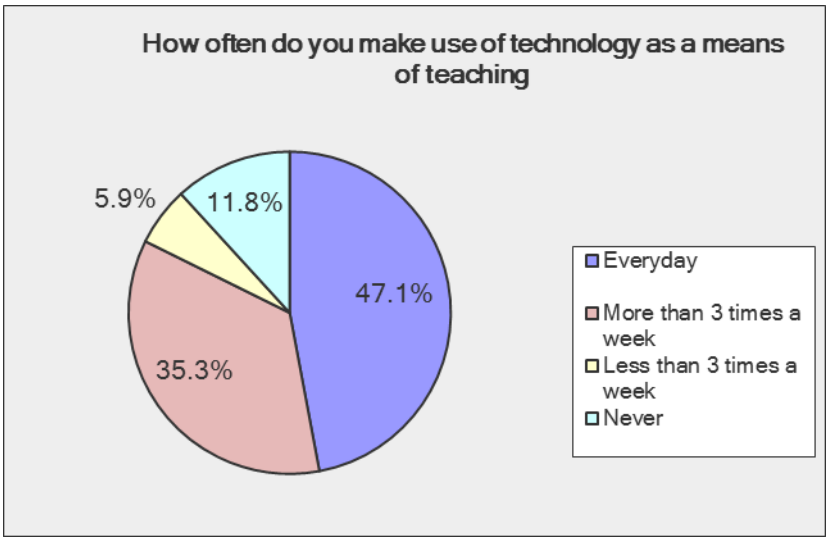

Figure 4.16 – Frequency of the use of technology in teaching

Most of the participants (47.1%) used technology on a daily basis in their teaching, while a further 35.3% used some form of technology at least three times a week, while only 11.8% of participants did not make use of technology in teaching at all. The data (a total of 82.4%) therefore shows that technology plays a prominent role in teaching at The International Hotel School. The results therefore justify the need to research more effective and efficient use of technology in teaching, and learning at the IHS.

- Question 12: What teaching tools or technologies would you like to use?

- Rationale for the question: This question was asked to gauge the interest of participants in using technology in teaching, as well as the type of technology that participants would like to use. Participants were encouraged to select as many options as they deemed applicable. As previously stated in Questions 6 and 7, the results of these questions will exceed 100%

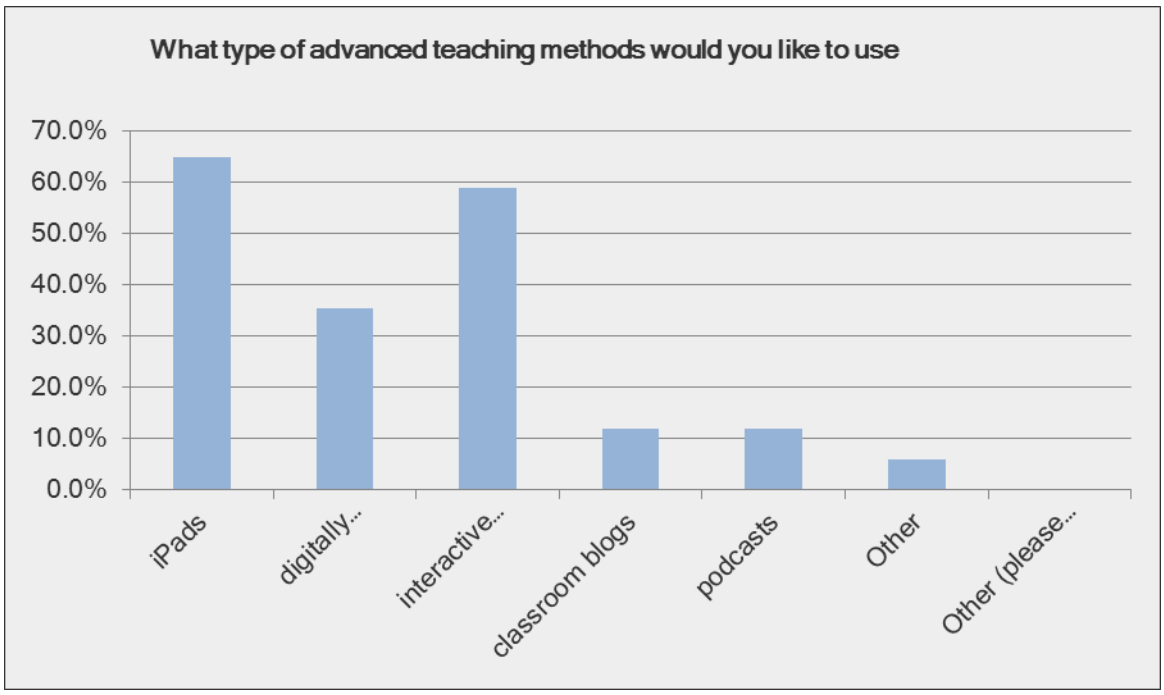

Figure 4.17 – Teaching tools or technologies academic staff would like to use

While tablets (represented as iPads on the graph) and interactive whiteboards were the most popular combined choices (65% and 59%), 11.8% wanted to use classroom blogs and podcasts. These teaching tools are currently not being used at The International Hotel School. The data suggests that it would be advantageous for the IHS to invest in teaching tools, specifically Tablets and interactive whiteboards, but the staff would need to be encouraged to make use of all available technologies to improve teaching, training and learning. The person who stated ‘other' in the graph, wanted a blended learning approach.

- Question 17: What type of technology would you like to make use of when lecturing or preparing lesson plans?

- Rationale for the question: This question was asked to establish whether academic participants would like to make use of technology when preparing lessons. Participants could select as many options as they deemed applicable which means that the results will exceed 100%.

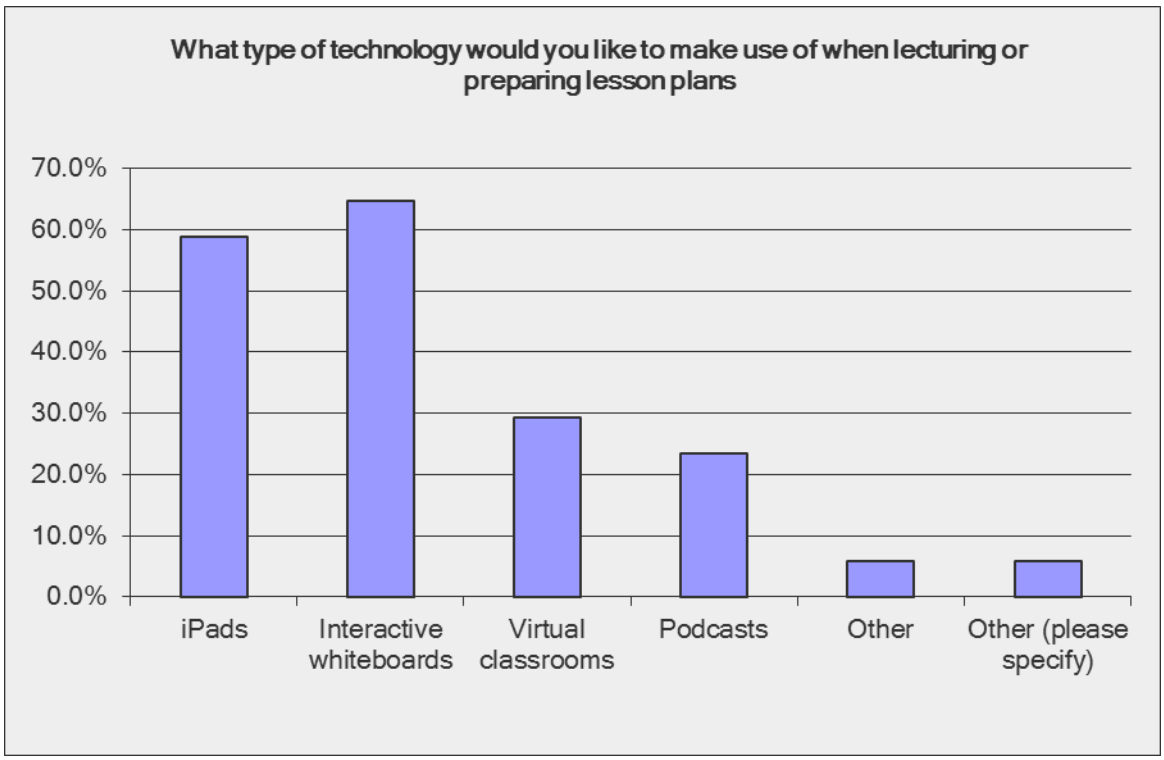

Figure 4.18- Technology academic staff would like to use in lecturing and preparing lesson plans

Sixty four point seven percent (64.7%) of participants would like to make use of interactive whiteboards and 58.8% want to make use of tablets (represented as iPads on the graph). Interactive whiteboards and Tablets proved to be popular choices in three of the question-responses in the questionnaire, namely Questions 12, 14 and 17. It was therefore hoped that the IHS management would allow an investigation to be conducted at The International Hotel School with regard to the implementation of tablets and interactive whiteboards. The 'other' represented in the graph relates to the use of laptops.

- Question 18: What type of teaching tools would you like to include in your lectures?

- Rationale for the question: The rationale for asking this question was to determine what type of teaching tools the academic participants would like to include in lectures. The participants were encouraged to select as many options as they felt were applicable, which means that the results will exceed 100%.

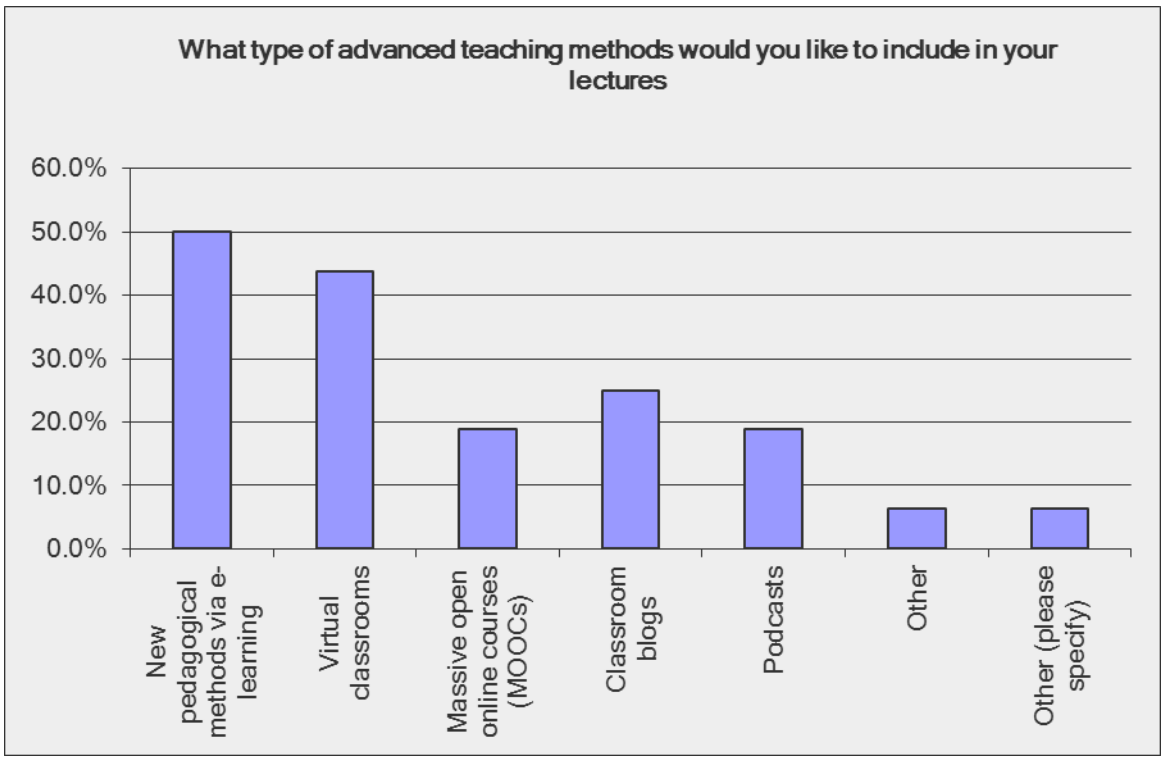

Figure 4.19– Advanced teaching methods

Half of the participants wanted to include new pedagogical methods that were introduced via digital technology (new web-based learning platforms), while 43.8% indicated that they would make use of virtual classrooms and 25% would use classroom blogs. Massive open online courses (MOOCs) which are courses open to large numbers of participants and emphasise participation through on-line learning, and podcasts proved to be the least popular options. It was therefore evident that digital technology was needed for the effective and efficient (streamlined) teaching at The International Hotel School. The 'other' represented in this graph was a staff member who requested a variety of suitable approaches to be used in lectures, possibly without understanding what was envisaged.

STUDENT QUESTIONNAIRE

- Question 7: How often do you make use of technology as a means of studying?

- Rationale for the question: This question sought to determine the frequency that participants made use of technology as a means of studying.

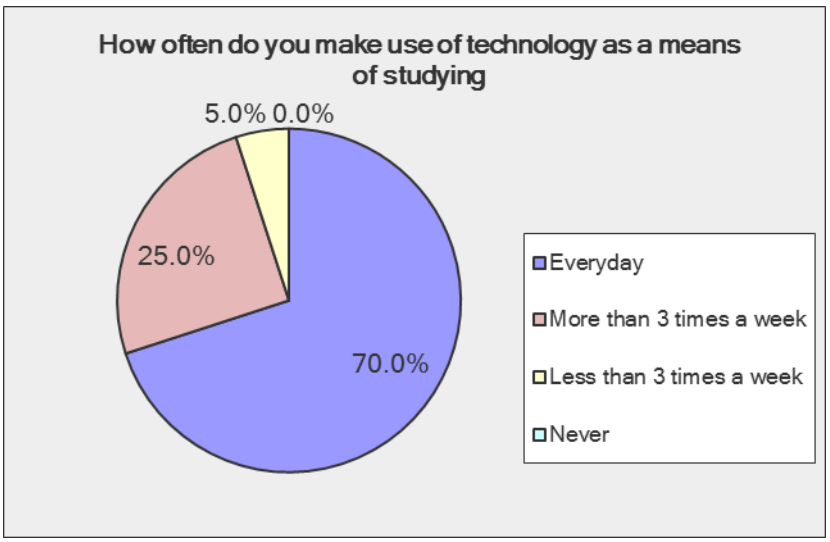

Figure 4.20- Frequency usage of technology for studying

All of the participants made use some form of technology as a means of studying. 70% of the participants used technology daily, 25% used technology as a means of studying more than three times a week and only 5% of the participants made use of technology as a means of studying less than three times a week. These results suggest that there was a definite need for technology in learning at The International Hotel School.

- Question 11: What teaching techniques or tools would you like to see being utilised?

- Rationale for the question: This question was asked to ascertain if participants would like to see technology being utilised, and if so, what type of technology. Participants were encouraged to select as many options as they deemed applicable meaning that the results would exceed 100%.

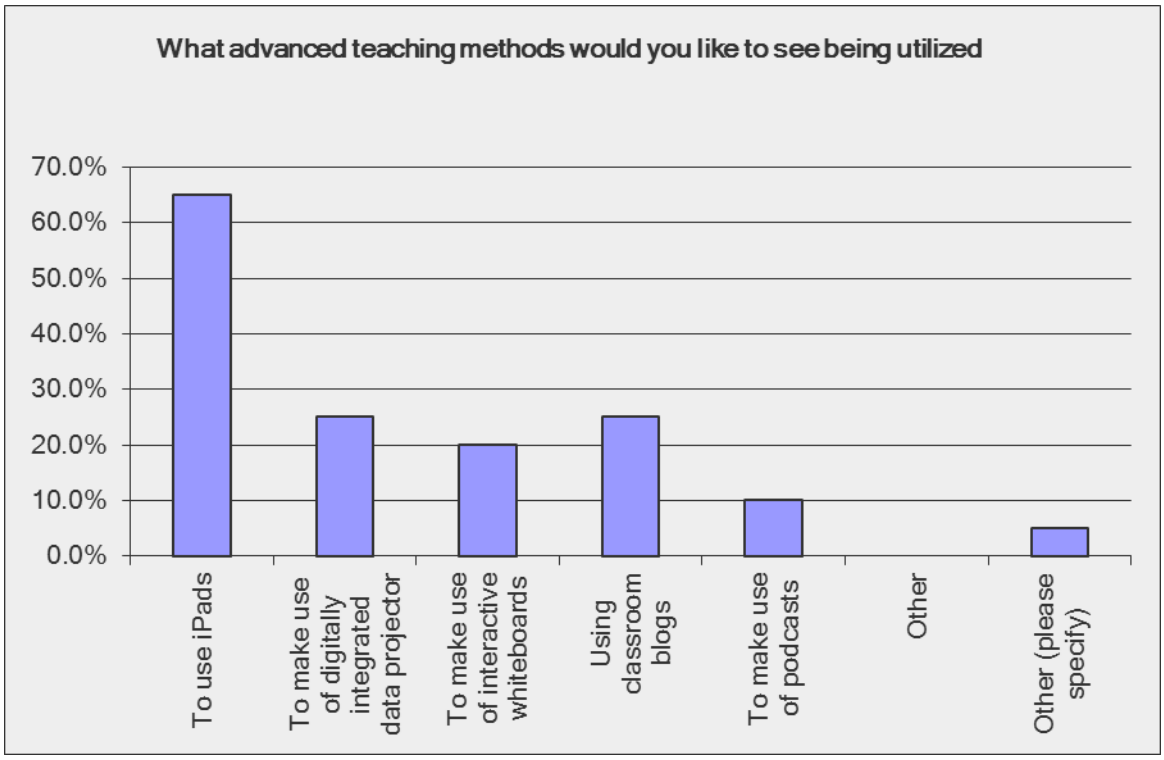

Figure 4.21 – Teaching methods students would like to be utilised

The most popular choice of teaching methods, chosen by 65% of the participants, was tablets (represented as iPads on the graph). Digitally integrated data projectors (25%) and classroom blogs followed (25%) while interactive whiteboards (20%) were also popular choices. Only 10% of the participants would like podcasts to be utilised as a teaching tool. One participant selected the "other" option but did not state the tool that they would like to see being utilised. As in Question 18 of the academic staff questionnaire, tablets continued to be the technology choice of both sets of participants.

- Question 16: What type of technology would you like lecturers to make use of?

- Rationale for the question: The rationale for asking this question was to determine the type of technology that students would like lecturers to make use of for teaching, training and learning. Participants could select as many options as they deemed applicable meaning that the results would exceed 100%.

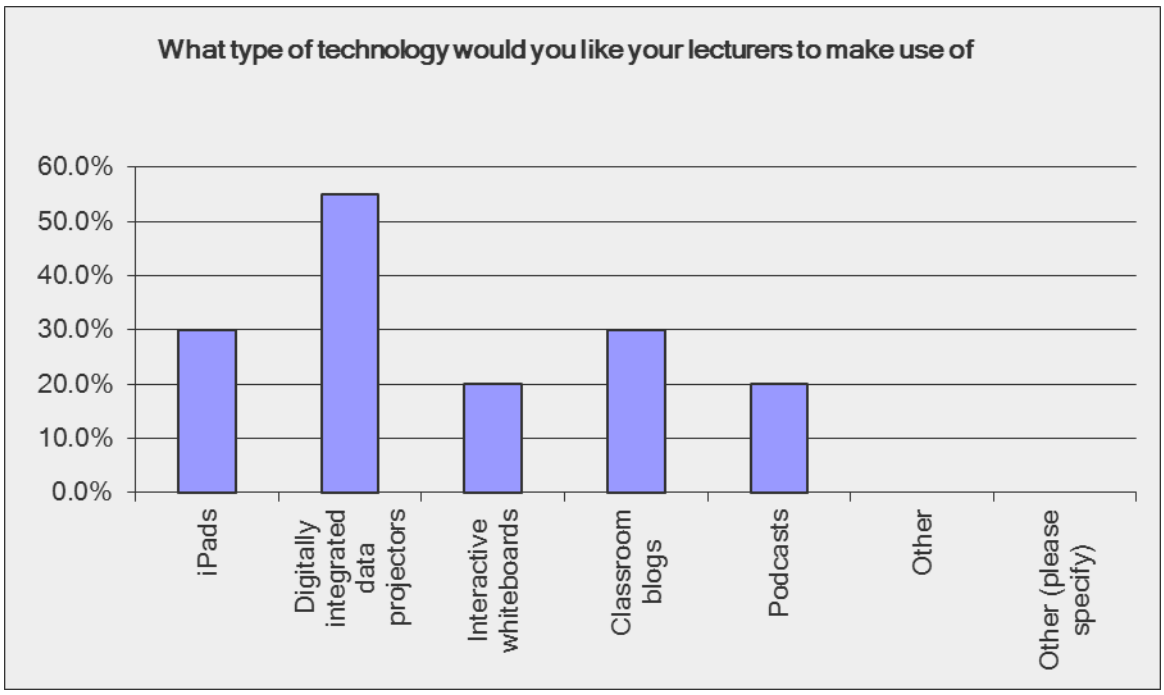

Figure 4.22 – Technology that students suggested academic staff should make use of

A total of 55% of participants would like lecturers to make use of digitally integrated data projectors, 30% wanted the use of tablets and classroom blogs, and 20% opted for the use of interactive whiteboards and podcasts (20%). A similar question was asked in the lecturer questionnaire. The academic staff was asked what type of technology they would like to make use of when lecturing and preparing lesson plans. Most academic staff's selected-options were interactive whiteboards and tablets (represented as iPads on the graph), and as recommended in the conclusion of the lecturer questionnaire, it would be beneficial to The International Hotel School to investigate the implementation of tablets and interactive whiteboards. As 55% of the students selected digitally integrated data projectors, the use of these should also be investigated and considered by the Institution.

- Question 17: What teaching tool(s) is (are) needed in your field of study?

- Rationale for the question: The reason for asking this question was to determine the teaching tools that participants felt were needed in their field of study, based on what they had learnt, had experience of, or were aware of.

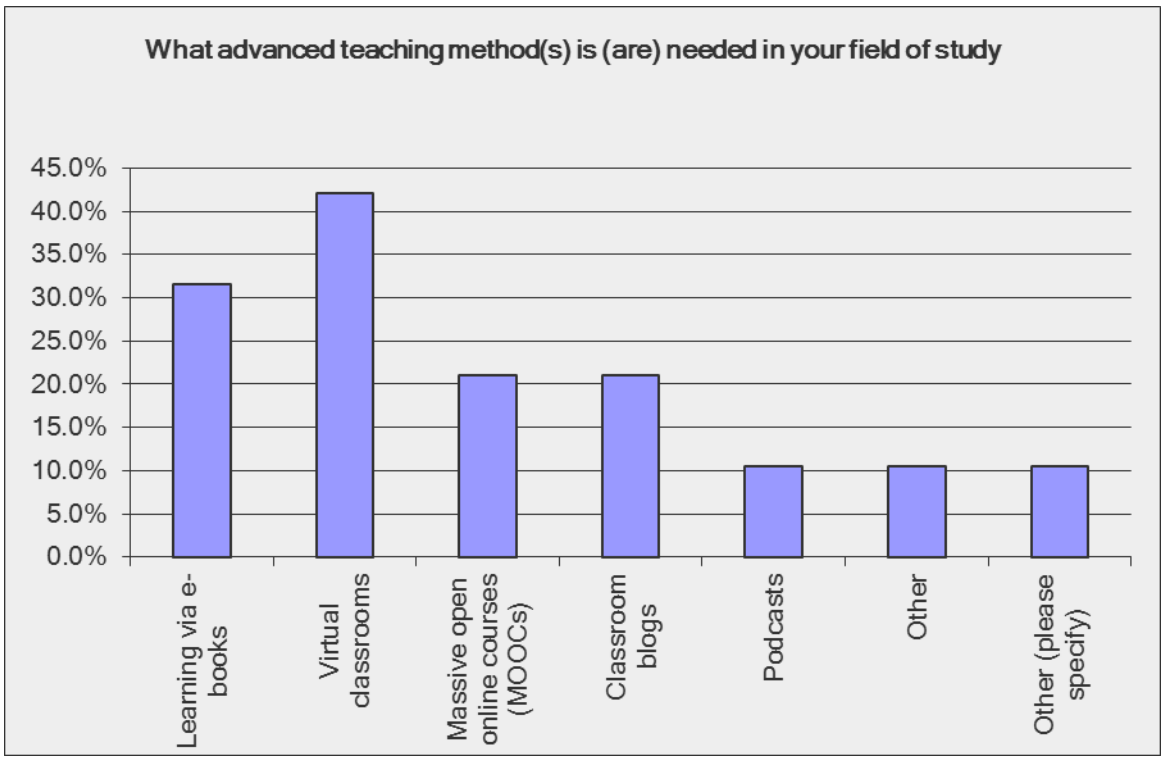

Figure 4.23 – Teaching methods needed in the field of study

Forty two point one percent (42.1%) of the participants felt that virtual classroom methods were needed, 31.6% would make use of learning via e-books, 21.1% believed that classroom blogs and massive open online courses were necessary, and 10.5% felt that podcasts were needed. The responses showed that there was a need for technology in learning as virtual classrooms and e-books proved to be popular choices. The 'other' represented in the graph requested power-point slides.

B. *How has the use of technology impacted on hospitality studies of the IHS?*

ACADEMIC/ACADEMIC SUPPORT STAFF QUESTIONNAIRE

- Question 9: What is your preferred method of accepting class work and assignments?

- Rationale for the question: This question was asked to determine how academics preferred to accept class work and assignments of students.

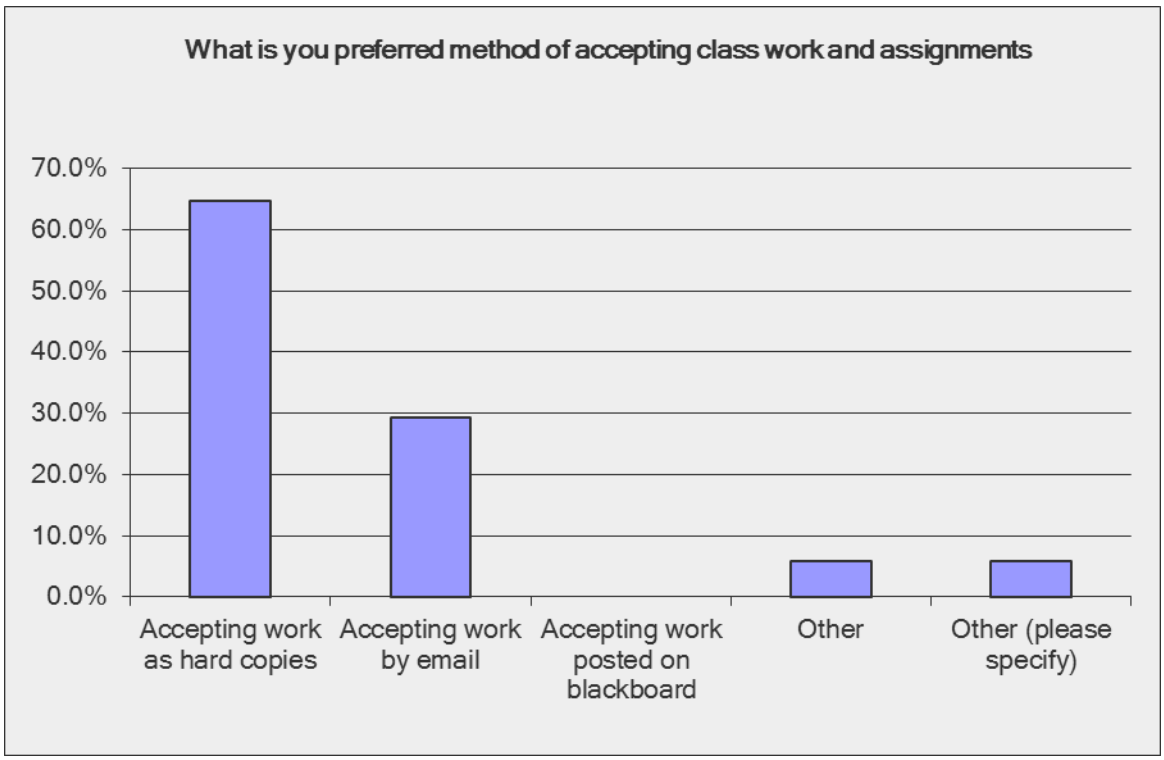

Figure 4.24 – Preferred method of accepting class work and assignments

Sixty four point seven percent (64.7%) of the participants preferred accepting hard copies (paper copy) of work while 29.4% preferred accepting work via email. Only 5.9% would like students to submit assignments and class work online. The results showed that although academic staff felt there Is a need for technology in teaching, training and learning, they still prefer to accept work as hard copy. This could be due to the necessity of hard copies in the assessment and moderation processes in place at The International Hotel School as all work done by students needs to be verified, moderated and stored in personal files. This information also suggests that the management of the IHS needs to re-think the use of technology in the academic process. The 'other' participant represented in the graph preferred to have work submitted online.

- Question 10: What is your preferred method of communicating with your students?

- Rationale for the question: The question gives insight into the preferred communication methods of academic participants with their students.

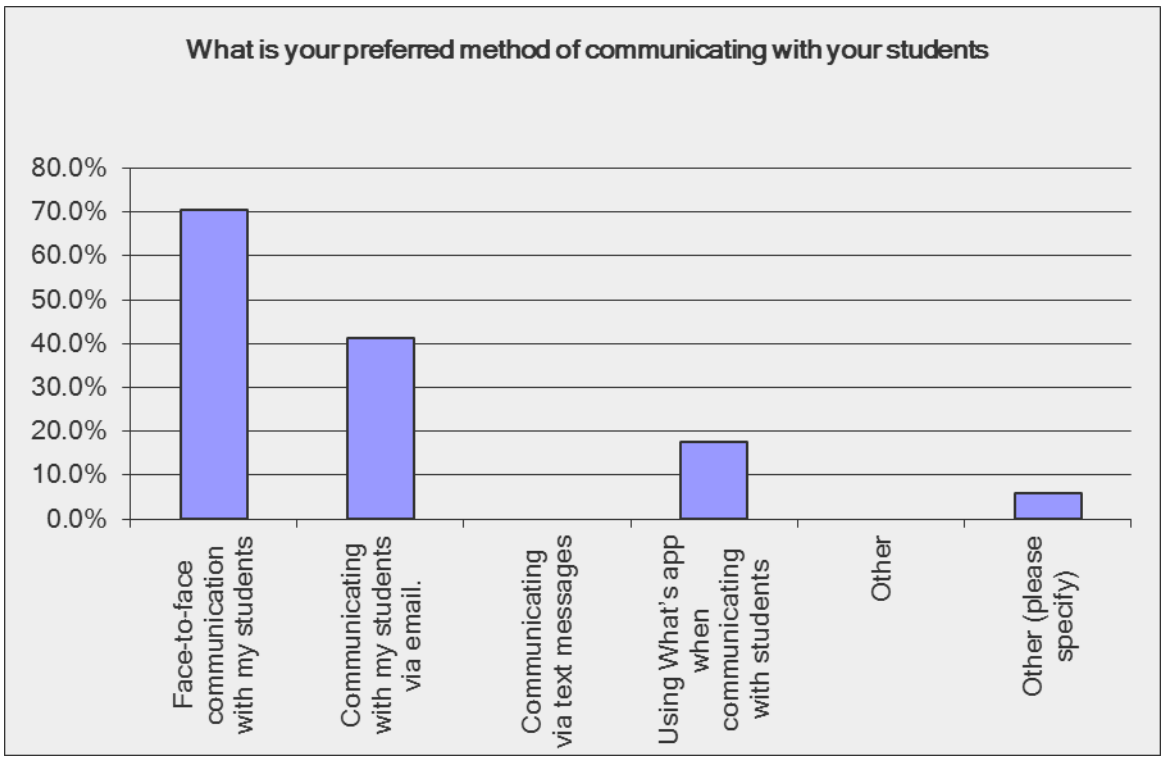

Figure 4.25 – Preferred method of communicating with students

It is evident from the data collected that face-to-face communication was the preferred method of communication, chosen by 70.6% of the participants. Participants did not wish to communicate with students via text messages or What's app. It is unclear why face–to face communication is preferred other than the need to contact students personally. This could be a possible further research topic. The 'other' participant represented in the graph wanted to communicate using a blended approach. As the questionnaire was anonymous, it is unclear what the participant meant by the blended approach.

- Question 19: Do you feel that the curriculum complies with/to the following statements? (refer to Figure 4.26)

- Rationale for the question: This question was asked to ascertain participant's views on the current curricula used at The International Hotel School.

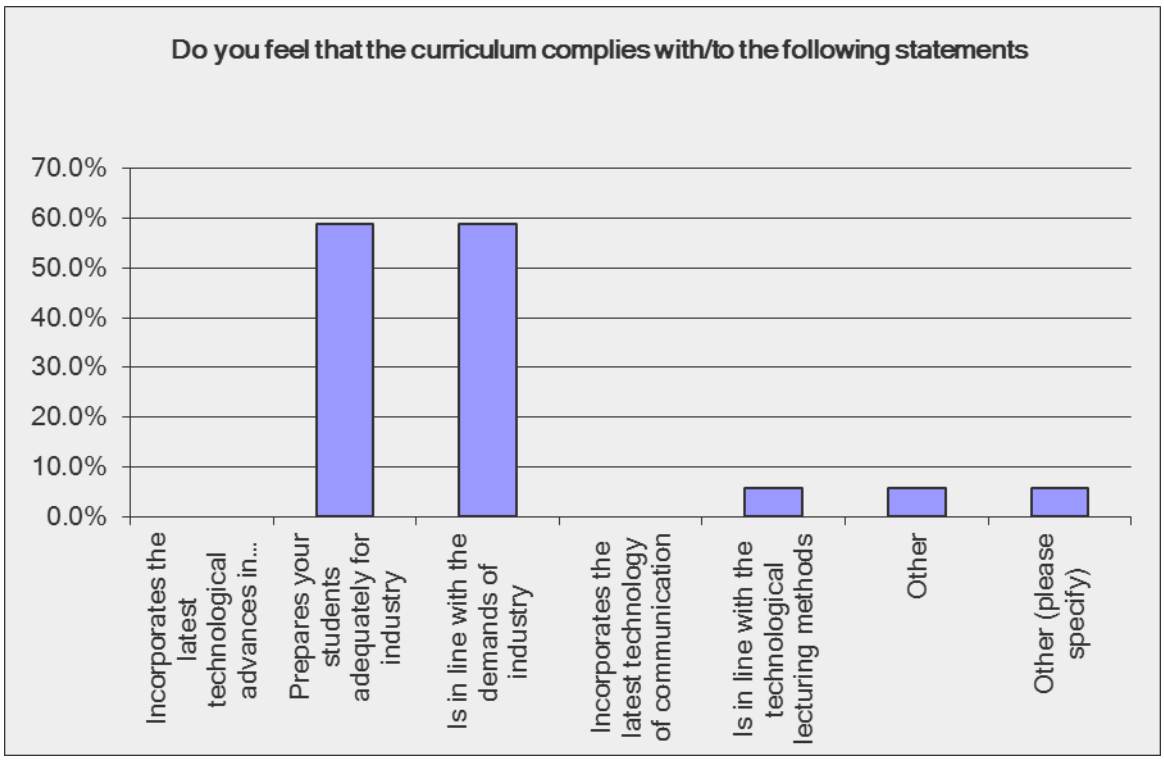

Figure 4.26 – Academic staff responses on whether the curriculum complied with the above statements

Fifty eight point eight percent (58.8%) of the participants believed that the current curriculum as taught at IHS adequately prepared the students for the hospitality industry, and was in line with the current technological demands (new computer based systems of ordering food and checking-in guests) of the hospitality Industry. Five point nine percent (5.9%) felt that the current curriculum was in line with technological lecturing methods while no participants believe that the current curriculum incorporated the latest technology for communication. Based on this evidence, and the feedback received from staff after a practical period (internship) in the hospitality industry, the researcher concludes that The International Hotel School is aligned with the current technological demands of the hospitality industry and students were therefore adequately educated and trained.

- Question 20: Do you feel that the technological tools provided for you by your institution are aligned with the curriculum?

- Rationale for the question: This question was asked to determine whether the participants felt that technology provided by the institution is aligned with the current curriculum.

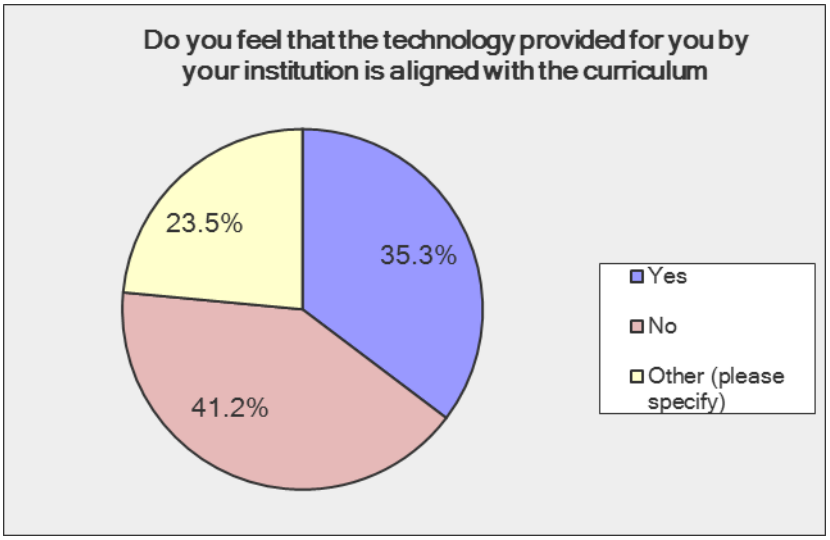

Figure 4.27 – Academic staff responses on whether the technological tools provided in the IHS was aligned with the curriculum

The current technology being used at The IHS was discussed in section 2.5.2.2. Forty one point two percent (41.2%) of the participants state that the tools provided by the institution were not relevant to the curriculum while 35.3% believed that the technological tools were relevant to the curriculum. Participants commented that the curriculum needed to change, and that certain systems (not specified by participants) being taught are not in line with the systems being used in the hospitality industry. The researcher is of the opinion that the curricula are in line with the hospitality needs, and that technological tools should be aligned in the curricula. This contradicts the results of Question 19, where participants felt that the technology provided by the institutions curriculum adequately prepared the students for the hospitality industry. As the results of Questions 19 and 20 are contradictory, the results cannot be seen as viable.

STUDENT QUESTIONNAIRE

- Question 9: What is you preferred method of submitting class work and assignments?

- Rationale for the question: This question was asked to establish how participants preferred to submit class work and assignments. Participants were encouraged to select as many options as they deemed applicable meaning that the results would exceed 100%.

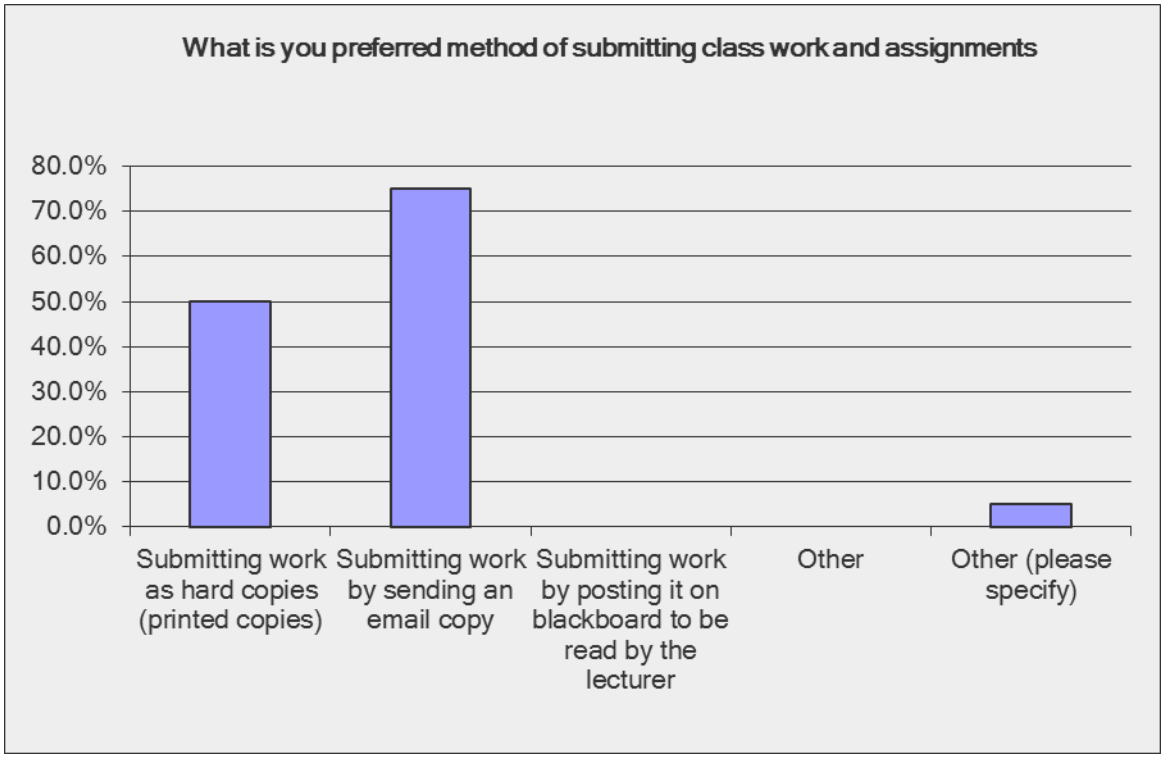

Figure 4.28 – Students preferred method of submitting classwork and assignments

A total of 75% of participants preferred to submit their class work and assignments as an e-mail copy, while 50% preferred to submit their class work and assignments as hard copies. The 'other' stated in this graph preferred to submit work in an online format. It is unknown what the participant meant by 'online' It is important to note that this question was closely linked to Question 10 of the academic staff questionnaire, where the majority of participants stated that they preferred students to submit their work as hard copies and that this preference could be due to the assessment, moderation and verification processes conducted at The International Hotel School. Yet, the responses to this question clearly showed that students preferred to submit their work via e-mail. It would therefore be recommended that The International Hotel School assess their internal processes and decide on the best option for submitting and accepting classwork and assignments. It is true that lecturers could accept electronic work and then print it, but this has a cost implication for the IHS. This will further be discussed in Chapter Five

- Question 10: What is your preferred method of communicating with your lecturers?

- Rationale for the question: This question was asked to determine how participants preferred to communicate with their respective lecturers. Participants were encouraged to select as many options as they deemed applicable, meaning that the results would exceed 100%.

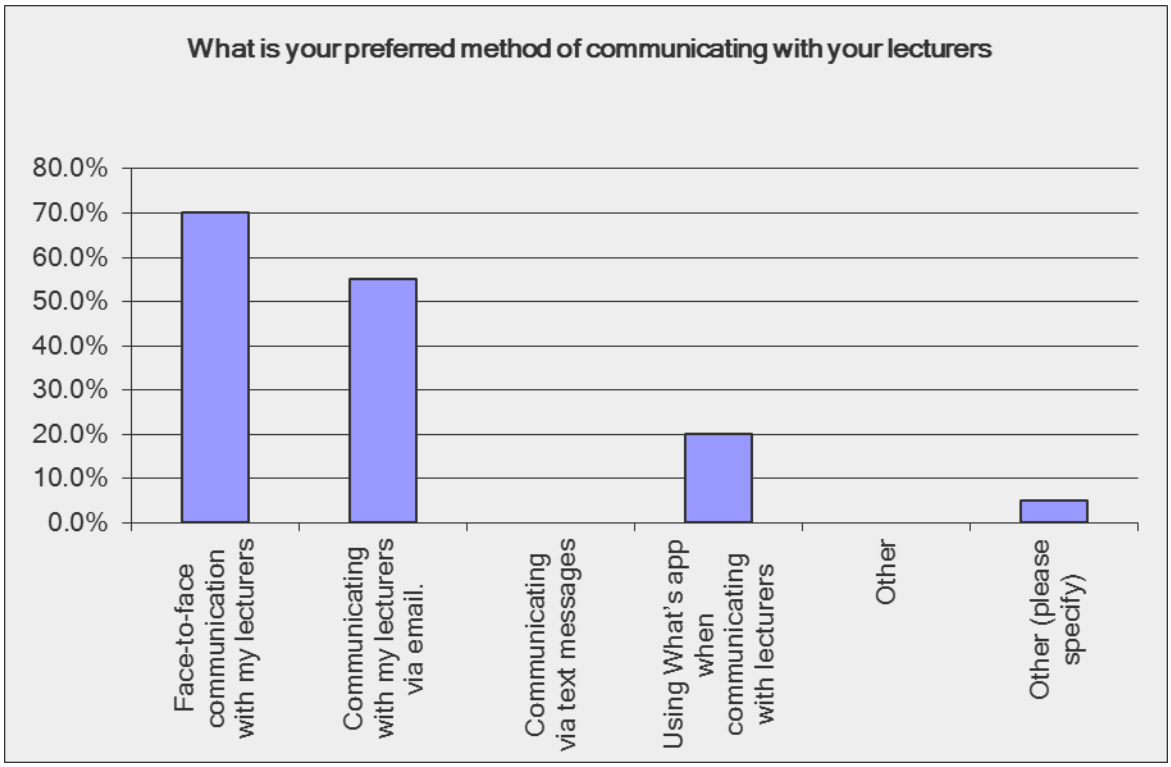

Figure 4.29 – Preferred method of communicating with academic staff

A total of 70% of the participants indicated that they preferred face-to-face communication with their lecturers, 55% preferred to communicate via e-mail and 20% wanted to communicate with their lecturers using What's app. This question was linked to Question 10 of the lecturer questionnaire. Both sets of participants preferred face-to-face communication, which is currently the main form of communication used at The International Hotel School. Based on the above results, it is probably better to maintain the status quo for the present until further in-depth research can be done. The 'other' represented on this graph did not specify a method of communicating.

- Question 18: Do you feel that the curricula complies with the following statements? (refer to Figure 4.30)

- Rationale for the question: This question was asked to determine how appropriate participants felt the curricula were in the context of this study. The students had knowledge of the curriculum as it was explained to them, and had hotel industry work-based experience, so they were in a position to answer this question. Participants were encouraged to select as many options as they believed was necessary, meaning that the results would exceed 100%.

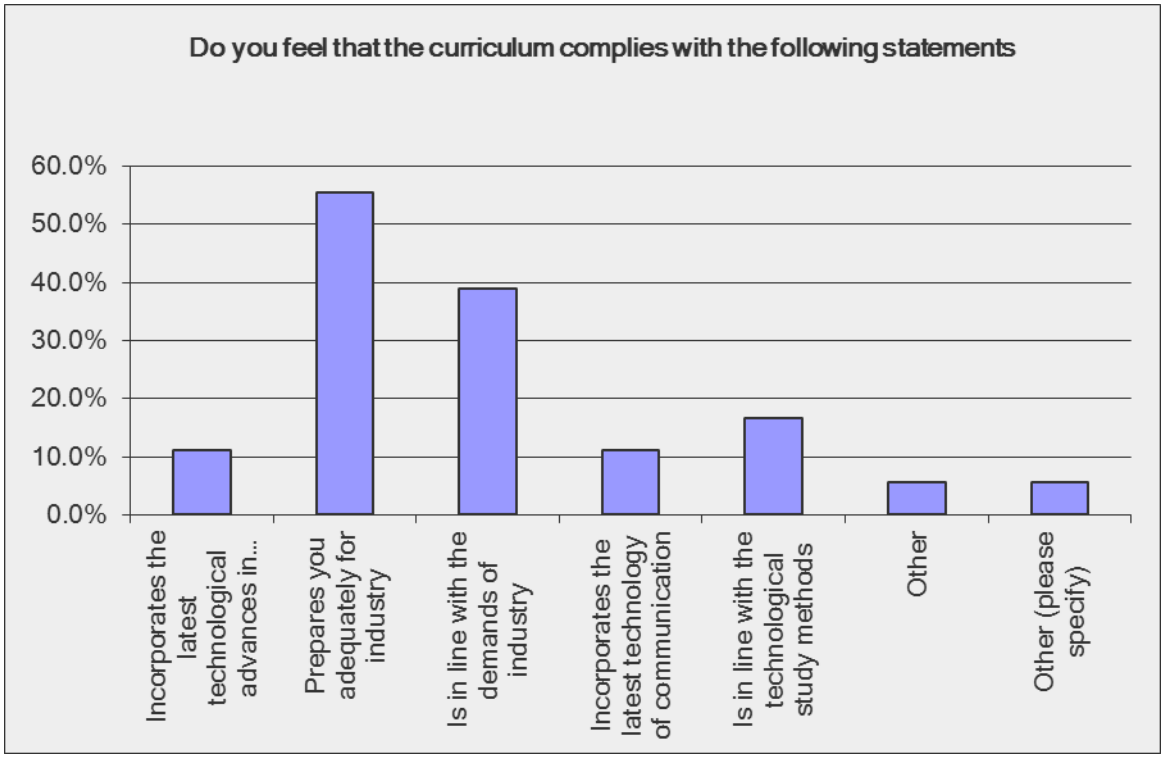

Figure 4.30 – Students responses on whether the curricula complied with the above statements.

A total of more than half of the participants (55.6%) felt that the current curricula prepared them adequately for the hospitality industry, while thirty eight point nine percent (38.9%) felt that the curricula was in line with the demands of the hospitality industry. Sixteen point seven percent (16.7%) of the participants felt that the curriculum was in line with technological study methods, that is, e-mail and online notes, and 11.1% of the participants felt that the curricula incorporated the latest technological tools in teaching and communication respectively. As previously mentioned, these students have had exposure to the hospitality industry and, although they may not be subject experts, their opinions should be considered as they did have some industry knowledge.

Question 19: In your opinion, do you feel that the technology provided for you by your institution is aligned with your curricula?

- Rationale for the question: This question was asked to determine if the participants felt that the technology provided by The International Hotel School is in line with curricula requirements.

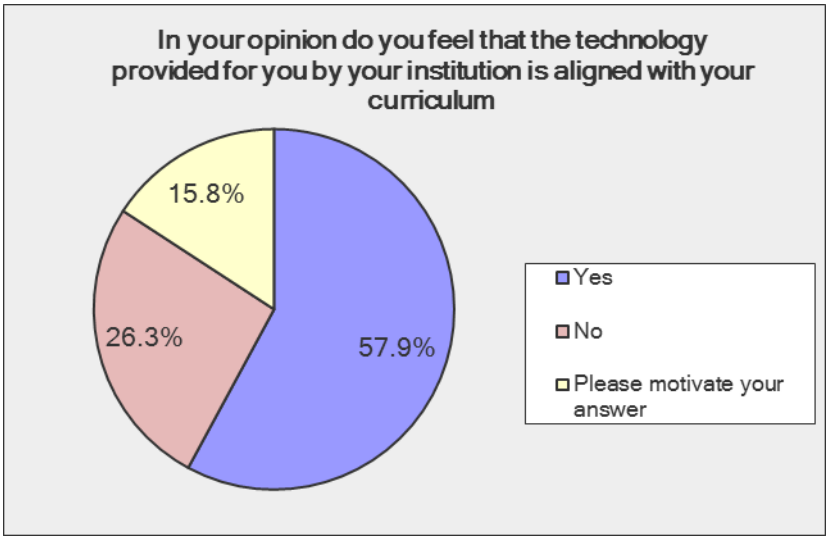

Figure 4.31 – Student responses on whether the technology provided at the IHS was aligned with the curricula

More than half of the participants (57.9%) were of the opinion that the technology provided by the institution was aligned with the curriculum. When asked to motivate their responses, 15.82% of the participants (the 'motivate your answer' stated on the graph) stated that the internet service offered by the institution was slow resulting in systems such as Opera (a hotel software application) not working effectively. The results reflected here were similar to the results obtained in the same question asked in the academic staff questionnaire. It could therefore be deduced that both groups of participants were of the opinion that the current technology provided by the institution was aligned with industry requirements, but this does not exclude possible updating in the future, considering curricula needs.

4.4 Theme 3: The impact of the use of technology for student learning

A. *Has the use of technology with hospitality studies improved the learning of students?*

ACADEMIC STAFF QUESTIONNAIRE

- Question 13: How would you prefer to access learning resources?

- Rationale for the question: This question showed the preferred method of accessing learning resources. Participants were encouraged to select as many options as they deemed applicable, which means that the results will exceed 100%.

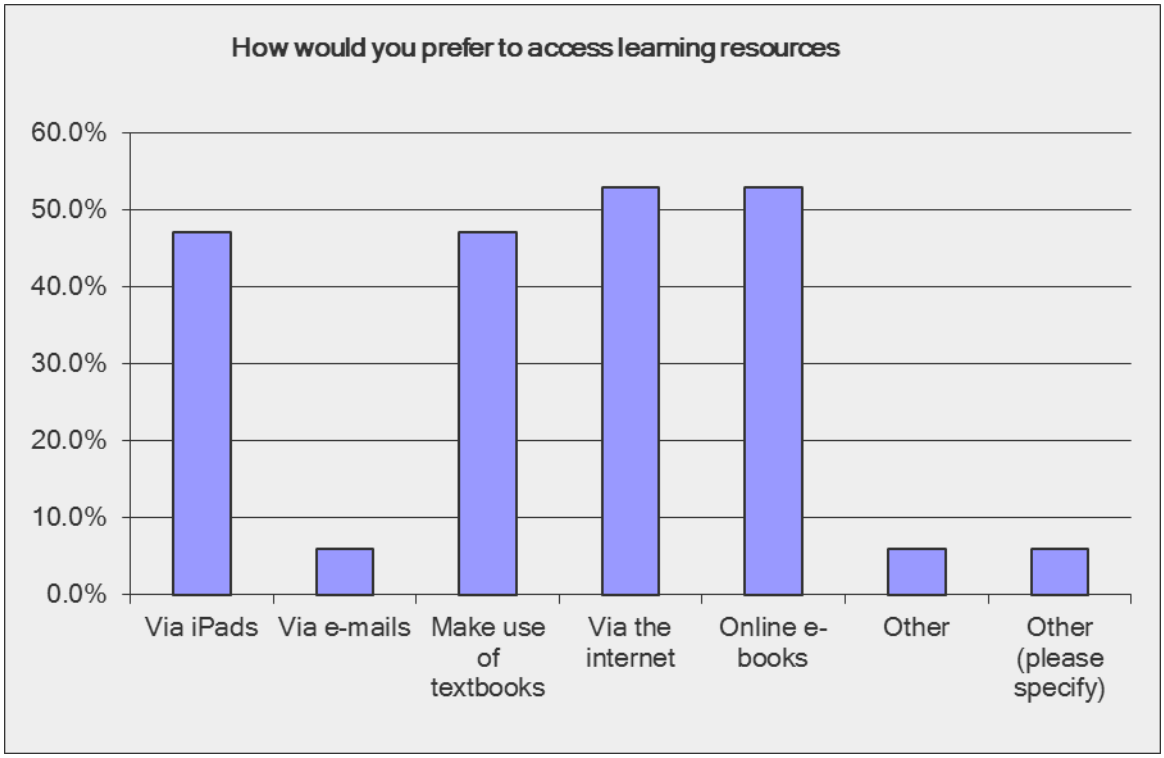

Figure 4.32 – Academic staff preferred method of accessing learning resources

The internet and online e-books were shown to be the most popular trends as 52.9% of participants preferred each of these methods. Textbooks and tablets (represented as iPads on the graph) followed as each is reflected in the view of 47.1% of the participants. E-mails proved to be the least popular as only one (1) participant selected this option (at the time of this study no approved learning resources were e-mailed to academic staff). Based on the data, textbooks still had a place in learning but IHS Management should consider a shift towards using the internet and e-books to access learning resources. These options could be more cost effective and quicker to obtain and read than the traditional textbooks. This cost factor needs to be ascertained by the IHS management as an alternate source of learning material. As tablets were proving to be a popular tool this further justifies the need by The International Hotel School to invest in this technology to enhance teaching, training and learning. This will be further discussed in Chapter Five. The 'other' represented in

the graph stated that they would like to use a blended approach to access learning resources. The participant did not specify what was meant by 'blended approach'.

- Question 14: Do you feel that sufficient technology is provided by your institution to assist students?

- Rationale for the question: This was asked to determine whether the participants believed that the current technology provided by the institution was sufficient in assisting students.

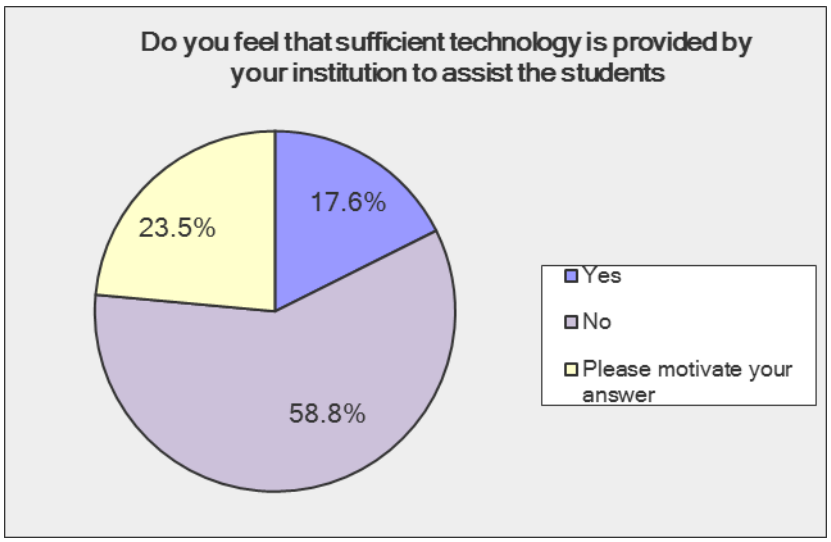

Figure 4.33 – Academic staff responses on the adequacy of technology provided at the institution

Fifty eight point eight percent (58.8%) of the participants felt that the current technology was insufficient and, of this 23.5% (stated as 'please motivate your answer' on the graph), highlighted areas of concern to be Wi-Fi systems that were often down, computer laboratories being unavailable to students or unused for security reasons, and participants not being provided with laptops with the latest technology capabilities. The data clearly suggested the need to upgrade or change the current technology being used at The International Hotel School.

STUDENT QUESTIONNAIRE

- Question 12: How would you prefer to access learning resources?

- Rationale for the question: This question was meant to establish how participants preferred to access learning resources**.** Participants were encouraged to select as many options as they deemed applicable, meaning that the results would exceed 100%.

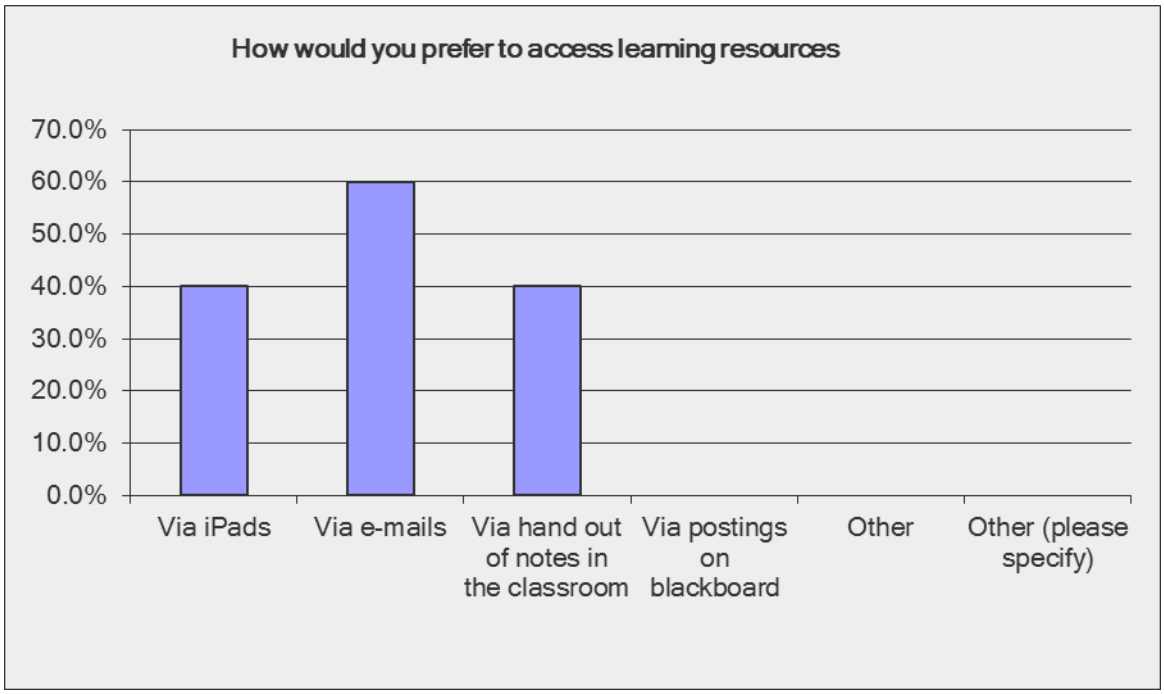

Figure 4.34 – Students response on the preferred method of accessing learning resources

The total responses show that 60% of the participants preferred to access learning resources via e-mails (this would imply that academic staff would take this on as an additional task) and 40% preferred tablets and hand-out notes. These results confirmed Question 9 that learners preferred accessing and submitting learning and work digitally.

- Question 13: Do you feel that sufficient technology is provided by your institution to assist you with your learning?

- Rationale for the question: This question sought to determine whether participants felt that the technology provided by The International Hotel School was sufficient to assist them in the learning function.

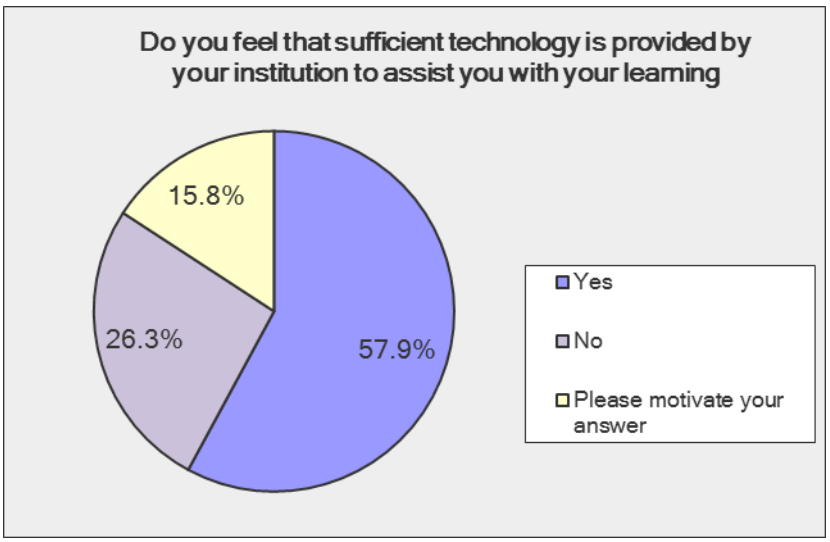

Figure 4.35– Student responses on the sufficiency of the technology provided by the institution

More than half of the participants (57.9%) felt that the technology provided by the institution was sufficient to assist them with their learning, while 26.3% of the participants did not agree. The 15.8% additional comments (stated as 'please motivate your answer' on the pie chart) gained from this question were that students were frustrated with the internet speed and/or availability, and printers not working effectively (the current internet line has a very low bandwidth and there is only one printer available for students. This printer is out-dated and cannot handle large volumes of printing). These results were linked to the results of Question 14 on the academic staff questionnaire and were contradictory, as the majority of lecturers felt that the technology (internet) provided by the institution was insufficient. However, the answers to this question only reflected the views of the Cape Town Campus students, while the academic staff questionnaire represented the views of academic staff at all three campuses. It was therefore important that further research be conducted with the students at the Durban and Sandton campus with regards to this question.

C. *Has the use of technology impacted on how students learn in hospitality studies at the IHS?*

ACADEMIC STAFF QUESTIONNAIRE

- Question 16: Do you feel that the technology provided by your institution is aligned with industry requirements?

- Rationale for the question: This question was asked to determine whether the technology provided by The International Hotel School met the requirements for the in-service provided by the hospitality industry in terms of software (ordering, payment and guest check-in systems) . All employees (academic and administrative staff) of The International Hotel School were regularly informed of the technological requirements of the hospitality industry, and therefore had sufficient knowledge to comment of this question.

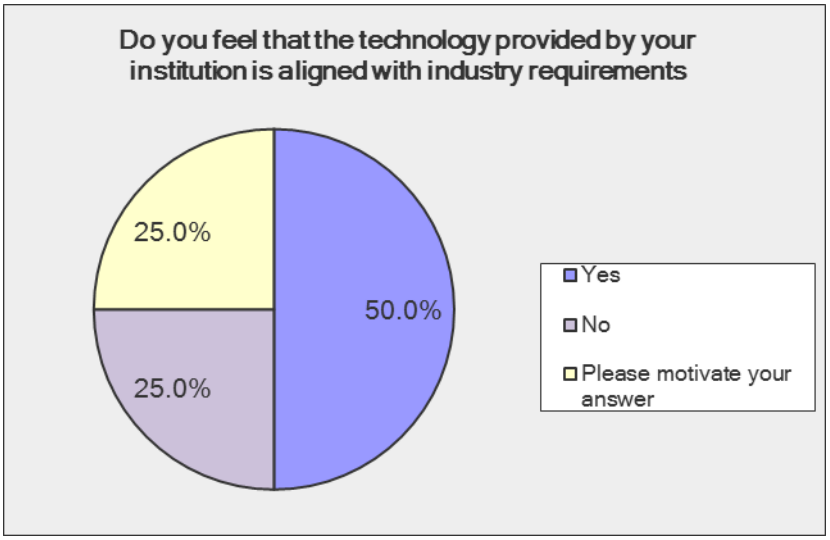

Figure 4.36– Staff responses on whether the technology provided at the IHS was aligned with industry requirements

Half of the participants felt that the technology being used met the in-service requirements of the hospitality industry for IHS students, while half felt that the technology used by The International Hotel School needed to be more “cutting edge.” (The half is represented as 25% each on the graph because 25% motivated their response by stating that the technology needed to be more ‘cutting edge’) The data represented in this question would require further research to gain an understanding of why such a high percentage of participants believed that the technology used at the institution was not aligned with hospitality industry requirements, as well as what technology was deemed to be “cutting edge” by the participants. This is vital for the training component of the IHS curricula.

STUDENT QUESTIONNAIRE

- Question 15: In your experience, do you feel that the technology provided by your institution is aligned with industry requirements?

- Rationale for the question: This question was asked to determine if the student participants felt that the technology provided by the institution was aligned with the technological and in-service requirements of the hospitality industry. The students were in a position to respond to this question as they had already worked in hospitality establishments as part of their in-service training.

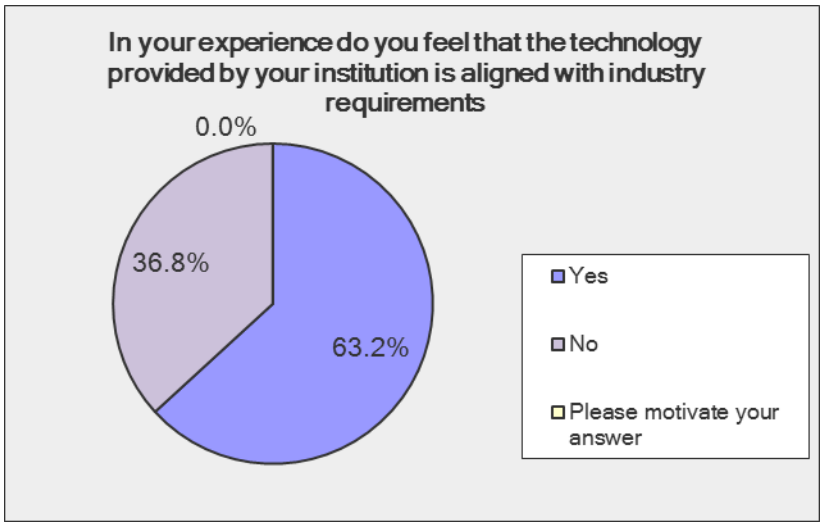

Figure 4.37 – IHS technology aligned with industry requirements

Sixty three percent (63%) of participants felt that the technology provided by The International Hotel School was aligned with the requirements of the hospitality industry, while 36.8% of participants did not agree. When asked to motivate their answers, the students felt that the hospitality industry had a range of software applications, and the IHS does not cover all of these in the teaching and training in the classroom. The same question was posed to the academic staff in Question 16 of the academic questionnaire where half of the lecturers felt that the technology provided by The International Hotel School was aligned with the requirements of the hospitality industry. The results of both participant groups were closely correlated, and it could therefore be deduced that The International Hotel School used technology that was reasonably closely aligned with the hospitality industry, but there was room for improvement (please note that the 0% on the graph is an error generated by the Survey Monkey system).

4.5 Theme 4: Suggestions for changes or improvements in the use of technology

ACADEMIC STAFF QUESTIONNAIRE

- Question 21: Please provide any further suggestions which you consider relevant to this survey which could improve the teaching, training and learning at the IHS.

- Rationale for the question: Participants were invited to provide their own ideas or additional information that they felt would be relevant to the research. The responses below are verbatim quotations and have not been altered for language corrections.

Answer Options	Response Count
	4
answered question	**4**
skipped question	**13**

- I do think Lecturers should be given laptops to develop on and to connect to data projectors
- Online text books would be beneficial as it is not the only resource that i recommend to my students.
- Increasing the inclusion of technology in our programmes may result in increased accessibility and improved support systems which may then lead to a better through put rate. I do believe that we are however meeting industry requirements at this stage.
- We are expected to not teach from the text book and teach more from visually showing PowerPoints and YouTube clips and videos but we are not given the resource to do this. if you don't have a your own personal laptop to work with or plug in your students suffer

Figure 4.38 – Additional suggestions from academic staff

(the display of Figure 4.38 is a programme fault of Service Monkey)

Only four academic staff participants chose to give additional comments. Two of the comments centered on the fact that laptops should be provided to all participants to enable them to better access technology to improve teaching. One participant believed that online textbooks would be beneficial. One comment stated that the inclusion of technology in the programmes being taught will result in increased accessibility and improved support systems to ensure a better throughput rate. The majority of the participants (13) chose not to answer this question. This could indicate that the participants were satisfied with the current status quo at The International Hotel School or they were reluctant to be involved in IHS politics.

- Question 20: Please provide any further suggestions to assist with this survey.

- Rationale for the question: This question was asked to invite participants to add any comments or suggestions that they felt would be beneficial to this study. The responses below are verbatim quotations and have not been altered for language corrections.

Answer Options	Response Count
	4
answered question	**4**
skipped question	**16**

The technology use is not consistent. Paperless is ok, but it makes no sense when the worksheets, POE cover pages still have to be printed. It is just a shift of who pays for it. Because now, students have to pay for it extra, whereas before, the institute paid for it

And handing in POE's on paper doesn't support a technology advanced school environment

Technology needs to work: Internet connection that is overloaded and takes ages to log on or ge information from is useless.

students can't always use the facilities of the hotel school, an iPad is small and can be used in and out of the classroom, it would make my life a lot easier in terms of handing in assignments when I'm not able to be near any internet cafe or the college

Figure 4.39 – Further suggestions from students

(the display of Figure 4.39 is a fault of the Service Monkey programme).

Only four out of the twenty student participants chose to answer this question. Participants stated that the current technology was inconsistent although it was unclear what the students deemed as consistent due to the lack of clarity of the comments. There was a strong desire to move towards a paperless system, but the cost implications would first have to be determined. Participants also commented that the internet was slow and that the use of tablets could be beneficial. It could be deduced that the 16 participants who chose not to answer this question were satisfied with the technological status quo of the institution, or were reluctant to be involved in IHS politics, or offer any further comments.

4.6 Analysis of Focus Group discussions

As previously discussed in 3.9, a focus group meeting was held on 29 September 2013 at the Annual General Conference (AGC) of The International Hotel School. The discussions of the focus groups centred on the use of information and communication technologies (ICTs) for teaching and learning. Sixty five participants attended the AGC and the academic staff participants were divided into groups of five or six. The discussions were led and moderated by Johann Oosthuizen, Managing Principal at the Online Campus of the International Hotel School. The focus group discussions were centred on Theme 2 (the role of technology in teaching and training), Theme 3 (the role of technology for learning) and Theme 4 (suggestions for changes). The questions asked, and data collected, was divided into three sub-sections. These sub-sections were analysed as follows:

- Theme 2 – The role of technology in teaching and training

  Digital technology in distance learning was one of the main topics of discussion. Digital technology in distance learning had shown a growth from 68 enrollments in 2011 to 654 enrollments in 2013, and it was projected that by 2016 The International Hotel School would have 2 700 digital technology enrolments. The implication of this was that the institution would need to ensure that sufficient digital technology systems were in place and that lecturers had sufficient knowledge to prepare and conduct digital technology.

  These implications tie in with the questionnaires discussed earlier in this chapter under section 4.3. In Question 7 of the academic staff questionnaire it was established that technology played a significant role in student participation in the educational process and that technology could improve learning environments. This is further justified by Question 5 of the student questionnaire which concluded that students perceived technology to be important in the learning process. Question 8 of the academic/academic support staff questionnaire showed that academic staff preferred to teach using an interactive classroom, which shows that academic staff want a shift away from the traditional classroom-based teaching. Yet, in Question 6 of the student questionnaire it was revealed that most students still preferred the traditional classroom-based learning. As enrollments for digital technology are proposed to increase, the expectations of these students to teaching, training and learning would need to be established. The current student questionnaire showed that students believe technology to be important yet still preferred classroom-based

learning. Therefore, an in-depth study would be needed to establish the needs of students enrolled as distance-learners for digital technology.

With the growth of digital enrollments in distance learning at the IHS it would mean that academic staff would need to ensure that they are proficient in digital technology with regards to distance-learning. However, in Question 14 of the academic questionnaire, participants stated that the current technology provided at the IHS was insufficient and the data suggested that current technology needed to be changed and /or upgraded. This was contradictory to Question 13 of the student questionnaire where the data suggested that the technology provided by the IHS was sufficient to assist with learning.

If the IHS continues to grow their digital technology in distance-learning, then systems will need to be put in place to ensure optimal teaching, training and learning. Proposals put forward by the focus groups included ICT courses that could be available to academic staff. These could be courses centered on the use of MOOCs. The course content should include teaching methodologies, how to set up and teach an online classroom, ensure security of the system and how to assess work on-line. This would have major implications as all of the courses provide by the IHS have a practical component. How would this be assessed through digital technology? Currently the academic/academic support staff physically go into the hospitality industry workplace to assess the practical component of all of the courses. These are considerations that need to be taken into account in future curricula planning. If academic staff were to use digital technology as part of their teaching tools then there would be a need for additional resources, such as the availability of online textbooks and class resources. The School would also need to consider upgrading the bandwidth of their current Wi-Fi and possibly provide laptops to academic staff, as was suggested in Question 21 of the academic questionnaire. The capabilities and limitations of both the academic staff and students with regards to digital technology and resources linked to this would need to be assessed and then addressed, and the IHS would therefore need to set up a task team to investigate this further. A budget would then need to be established to address the concerns as discussed above.

- Theme 3 – The role of technology in learning

  Digital technology was initially only used for the traineeship and distance-learning programmes at the IHS but would now be adapted and developed to include the Diploma and Higher Certificate courses. Students may also enrol to do single

subjects or specialisation courses online. This meant that there could be a reduction in face-to-face learning. The implications of this would still need to be established as this process has only just started. The Diploma and Higher certificate courses offered at the IHS are registered with the Council for Higher Education (CHE). If these courses are to be adapted and developed for digital technology then new approval would be needed from CHE. This would be the same for the enrollment of single subjects and specialisation courses offered online. As previously stated students still preferred classroom-based learning and this proposal could therefore affect their preferred method of learning. However in Question 17 of the academic questionnaire, that data showed that virtual classrooms and learning via e-books were technologies that students felt were needed in their field of study. In Question 9 of the student questionnaire, the data established that students preferred to submit their work as an e-mail attachment while Question 10 of the academic staff questionnaire showed that the academic staff preferred work submitted as hard copies.

Having said this, the type of adaptation and development for the Diploma and Higher certificate courses would nevertheless need to be investigated. What type of digital technology would be used and how would this be used? The expectations of both the student and academic/academic support staff for this needs to be further researched and the recourses needed such as internet access, access to online learning resources and internet connectivity, would need to be considered. These points were all noted in the focus group discussion under this topic.

- Theme 4 – Further suggestions for changes

  Based on the success of online learning and its potential growth, The International Hotel School would like to expand the role of technology at the three campuses and introduce its digital technology programmes to other African countries. Currently, the institution was investigating possible growth in Zimbabwe, Botswana, Zambia and Namibia. The institution was also looking at introducing short courses and higher education learning programmes as on-line learning programmes. The International Hotel School was also looking at introducing Modular Objective Orientated Dynamic Learning Environment (Moodle). This is a digital technology software package which assists in creating online learning courses that are both interactive and collaborative. The growth would mean a need for an increased staff complement of lecturers, properly trained in the role and use of digital technology, and the implementation thereof in the programmes currently taught at the IHS, and advanced e-learning systems and software.

When compared to section 4.5, which discussed suggestions for improvement in the use of technology by academic staff and students, it can be deduced that improvements are needed in technology. The data from Question 21 of the academic questionnaire showed a need for online textbooks and that laptops would be needed as resources for lecturers. The academic staff commented that the inclusion of technology in the programmes being taught could result in increased accessibility and improved systems. The data collected in Question 20 of the student questionnaire showed a desire to move to a paperless system, and that the use of tablets as a resource would be beneficial.

4.7 Analysis of Interviews

As discussed in section 3.9, interviews were conducted by the researcher with the academic heads at the three campuses, including all managing principals and vice-principals. An invitation to attend the interview was sent to all concerned in January 2013 by the researcher but only two managing principals and one vice-principal agreed to be interviewed. A telephonic interview was also conducted with the Dean of The International Hotel School on 20 January 2013. The rational for selecting the Dean, managing principals and vice-principals to be interviewed was because they play an integral role in the selection, implementation and management of ICTs at the IHS. The data obtained from these interviews were analysed as follows:

INTERVIEW WITH THE DEAN

A telephonic interview was conducted with the Dean of The International Hotel School, Carolyn McDougall (CMd) on 20 January 2013 at 10:00 am. The questions asked, as well as the responses, are as follows: (See appendix D)

Theme 3

- Question 1

  What are your views on providing sufficient technology by IHS to enhance the teaching and learning of our students?

  Answer

  As the head of the school, I do not have sufficient knowledge to comment or influence the use of technology in the school. I am totally reliant on input from our lecturing staff via their campus senior academics and managing principals.

Theme 4

- Question 2

What are your thoughts on including or using technology in the teaching, training and learning of our students in the IHS' long term goals? Please also explain these goals.

Answer

This is not a priority as yet so there are no strategic plans for this. However, we are looking at interactive delivery where one lecturer provides a lecture that can be viewed by all students across all campuses.

- Question 3

  Please explain if a budget been put in place for the use of technology in the teaching and training for learning of hospitality students?

  Answer

  No budget currently exists for this.

Based on the above questions and answers it would appear that research into the role of technology in the teaching, training and learning of students was needed at the institution as there was insufficient information regarding this. Further research topics and recommendations to remedy this will be discussed in the next chapter.

INTERVIEW WITH MANAGING PRINCIPALS AND VICE-PRINCIPALS (See appendix D)

The persons who agreed to be interviewed were Alan Lester (AL), Managing Principal of the Cape Town Campus, Ronette Conradie (RC), Vice-Principal of the Cape Town Campus and Johann Oosthuizen (JO) Managing Principal of IHS Online. The questions were sent via e-mail to the participants and a deadline date of 30 January 2013 was set for the participants to respond. All participants were asked the same set of questions and the responses were recorded.

Theme 2

- Question 1

  Please explain the challenges faced by the IHS when using the current technology for teaching, training and learning?

  Answer

  AL- The biggest challenge is that it is not there! Also, where we have technology e.g. the online platform, access is limited.

  RC- Maintenance of equipment. Quantity – meeting teaching demands. Security and access control. Data management and storage is often outdated and old

JO- No response.

It is clear from the above responses that technology is a challenge in terms of its access, data management and storage systems. There is a need for an improved system to manage technology for teaching, training and learning at the IHS. The above responses can be compared to the responses to Question 14 of the academic staff questionnaire, where it was asked if academic staff believed that sufficient technology was provided at the IHS to assist students. The data collected from the question showed that the majority of the academic participants (58.8%) stated that the current technology provided by the IHS was insufficient. The researcher concluded from this question that the data suggested that there was a need for an upgrade or change in the current technology. It is noted that Johann Oosthuizen, the Managing Principal of the IHS online campus chose not to respond to this question. This could be that he does not feel that technology poses any challenges at the IHS.

- Question 2

  Please explain your views that the lecturers have sufficient knowledge in the use of teaching technologies? What support is offered to lecturers?

  Answer

  AL- No. Training would be required.
  RC- Some do, some may need a little support. Support is offered on an informal basis amongst staff.
  JO- While I believe that most of our lecturers are familiar with assessment in Moodle, their skills as course Moodle designers must be developed.

  The answers to the above questions are contradictory as AL believes that while training would be required, RC believes that support would be needed, and JO believes that lecturers are familiar with the current assessment processes on the Moodle platform. During the analysis of the focus group discussions included in section 4.6, a need for training and support for lecturers using digital technology was established. Training specifically with regards to using MOOCs was highlighted. A budget would need to be established for the training of the academic staff and it would need to be decided if the training would be done internally or if a service provider would be used.
- Question 3

Please explain your interpretation that the current curriculum is aligned with technological advancements within the hospitality industry?

Answer

AL - No. For many reasons, perhaps the biggest being cost and also that hospitality in general is quite conservative (slow adopters of change).
RC- Yes, but resources need to be substituted with more current resources.
JO- Yes, there are elements that indicate that this has been taken into consideration. Ultimately it depends on the degree to which educators are prepared to integrate such topics into their material.

Both RC and JO agree that the current curriculum is aligned with technological advancements within the hospitality industry and this argument is further strengthened with the responses to Question 19 of the academic staff questionnaire, where 58.5% of the academic participants believed that the current curriculum taught at IHS adequately prepared students for the hospitality industry. This is, however, contradictory to Question 20 of the academic staff questionnaire where the academic participants stated that technology being used and taught at the IHS is not in line with systems being used in the hospitality industry. AL agrees with the data collected in Question 20 of the academic staff questionnaire. The student questionnaire asked a similar set of questions with regards to the current curriculum adequately preparing students for the hospitality industry (Question 18) and whether technology provided at the IHS was aligned with the curriculum (Question 19). The data collected from these questionnaire-responses suggested that the student-participants were of the opinion that the curriculum taught at IHS adequately prepared them for the hospitality industry and that that technology provided by the IHS is aligned with the curriculum, based on their experiences during the in-service period in the hospitality industry. The researcher therefore believes that a further in-depth investigation needs to be done on the current curriculum being used and taught at the IHS and its alignment with systems used in the hospitality industry.

- Question 4

  Please explain in your experience which subjects should be added to our curriculum to ensure that our students meet the hospitality industry requirements. (For example the addition of teaching of new property management systems such as Micros, use of smart phones in the front office, teaching of molecular mixology, and gastronomy.)

  Answer

AL**-** With regard to subjects, I think industry experts will be better placed to advise. I would however like to see a better integration of technology into our existing subjects, e.g. social media marketing as a component of marketing subjects.
RC- I think the subjects are broad enough and make provision for the inclusion of trends and new creations. The syllabus however needs to be revised to include a section dealing with the most current trends for that particular course.
JO- I don't believe we should be adding subjects. The use of various technologies should be integrated into the main areas of study

All of the above participants agree that the present use of technology at the IHS should be integrated into existing subjects and main areas of study. The curriculum would however need to be revised and this could be further investigated as per the comments made in Question 3 of this section.

Theme 3

- Question 5

Do you feel that sufficient technology is provided by IHS to enhance the teaching, training and learning of our students?

Answer

AL- No. We offer very little in the way of technology to enhance the learning experience, and nothing that we have is cutting edge.
RC- To some extent in that the following are provided:

- Fast wireless connectivity
- Computers in resources centre with internet connectivity
- Data projectors in majority of classrooms
- Desktop computers for teaching staff
- Printing facilities
- One classroom has a proper audio system
- Majority of assignments and information are distributed in electronic format.

There is however room for improvement in that:

- Not all classrooms have data projectors in them
- Some of the data projectors are poorly maintained and therefore have poor resolution causing frustration
- Not all classrooms have audio systems and the portable speakers are not as efficient
- Classrooms don't have sufficient electrical points for student laptops

- Majority of work assignments are still being submitted in printed format.

JO- No, we require a more blended approach in contact learning programmes. For example students should be using Moodle to submit assignments and various other tasks.

Based on the above responses, it is clear that some technology is provided at the IHS to enhance teaching training and learning of students, but there is a need for more improved systems. This is further justified by the academic staff and student questionnaires where in Question 21 of the academic staff questionnaire, the academic participants requested laptops for lecturers and online texts books. And in Question 20 of the student questionnaire, the students suggested a better internet (Wi-Fi) system and a paperless system when submitting work.

- Question 6

  What type of technology would you like to see being used at IHS to enhance teaching and learning (for example, podcasts, interactive whiteboards, electronic textbooks)?

  Answer

  AL- Rather than identifying individual tools, I would like to see a broad range of technology (sic) solutions available with staff empowered to use the best tool for each task.
  RC- Podcasts of lessons, electronic portfolios
  JO- Podcasts, interactive whiteboards, e-books, increased use of Moodle in contact programmes.

  In Question 12 of the academic staff questionnaire academic-participants were asked what type of teaching tools or methodologies they would like to use. The data suggested that academic-participants wanted to make use of tablets and interactive white boards. In Question 17 of the academic questionnaire the academic-participants were asked what type of technology that would like to make use of when lecturing or preparing lessons and once again the data showed that academic-participants wanted to make use of interactive white boards and tablets. Question 18 of the academic questionnaire asked academic-participants the teaching tools that they would like to include in their lectures. The data showed that more than half of the academic-participants wanted to include new pedagogical methods that were introduced via digital technology: virtual classroom, classroom blogs and MOOCs also proved to be popular choices.

In Question 11 of the student questionnaire the student-participants were asked what teaching techniques or tools they would like to see being utilised. The data reflected that students wanted to see the use of tablets and digitally integrated data projectors. In Question 16 of the student questionnaire, student-participants were asked the technology that they would like lecturers to make use of. Digitally integrated data projectors, tablets and classroom blogs proved to be popular choices.

It is clear, based on all the above comments that management, academic staff and students agree that there is a need for a variety of technological tools to enhance teaching, training and learning.

Theme 4

- Question 7

  Please provide any additional comments that you believe are necessary for this study

  Answer

  AL**-** To stay ahead of the game, IHS urgently needs to seriously consider a more flexible blended approach to learning. I believe this will better meet the needs of a diverse group of students and also better prepare them for a changing world.
  RC- No response.
  JO- Educators need to re-think the way in which they teach. Information is freely available so unless you can offer something in a contact lecture which is unique you will lose your audience. There are various tools which can be used to promote a blended approach but educators are moving relatively slow in our institution. In saying that, it must be acknowledged that blended approaches require research and increased preparation time. I believe time to be a huge constraint considering their current commitments.

Based on the responses and the researcher's personal involvement at the institution, the outcome of the interviews indicate the following:

Theme 2

The challenge faced with using the current technology at the IHS is that access to technology is limited, outdated and there are insufficient maintenance and security controls.

- Lecturers do not have sufficient knowledge in the use of current technology and little support is offered.

- Most of the participants believe that the current curriculum is aligned with technological advancements in the hospitality industry, but this needs to be updated and better integrated.
- Subjects should not be added to the curriculum just to meet industry requirements. However, the current subjects should be better integrated with the use of technology so as to comply with industry requirements in preparing IHS students for work placement and possible careers.

Theme 3

- Insufficient technology is provided by IHS to enhance the teaching, training and learning of students.
- There is a need to incorporate tools and techniques and the types include podcasts, electronic portfolios, interactive whiteboards, electronic books and Moodle learning platforms

Theme 4

- A more flexible and blended approach to learning needs to be researched and adopted.

The IHS wants to position itself as the leading private hotel school in Africa, and certainly in southern Africa. If the IHS wishes to do so then consideration needs to take into account the use of technology in the teaching, training and learning function. Section 2.4 of Chapter 2 discusses African trends in ICT and ODL. The researcher discussed literature relating to four areas in Africa namely SADC, Nigeria, Kenya and South Africa. Under section 2.4.1 the researcher concluded that there is still much work to be done in the SADC region with regards to ICT and ODL. Nigeria has a National Open University (discussed under section 2.4.4) however the university possesses challenges with regards to ICT and ODL due to infrastructure and power generation problems in Nigeria. Kenya is in the process of developing ICT and ODL as discussed under section 2.4.3. Based on the review of the literature the researcher agrees that there is a need at IHS to improve the technological tools and techniques in the teaching, training and learning function if it wishes to position itself as Africa's leading Hotel School. Currently systems are being developed as discussed in the focus groups, and needs have been highlighted as discussed in the academic staff and student questionnaires and interview sections.

The researcher has analysed the questionnaires, focus groups and management interviews and as an employee at the IHS, the researcher would like to state the following:

In Chapter Two under section 2.5 the researcher discussed the role of technology in higher education and the current ICT and ODL of various higher learning institutions. Stellenbosch University (section 2.5.2.1) has a Division of Telematics Services. The Telematics Services system is based on a combination of satellite, cellphone (SMS protocol), smart card and web-based technology, and consists of an on-campus studio and twenty remote learning centres situated all over South Africa and Namibia. Together, these create a virtual learning environment to support synchronous and asynchronous education opportunities for postgraduate students spread across a widely dispersed geographical area. The Division has a state-of-the-art broadcast studio with formal and informal sets that can accommodate up to five presenters. The modern television and Chroma-key equipment make it possible to broadcast live interactive presentations complemented by computer applications (Park & van der Merwe, 2010:1).

The Division of Telematics, together with academic departments, serves almost 1 600 postgraduate students with approximately 400 hours broadcast in 2007 from the Stellenbosch studio to 28 classrooms all over the country (Matieland, 2010:1). The postgraduate students who are in classrooms all over the country can see the lecturer on a television screen, and can also communicate with the lecturer verbally. The students in classrooms all over the country can hear the dialogue and participate in the conversation. This technology supports interaction, bridges distances, and contributes towards high quality teaching and learning (Park & van der Merwe (2010:1).

Under section 2.5.2.2, initiatives at the University of Cape Town (UCT) are discussed and the 2007 Shuttlworth Foundation research project is discussed in terms of its opportunities in digital media and open dissemination models. Many of the educational resources discussed range from individual images, audio podcasts, videos and PowerPoint presentations to intertwined Web pages. A directory was created that allows academics the functionality to add materials to the directory independently. Images can best be hosted on websites in the Cloud, such as Flickr, to take advantage of tagging, linking and geo-tagging facilities.

Section 2.5.2.3 discusses the initiatives at UNISA and these include a world-class online library, and UNISA is also the leader in terms of ICT and ODL in higher education in South Africa. In section 2.5.2.4 a brief consideration of the technological advances at the North-West University was given, followed in section 2.5.2.5 by the current situation at the IHS.

Based on the above discussion there is much to be done at the IHS in terms of the role of technology to enhance teaching, training and learning. The current technology is, in fact, out -dated and insufficient as stated in the academic and student questionnaires, focus groups

and interviews. None of the systems used at the IHS compare with the systems in use at the higher education institutions referenced above, mentioned in the literature of Chapter two. The current curriculum needs to be reviewed and updated to meet hospitality requirements. Tools are needed by both academic staff and students to improve teaching, training and learning.

The data obtained and discussed in this Chapter is summarised in Chapter Five.

4.8 Summary

This Chapter presented and discussed the data obtained for the research. Two sets of questionnaires are analysed, one for academic/academic support staff and one for students. Each question was discussed and highlighted the rationale behind the question, and a pictorial representation and a discussion of the results were given. The analysis of the student and academic staff questionnaires showed that both sets of participants wanted to use technology in teaching and learning as they believed that there was a need for this. The use of tablets and interactive whiteboards were popular technological choices for teaching and learning by both the academic staff and student participants.

The data obtained from the focus group were analysed and discussed. Growth of ICT, online courses, and digital technology pathways and future trends were considered. It was clear that online student-enrolments across all courses is rapidly increasing based on the data obtained from the focus groups and that there would be a need for an improvement of staff skills and technology.

Presentation of data obtained from interviews held with the Dean show that the role of technology in teaching, training and learning was not seen as a priority as yet and therefore no strategic plans or budget had been put in place for this. Interviews with managing principals and vice-principals highlighted a need for updated technology and improved skills in teaching and learning. It was, however, clear that all participants mentioned in this Chapter believed that the current curriculum at IHS was in line with the technological requirements of the hospitality industry.

The data presented in this Chapter was consistent with literature discussed in Chapter Two. The major link of this study data to the literature reviewed is the following:

- Online learning: In Chapter Two the researcher reviewed literature stating that online learning was the emerging and growing trend in education, specifically that of higher

education. This trend was discussed as a global phenomenon in education as it was used and discussed in international and local education spheres (section 2.1). This notion was supported by the data represented in this Chapter, specifically with regards to the focus group Themes two and three, which discussed the growth and implementation of online learning. It did, however, contradict the data represented in the questionnaires as both academic staff and students indicated that they preferred face-to-face interaction in learning. This then leads to a further discussion, or possible future research topic. However, the data did show that education needed to evolve, as both students and academic staff want to use technology to better teaching and learning. This statement is consistent with all literature discussed in Chapter Two and referred to in this Chapter under section 4.7.

The next Chapter provides an in-depth summary of the research, as well as conclusions based on the study findings. The researcher will also present feasible recommendations and further researcher options.

CHAPTER FIVE
CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this final Chapter of the dissertation the research problem, aim and study objectives are briefly noted, and a summary of the study is provided. Conclusions are offered and recommendations for further research are made, based on the findings of this study.

5.2 Problem statement

The researcher had observed a trend by students at the IHS to prefer the internet to source information while studying, rather than spending time in a classroom being taught the set curriculum in the present format. Based on observations of how students chose to learn, the researcher also deduced that there needed to be a shift from traditional teaching and learning methods, in order to accommodate the current learning needs of the IHS students. The problem statement identified in section 1.2 is that the role of technology does have to be considered in the teaching, training and learning in hospitality studies but is questionable whether this is so at all the three campuses of The International Hotel School.

It was assumed at the commencement of this study that there is a positive relationship between using technology for teaching, training and learning in hospitality studies, considering previous studies on ICT at the IHS, and the lecturing methods of the lecturers, at the International Hotel School.

5.3 Purpose of the study

As discussed in Chapter One, the study focused on the three campuses of The International Hotel School in South Africa, namely Cape Town in the Western Cape, Durban in Kwazulu Natal, and the Sandton campus in Gauteng. The need for the study was decided following the trend observed by the researcher concerning student preferences for learning, and after a pilot study in 2012, conducted at The IHS on the role of technology in hospitality studies,which revealed a desire by students for the use of more technology in their programmes. This pilot study followed an inconclusive survey done in 2008 on first-year students' expectations of ICT at the IHS. The researcher was not involved in either project. This study, therefore, expanded on the pilot study, but also focused the research on the role of technology in teaching, training and learning in hospitality studies on all campuses of the IHS. Unfortunately, a major limitation experienced during the study was that no students at the Sandton and Durban campuses responded to the request for information (despite encouragement by campus principals), and very few academic staff responded. This limitation was addressed in section 3.9. The hospitality studies department was used for this

research because of the researcher's background knowledge of hospitality studies, and because the impacts of the study will have an effect on the current job performed by the researcher, namely lecturing hospitality studies.

5.4 Summary of the study

This research was conducted in the form of a case study in hospitality studies at a private higher education institution. It is referred to as a case study because it is a research and analysis of the management, academic staff and students' perception to the role of teaching, training and learning done over an 18 month period at the IHS. The researcher briefly explained in section 2.5.2 what four other higher educational institutions were doing, globally and locally, and how to align these methods to improve the teaching and learning in hospitality studies at the IHS. Different types of information and communication technologies that could enhance the learning processes were considered. These different technologies, as well as countries and institutions using them, were discussed in Chapter Two.

A multi-strategy, blended research methodology approach, was employed to conduct the research, and is discussed in section 3.2 in Chapter Three. Quantitative research, in the form of survey questionnaires sent to academic staff, academic administrative support and students of the three campuses of The IHS, was undertaken. Qualitative research was also conducted through focus group discussions with 65 staff of The International Hotel School, as well as interviews conducted with the Dean, Managing Principals, and Vice-Principals of the three campuses of The International Hotel School. The focus group meetings, held on 29 September 2013 at the Annual General Conference of The International Hotel School, centred on the role of Information and Communication Technologies (ICT) for teaching, training and learning, and was led and moderated by the Managing Principal at the On-line Campus of the IHS. The data collected from these actions are analysed and presented in Chapter Four.

5.5 Conclusions

The findings of the study were analysed and discussed according to the questionnaire data, focus groups and interviews, and are summarised below:

5.5.1 Academic staff questionnaire

The main study objectives, as discussed in section 1.4, was to discuss the use of technology in hospitality studies at The International Hotel School and establish the impact of teaching, training and learning using technology on the current hospitality curriculum as well as possible long term initiatives within this field at the IHS. Specifically, the study sought to

determine how lecturers and students experience the role of learning technologies in a specific study field. The supporting objectives were:

- To establish lecturer and student views on the current use of technology teaching and learning in hospitality studies at the IHS.
- To establish to what extent the use of technology impacts the current hospitality study curriculum.
- To establish whether the use of technology at the IHS assists student's learning in hospitality studies.
- To establish whether advancements in technology in the hospitality industry are met in the hospitality studies at the IHS.
- To establish whether the role of current and new technology will impact the teaching by the staff, and the learning of the students in hospitality studies at the IHS.

Sixty five academic staff (lecturers and academic support staff) were invited to complete the questionnaires but only 17 of these chose to do so, which could suggest that the data collected could be contaminated and not totally reliable. This problem was referred to in section 3.9. The majority of participants were from the IHS's Cape Town campus, where respondents felt that the courses most likely to benefit from improved technological teaching, training and learning methods are the Diploma in Hospitality Management, and the Christina Martin Culinary Arts programmes. Although the questionnaire was aimed primarily at lecturers, a total of 47.1% of all the academic and academic support staff chose to participate. This strongly confirms that the role of technology in teaching, training and learning impacts all levels of staff at The International Hotel School. The academic support-staff is influenced by ICT at the IHS because they explain the study programmes to new and potential students during enrolment. They also report on the progress of students during their period of study at the IHS.

From the limited the data collected, it would appear that technology plays an important role in teaching, training and learning at the IHS. The majority of the participants prefer interactive classrooms as a teaching method, however, accept that classroom-based teaching and training still play an important role and is likely to continue until the IHS management decide on a revised role for ICT at the institution. The results show that, although there is a need for an updated role for technology in teaching, training and learning, lecturers still prefer to accept assignments as hardcopies. This could be due to a lack of security, the necessity of hard copies in the assessment and moderation processes in place at The International Hotel

School, as all work done by students needs to be verified, moderated and retained for control purposes and the ease of feedback on a hard copy.

Face-to-face communication is the preferred method of communication by lecturers, but the questionnaire data showed that it would be advantageous for The International Hotel School to invest in new and different teaching tools, specifically tablets and interactive whiteboards, the internet and online e-books.

Participants felt that the current technology in use at the IHS is insufficient, and highlight areas of concern to be Wi-Fi systems that are often down, computer laboratories being unavailable to students or unattended for security reasons, and students not being provided with laptops with the latest technology capabilities. The data clearly indicates the need to upgrade or change the current technology being used at The International Hotel School. However, half of the participants felt that the technology being used still met the service requirements of the hospitality industry, where students are required to undergo in-service training.

5.5.2 Student questionnaire

The study objective for the student questionnaire is discussed in section 5.5.1. All students across all three campuses were invited to participate in the survey. The link, using Survey Monkey, was sent to approximately 150 students, but only 20 chose to participate. The poor response rate was discussed in section 3.9. The findings therefore represent only 13% of the student population, which means that the results could be seen as doubtful. Unfortunately, no students at the Durban or Sandton campuses responded to the requests for information, and the researcher therefore understands that an element of bias could be interpreted in the results. All comments relate only to the Diploma in Hospitality Management and Christina Martin Culinary Arts courses, as participants are studying one or both of these qualifications.

Based on the results, the students' understanding of the role and use of technology within the context of this study was that it made a significant contribution to learning for the Cape Town campus. If the results are significant for Cape Town, and supported during the focus group discussions, then it can therefore be deduced that appropriate technology is in fact needed at The International Hotel School, both at the Cape Town campus, (where 55% of participants prefer classroom-based learning, 45% prefer interactive classrooms, and 30% prefer online learning and in-service training) and at the Sandton and Durban campuses. These results were similar to the results obtained from the academic staff members who participated in the study. This is discussed in section 5.5.1 where the academic staff stated that there is a need for an updated role for technology in teaching, training and learning, but

that classroom-based teaching and training still plays an important role in the academic function.

Data suggests that students (currently 2013) preferred studying from textbooks and hand-outs, and the majority of students (75%) preferred to submit their class work and assignments as an e-mail copy. Face-to-face communication was still the preferred method by students, and this result was consistent with academic staff preferences, while tablets were the advanced technology choice of both sets of participants. This is linked to section 5.5.1 where academic staff stated that face-to-face communication is the preferred method of communication by lecturers, and that they still prefer to accept assignments as hardcopies.

The results also suggested that there was a need for technology in learning, as virtual classrooms and e-books proved to be popular choices. More than half of the students felt that the current curriculum prepared them adequately for the hospitality industry, while half of the students were of the opinion that the current technology provided by the IHS was aligned with the curriculum. It can therefore be deduced that participants were of the opinion that the current technology provided by the institution was aligned with industry requirements in that the technology taught at the hotel school, such as hospitality industry property management systems and ordering software, is the same as that used in the hospitality industry.

5.5.3 Findings of the focus groups

The specific study objective for this section is discussed under section 5.5.1.The discussions of the academic staff focus groups were on the use of Information and Communication Technologies (ICT) for teaching, training and learning. Because of the importance attached to the views of those academic staff that cooperated, the findings are treated separately from the questionnaire results. The findings are summarised as follows:

- Digital technology has shown a growth from 68 enrolments in 2011 to 654 enrollments in 2013 and it is projected that by 2016, The International Hotel School will have 2 700 digital technology student enrolments, as stated by Johann Oosthuizen during the focus group meetings discussed in section 4.6. The implication of this is that the institution will need to ensure that sufficient and appropriate digital technology techniques/tools are in place for the hospitality programmes. The type of training needed was discussed in section 4.6 and included courses centered on the use of MOOCs. The course content should include teaching methodologies, how to set up and teach in an online classroom, how to assess work online, and that academic staff have sufficient knowledge to prepare and conduct digital technology,

and whether the course designers, support staff and back of house staff are competent in this area.

- Digital technology was initially only used for the traineeship (apprenticeship) and distance learning programmes but will in the future be include the Diploma and Higher Certificate courses. Students may also enrol to do single subjects or specialisation courses online. This means that there will be a reduction in face-to-face teaching and training. The implications of these still needs to be established as this process only started in 2013.

Based on the growth of online learning as discussed in section 4.6 the results showed that The International Hotel School could introduce its digital technology programmes to other African countries; currently the institution is investigating possible growth in Zimbabwe, Botswana, Zambia and Namibia. The International Hotel School is also looking at introducing the Modular Objective Orientated Dynamic Learning environment (Moodle). This is a digital technology software package which assists in creating online learning courses that are both interactive and collaborative. The growth will mean a need for a higher staff complement of trained lecturers and advanced e-learning systems and software; the introduction of both will however take time.

5.5.4 Interview findings

The specific objectives for the interview are discussed in section 5.5.1.The interviews with the senior management of The IHS are considered too important and diverse to have been included with the questionnaire findings. The interview with the Dean of The International Hotel School emphasised the fact that research into the role of technology in the teaching and training for learning by students is needed at the institution as there is insufficient information regarding this.

The interviews with the managing- and vice-principals that chose to participate in the study highlighted that there was:

- Insufficient relevant technology provided by The IHS to enhance teaching and training of, and learning by, students.
- A need to incorporate relevant technology, and the types of technologies suggested included podcasts, electronic portfolios, interactive whiteboards, electronic books and Moodle learning platforms.
- Limited access to technology, outdated technology, and insufficient maintenance and security controls at all three IHS campuses.

- Insufficient knowledge in the role and use of technology by academic staff, and little support for staff in this regard is offered.
- A belief by most of the senior management-participants that the current curriculum was aligned with technological advancements in the hospitality industry, but this needed to be updated and better integrated into current programmes.
- A need for subjects not to be added to the curriculum for the sake of meeting industry requirements. However, the current subjects should be better integrated with the use of technology.
- A need to research and adopt a more flexible and blended approach to learning.

5.6 Recommendations

Based on the findings of this study, the researcher would like to recommend the following:

A further, more detailed investigation needs to be conducted into the current role and improved use of appropriate technology in teaching, training and learning, specifically relating to the Diploma in Hospitality Management and the Christina Martin Culinary Arts programmes. Because the participation by both students and academic staff in the survey was disappointingly low, the results cannot be unreservedly accepted as representative of the views of staff and students at The IHS. This recommendation is made to enhance the current courses and thereby improve teaching, training and learning. The impact thereof will assist with positioning the IHS as Africa's leading private hotel school. It would also mean an increase in student enrolments which directly affects profit margins.

A strategy should be investigated, developed and implemented to allow for the use of tablets, interactive whiteboards and digitally integrated data projectors at the IHS, for the benefit of both lecturers and students and the integration of the use of tablets, interactive whiteboards and digitally integrated data projectors in the teaching and learning of hospitality studies at the IHS. These recommendations are based on the responses to the academic and student questionnaires discussed in Chapter 4. Both academic staff and students requested these relevant technologies as they believed that it would greatly improve their experience of the teaching, training and learning function at the IHS. These recommendations have a cost implication which will need to be investigated, but the long term benefits could prove to be beneficial.

An investigation of the internal processes with regards to assessments, moderation and verification should be done in order to form the basis for planning for student work to be submitted digitally, in contrast to the current practice of submitting only hard copies, and a

new method of assessing, moderating and verifying work online for hospitality studies must be investigated, benchmarked and implemented. If the current Diploma and Higher Certificate courses are to be adapted and developed as digital learning then a clear method of assessing, moderating and verifying the work needs to be established. This needs to take into account the requirements of the CHE for these courses. Further training of lectures may be needed for this and resources, such as usage of internet and scanning facilities for students to upload their work, will need to be sourced. This will have cost implications and a budget will need to be set to accommodate this.

A definite decision should be taken to provide more information, training and support for lecturers with regards to the role and use of technology in teaching, training and learning. This is based on the discussions of the academic staff questionnaires, focus groups and interviews presented in Chapter Four. In these discussions, specifically the interview with the Dean and management, it was deduced that more information and support was needed (section 4.7). Should no information, training or support be given then the researcher is of the opinion that the implementation of relevant technology tools for teaching, training and learning will not be successful.

A study must be undertaken to establish how best to create and use online learning notes and guides for IHS students in hospitality studies. The academic staff and student questionnaires, discussed in Chapter Four, noted a desire for e-books. Currently textbooks are the main resource for the courses offered. Should the Diploma and Higher Certificate courses migrate to an online system, support in the form of learning notes and guides will need to be developed to assist the student. This could be a time-consuming and expensive exercise, but is necessary to enhance online programmes in teaching, training and learning at the IHS. Another issue that is expensive , time consuming and needed is the need for developers to assist with preparing programmes or work to be able to offer these at a high standard not just a ‘cut and paste’ job placed onto Blackboard.

To conclude, further research topics developed from the conclusions and recommendations of this study could address sharing ideas to promote the role of technology in the teaching, training and learning at the IHS. This could be done as a workshop at the AGC held by the IHS. Ideas for the training of lecturers, in the training aspects of the IHS programmes, could be developed and implemented. This would be particularly beneficial to new staff members and/or those in need of support. The IHS could look into developing and implementing an incentive plan to ensure that the company stimulates lecturers to improve their teaching qualifications and experience. Research could be conducted to address methods of introducing innovative pedagogy to further enhance teaching, training and learning thereby

assisting the IHS in positioning itself as Africa's leading private hotel school. With new technology being implemented and used at the IHS, an improved system of measuring and improving student performance could also be investigated.

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APPENDICES

Appendix A: Academic Staff Questionnaire

Research questionnaire for lecturers
The role of technology in the teaching, training and learning of hospitality students

Please note that by completing this questionnaire you are, by implication, consenting to take part in this survey. The points noted in the covering letter of this survey of voluntary participation, confidentiality and the right to withdraw remain.

Please complete this questionnaire by placing an **x** in the box next to your answer

1 At which campus are you currently employed?

IHS –Cape Town		1
IHS - Durban		2
IHS - Sandton		3

2 Which course(s) are you currently teaching?

IHS – Diploma: Hospitality Management		1
IHS – Diploma: Food and Beverage Management		2
IHS – Hotel Operations Programme		3
IHS – Christina Martin Culinary Arts		4
IHS – Traineeship : Hospitality Management		5
IHS – Traineeship : Professional Cookery		6

3 What is your current position?

Junior lecturer		1
Lecturer		2
Senior lecturer		3
HOD / Subject coordinator		4

4 What is your age group?

22 – 26yrs.		1
27 – 31 yrs.		2
32 - 36 yrs.		3
37 – 41 yrs.		4
42 – 46 yrs.		5
46 yrs. and		6

older		

5 What is your gender?

Male		1
Female		2

6. Please indicate your highest qualification

Doctorate		1
Masters		2
Hons. Degree		3
Degree		4
Diploma		5
Other		6

If you have selected 'other' please specify your highest qualification

_____

7. What is your understanding of technology?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7.1	Technology can (i)create and (ii)adapt high quality teaching and learning materials					
7.2	Technology can be harnessed to develop competence in producing educational materials					
7.3	Technology enables students to be active participants in the educational processes					
7.4	Technology makes a significant contribution to generating more effective learning environments					

8 What is your preferred method of teaching?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
8.1	Classroom based					
8.2	Online					
8.3	In service training					
8.4	Interactive classrooms					
8.5	Other					

If you have selected 'other' please explain your preferred method of teaching

_____

9 How often do you make use of technology as a means of teaching?

Everyday		1
More than 3 times a week		2
Less than 3 times a week		3
Never		4

10 What is you preferred method of accepting class work and assignments?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
10.1	Accepting work as hard copies					
10.2	Accepting work by email					
10.3	Accepting work posted on blackboard					
10.4	Other					

If you have selected 'other' please explain

_____

11 What is your preferred method of communicating with your students?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
11.1	Face-to-face communication with my students					
11.2	Communicating with my students via email.					
11.3	Communicating via text messages					
11.4	Using What's app when communicating with students					
11.5	Other					

If you have selected 'other' please explain.

_____

12 What type of advanced teaching methods would you like to use.

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
12.1	To use iPads					
12.2	To make use of digitally integrated data projector					
12.3	To make use of interactive whiteboards					
12.4	Using classroom blogs					
12.5	To make use of podcasts					
12.6	Other					

If you have selected 'other' please explain.

_____

13 How would you prefer to access learning resources?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13.1	Via iPads					
13.2	Via e-mails					
13.3	Make use of textbooks					
13.4	Via the internet					
13.5	Online e-books					
13.5	Other					

If you have selected 'other' please explain.

_____

14 Do you feel that sufficient technology is provided by your institution to assist the students?

Yes		1
No		2

Please motivate your response

_____

15 What type of technology do you feel will be beneficial to the courses that you teach?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
15.1	iPads					
15.2	Digitally integrated data projector					
15.3	Interactive whiteboards					
15.4	Classroom blogs					
15.5	Podcasts					
15.6	Other					

If you have selected ‘other’ then please explain.

_____

16 Do you feel that the technology provided by your institution is aligned with industry requirements?

Yes		1
No		2

Please motivate your response

_____

17 What type of technology would you like to make use of when lecturing or preparing lesson plans?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
17.1	iPads					
17.2	Interactive whiteboards					
17.3	Virtual classrooms					
17.4	Podcasts					
17.5	Other					

If you have selected ‘other’ then please explain.

_____

18 What type of advanced teaching methods would you like to include in your lectures?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
18.1	New pedagogical methods via digital					

	technology					
18.2	Virtual classrooms					
18.3	Massive open online courses (MOOCs)					
18.4	Classroom blogs					
18.5	Podcasts					
18.6	Other					

If you have selected 'other' please explain.

_____

19 Do you feel that the curriculum complies with/to the following statements:

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
19.1	Incorporates the latest technological advances in teaching					
19.2	Prepares your students adequately for industry					
19.3	Is in line with the demands of industry					
19.4	Incorporates the latest technology of communication					
19.5	Is in line with the technological lecturing methods					
19.6	Other					

If you have selected 'other' please explain.

_____

20 Do you feel that the technology provided for you by your institution is aligned with the curriculum?

Yes		1

No		2

Please motivate your response

_____

21 Please provide any further suggestions relevant this survey

_____

THANK YOU FOR YOUR ASSISTANCE

APPENDIX B: Student Questionnaire

Research questionnaire
The role of technology in the teaching of, and training and learning for, hospitality students

Please note that by completing this questionnaire you are, by implication, consenting to take part in this survey. The points noted in the covering letter of this survey of voluntary participation, confidentiality and the right to withdraw remain.

Please complete this questionnaire by placing an x in the box next to your answer

1 At which campus are you currently studying?

IHS –Cape Town		1
IHS - Durban		2
IHS - Sandton		3

2 Which course are you currently enrolled for?

IHS – Diploma: Hospitality Management		1
IHS – Diploma: Food and Beverage Management		2
IHS – Hotel Operations Programme		3
IHS – Christina Martin Culinary Arts		4
IHS –Traineeship: Hospitality Management		5
IHS–Traineeship: Professional Cookery		6

3 What is your age group?

18 – 23yrs		1
24 – 29yrs		2
30– 35 yrs		3
36 yrs or older		4

4 What is your gender?

Male		1
Female		2

5 What is your understanding of technology?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5.1	Technology can create and adapt high quality teaching and learning materials					
5.2	Technology can be harnessed to develop competence in producing educational materials					
5.3	Technology enables students to be active participants in the educational processes					
5.4	Technology makes a significant contribution to generating more effective learning environments					

6 What is your preferred method of learning?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6.1	Classroom based					
6.2	Online					
6.3	In service training					
6.4	Interactive classrooms					
6.5	Other					

If you have selected ‘other’ please explain your preferred method of learning

_____

7 How often do you make use of technology as a means of studying?

Everyday		1
More than 3 times a week		2
Less than 3 times a week		3
Never		4

8 What is your preferred method of studying?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
8.1	Studying from a textbook					
8.2	Studying from online notes					
8.3	Studying from hand out notes from the lecturers					
8.4	Notes posted on blackboard by the lecturers					

9 What is you preferred method of submitting class work and assignments?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9.1	Submitting work as hard copies (printed copies)					
9.2	Submitting work by sending an email copy					
9.3	Submitting work by posting it on blackboard to be read by the lecturer					
9.4	Other					

Please provide a reason/s for you answer if you have selected ‘other’.

_____

10 What is your preferred method of communicating with your lecturers?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
10.1	Face-to-face communication with my lecturers					
10.2	Communicating with my lecturers via email.					
10.3	Communicating via text messages					
10.4	Using What’s app when communicating with lecturers					

10.5	Other					

If you have selected 'other' please specify your preferred method of communicating with your lecturers

_____

11 What advanced teaching methods would you like to see being utilized?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
11.1	To use iPads					
11. 2	To make use of digitally integrated data projector					
11.3	To make use of interactive whiteboards					
11.4	Using classroom blogs					
11.5	To make use of podcasts					
11.6	Other					

If you have selected 'other' please explain the advanced teaching method you would like to see utilized.

_____

12 How would you prefer to access learning resources?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
12.1	Via iPads					
12.2	Via e-mails					
12.3	Via hand out of notes in the classroom					
12.4	Via postings on blackboard					
12.5	Other					

If you have selected 'other' please explain your preferred method of access to resources

_____

13 Do you feel that sufficient technology is provided by your institution to assist you with your learning?

Yes		1
No		2

Please motivate your response

_____

14 What type of technology do you feel will be beneficial for your studies?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
14.1	iPads					
14.2	Digitally integrated data projector					
14.3	Interactive whiteboards					
14.4	Classroom blogs					
14.5	Podcasts					
14.6	Other					

If you have selected 'other' please explain the technology you feel beneficial to your studies.

_____

15 In your experience do you feel that the technology provided by your institution is aligned with industry requirements?

Yes		1
No		2

Please motivate your response

_____

16 What type of technology would you like your lecturers to make use of?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
16.1	iPads					
16.2	Digitally integrated data projectors					
16.3	Interactive whiteboards					
16.4	Classroom blogs					
16.5	Podcasts					
16.6	Other					

If you have selected 'other' please specify the technology

_____

17 What advanced teaching method(s) is (are) needed in your field of study?

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
17.1	Learning via e-books					
17.2	Virtual classrooms					
17.3	Massive open online courses (MOOCs)					
17.4	Classroom blogs					
17.5	Podcasts					
17.6	Other					

If you have selected 'other' please specify the technology you wish to use.

_____

18 Do you feel that the curriculum complies with the following statements?:

	Please cross the statement(s) most appropriate to your views/attitudes to technology	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
18.1	Incorporates the latest technological advances in teaching					

18.2	Prepares you adequately for industry					
18.3	Is in line with the demands of industry					
18.4	Incorporates the latest technology of communication					
18.5	Is in line with the technological study methods					
18.6	Other					

If you crossed ‘other’ please explain your reasons.

---

19 In your opinion do you feel that the technology provided for you by your institution is aligned with your curriculum?

Yes		1
No		2

Please motivate your response

---

20 Please provide any further suggestions to assist with this survey

---

THANK YOU FOR YOUR ASSISTANCE

APPENDIX C: Open ended questions for focus group discussions

Question 1
What growths do you foresee with regards to digital learning at the IHS?

Question 2
What implications does the growth of digital learning pose to both academic staff and lecturers' at the IHS?

Question 3
Please provide information regarding the impacts of digital technology with regards to all courses currently being taught at the IHS.

Question 4
Please provide information regarding future strategic plans at the IHS with regards to technology in teaching, training and learning.

APPENDIX D: Open ended questions for the interviews

Interview with the Dean

Question 1
What are your views on providing sufficient technology by IHS to enhance teaching, training and learning of our students?

Question 2
What are your thoughts on including or using technology in teaching and training for learning of our students in the IHS? Please also explain these goals.

Question 3
Please explain if a budget has been put in place for the use of technology in the teaching and training for learning of hospitality students.

Interviews with managing principals and vice principals

Question 1
Please explain the challenges IHS is facing when using the current teachnology, training and learning?

Question 2
Please explain your views that lecturers have sufficient knowledge in the use of teaching technologies? What support is offered to lecturers?

Question 3
Please explain your interpretation that the current curriculum is aligned with technological advancements in the hospitality industry?

Question 4
Please explain in your experience which subjects should be added to our curriculum to ensure that our students meet the hospitality industry requirements? (For example the addition of teaching of new property management systems such as Micros, use of smartphones in front office, teaching of molecular mixology and gastronomy.)

Question 5
Do you feel that sufficient technology is provided by IHS to enhance the teaching, training and learning of our students?

Appendix E: Gatekeeper Letter

11 April 2013

To Whom It May Concern:

This letter serves to confirm that I, Carolyn McDougall, in my capacity as Dean of The International Hotel School, grant permission to Ms Joanne Wyngaard, a registered student of the Cape University of Technology to conduct research among the faculty members and students of the school. I have been informed that this research is part of the course requirements of a Master of Technology in Hospitality Management. The topic of Ms Wyngaard's research is *"The role of technology in the teaching, training and learning of hospitality students" and* the intended research instruments are questionnaires and interviews.

Permission is granted on the understanding that participation in the research will be entirely voluntary and that participants will be free to withdraw from the research at any time without fear of negative or undesirable consequences to themselves. It must also be understood that anonymity and confidentiality must be maintained and that neither the names of those providing information nor the company they form part of will be revealed.

Yours sincerely

Carolyn McDougall

Dean

carolynmhotelschool.co.za

Appendix F: Ethical clearance certificate

Appendix G: Editing letter

I have edited and proofread the dissertation:

The role of technology in the teaching and training for learning of hospitality students

By Joanne Wyngaard

Dissertation submitted in fulfilment of the requirements for the degree Master of Technology: Tourism and Hospitality Management Faculty of Business at the Cape Peninsula University of Technology.

Rolf Proske

Research librarian (retired)

- Proofreading
- Editing
- bibliographic searching and citations

Managed CPUT Research Information Support Centre (RISC) 2006-2013
RISC provided information support and information dissemination for postgraduate students and academic staff engaged in research.

Contact:
proskeh@gmail.com

25/02/2015