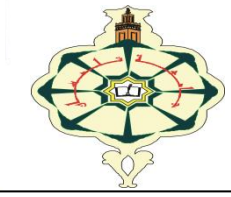
PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA
MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH

ABOU BEKR BELKAID UNIVERSITY – TLEMCEN
FACULTY OF ARTS AND LANGUAGES
DEPARTMENT OF FOREIGN LANGUAGES
SECTION OF ENGLISH



TITLE: Using Video Conferences for ESP Postgraduate Students: An Example of Distance Learning At the University Of Abou Bakr Belkaid- Tlemcen

Thesis submitted as a partial fulfillment of the 'Magister' degree in ESP

Thesis presented by:
Mr. Bensafa Abdelkader

supervised by:
Dr: Hamzaoui Hafida

Board of examiners:

Dr: Dendan Zoubir	MCA	(**President**)	(University Of Tlemcen)
Dr: Hamzaoui Hafida	MCA	(**Supervisor**)	(University Of Tlemcen)
Dr: Merbouh Zeouaoui	MCA	(**External Examiner**)	(University of S B A)
Dr: Serrir Ilham	MCA	(**Internal Examiner**)	(University Of Tlemcen)
Dr: Benyelless Radia	MCA	(**Internal Examiner)**	(University Of Tlemcen)

2011 – 2012

Dedication

This work is dedicated to all whom I know with a special emphasize on:

My parents who supported me during all the stages of my life from the date of birth up to now.

My brothers YOUCEF and ABDESSAMI as well as my sister YASMINA

Mr. MAHIDDINE SAID, who was, still is, and will continue to be the primary source of knowledge due to his mental and physical support

Mr. MEGUAGI SLIMAN, Miss BENABDELLAH AOUICHA, and Miss MEBITIL NAWEL for their psychological help without which I could not research the end of this work

My best friends: YOUCEF, MEROUANE, AND MOKHTAR

Acknowledgements

In the name of Allah the most Compassionate, the most Merciful

I would like to thank to my supervisor Dr Hamzaoui for her invaluable comments, pieces of advice and support. Not only her academic advice but also her friendly attitudes made me feel relax during the whole process of this research. I should also admit that the elaboration of this work has been significantly marked by her substantial guidance and research experience.

I wish to acknowledge all the staff of the English section in the department of foreign languages for their support during the realization of this work including: Pro. BENMOUSAT, Dr. BELMEKKI, Dr. MOUHADJER, Mr. BENZIAN, Dr. BAICH and I apologize for those whom I did not mention their names.

I'd like also to thank the board of examiners: Dr. MERBOUH, Dr. DENDAN, Dr. BENYELLESS, and Dr. SERRIR for devoting some of their time and having accepted reading and commenting on this thesis.

A special thank goes to the ESP postgraduate students for their collaboration and patience without which this work would have been painful.

Abstract:

Information Communication Technologies (ICT) is becoming part of our everyday life, and this fact is indisputable. It is gaining more and more ground in the worlds of business, administration and education. This is why; the objective of this thesis is to look at the role of video conferences in improving the quality and the sustainability of higher education. It will do so by investigating the potentials and effects of using internet-based desktop video conferences to improve ESP postgraduate students' language learning outcomes and examine their perception of using online video conference as an alternative to face-to face interaction. For this purpose, a case study of ESP post-graduate students in the department of foreign languages (English section) at Abou Bekr Belkaid University was undertaken. To obtain and analyze the necessary data, a combination of both qualitative and quantitative methods was used. The main results of this investigation revealed that the internet connectivity was a key factor in determining the effectiveness of video conference as an alternative to face-to-face teaching and the context where video conference determined the pedagogical benefits of this new technique. Moreover, the use of this technology necessitates a good preparation on the part of teachers and students.

Table of contents

List of Figures

List of Tables

Abbreviations and Acronyms

ICT: Information and Communication Technology
ESP: English for Specific Purposes
VC: Video Conference
UNESCO: United Nations of Education Science and Culture Organization
PISA: Program for International Students Assessment
GVC: Group of Virtual Communication or Global Virtual Classroom
CAD: Computer-Aided Design
MSN: Microsoft Network
EGP: English for Specific Purposes
ANDS: Australian National Data Service
ADSL: Asymmetric Digital subscriber Line
INT: Institution of National Telecommunication
EFA: Education For All
ELT: English Language Teaching
QDA: Qualitative Data Analysis
EFL: English as a Foreign Language
IP: Internet Protocol
Kbps: Kilobyte per Second
TD: Teacher Development
VPN Virtual Private Network Service
CANET Collaborative Automotive NETwork
NAIT National Association of Industrial Technology
CTS Common Type System *(Microsoft .NET)*

General Introduction

General Introduction

Information and communication technologies (ICT) have become commonplace entities in all aspects of life. Education is one of these aspects. Within education, ICT has begun to have a presence but the impact has not been as extensive as in other fields. Additionally, the quality of education has traditionally been associated with strong teachers having higher degrees of personal contact with learners; whereas, in today's information age, learning is no longer confined within the four walls of a classroom. The instructor armed with a textbook, is no longer the sole source of educational experience. Information resources are everywhere, often separated from the learner by time and space.

The use of ICT in education lends itself to more student-centered learning settings often this creates some tensions for some teachers and students. But with the rapid movement of the world into the information society, the role of ICT in education is becoming more and more important and its development will be continued through distance learning. It is one of the most rapidly growing fields of education which is becoming accepted and indispensable in the educational system in both developed and developing countries.

One of these technologies used is Video conferencing. It is a powerful alternative that educators can use to deliver instruction across distances. It can reduce barriers such as travel safety, costs and time that can impede trips designed for intellectual exchanges as it offers a viable means to develop a framework for addressing social and work place changing.

The above mentioned criteria motivated the researcher to undertake this research work and examine the use of video conferences in higher education as a means to enhance the quality and flexibility of the

teaching programme offered to the ESP postgraduate students at Abou Bekr Belkaid University (Tlemcen). Indeed, the University of Tlemcen has programmed a series of lectures in the field of ESP provided by many experts from the universities of La Sorbonne- Paris 3, Nantes and Le Havre. The aim was to examin how these VCs were organized, developed, upgraded and adapted to students'needs as well as whether they answered those needs with the ever increasing costs of travel (plane ticket and accommodation), and the constrain of planning a meeting with the visitor teachers in terms of time and place. The institution faces many problems which make it difficult to ensure those lectures. Consequently, the solution to bridge that gap, facilitate the meetings, and save time and money on travel and accommodations is to use video conferencing which is becoming increasingly popular.

The objective of this research work is to look at the role of video conferences in the 21st century education. It will do so by investigating the potentials and the effects of using internet-based desktop video conferences to improve ESP postgraduate students' language learning outcomes and examine their perception of using online VC as an alternative to face-to face interaction. Attention will be given to showing that the importance of ICT in general and VC in particular is context dependent.

Three research questions are formulated to guide this study:

1. How do ESP postgraduate students perceive the use of oral –video talking with experts of ESP via internet- based videoconferencing?
2. Can it be used as an alternative to face-to-face teaching to improve their knowledge and language proficiency?

3. What are the difficulties encountered during the link with those experts?

The research hypotheses that were derived are:

1. ESP postgraduate students may benefit from the use of oral-video talking with experts of ESP via internet-based video conferencing.

2. The use of video conferences as an alternative to face-to-face teaching can help a lot in promoting the knowledge and language proficiency of the ESP postgraduate students.

3. Some difficulties such as internet connectivity, the quality of sound, the quality of image, and lack of interaction may impede the appropriate use of video conferences related to.

Regarding the general layout, this work comprises four chapters:

Chapter one will review the importance of ICT in education. It will include two sections: the first one will shed some light on how ICT can expand access to higher education; the second one will give insights into the use of ICT in Algerian education, the video conferences experience, and how can video conferences be useful for ESP teaching and learning. Chapter two will review the data collection procedures undertaken to answer the research questions and test the hypotheses. This will include the research design, i.e., case study, the research methodology (a combination of qualitative and quantitative methods), instruments of data collection (semi-structured interview and participant observation), sampling, and data analysis techniques. Chapter three will present the data analysis and discuss results. This includes the procedure

of each data collection method, and the analysis of results related to the research questions and hypotheses raised. Chapter four will conclude this thesis by giving some suggestions and recommendations related to an effective use of video conferences in higher education.

Chapter One

Chapter One: The Role Of ICT In Foreign Language Teaching

1.1. Introduction

Making education and training available for all is becoming more crucial than ever. This is due to the Social, technological and economic changes witnessed in the past decades. Yet, educational systems all over the world are struggling to devote funds to reach educational opportunities for all, provide their graduates with the necessary knowledge and skills for evolving workplaces and sophisticated living environments, and have citizens ready for an on going learning process.

To meet these challenges, countries have to focus on the following tasks: 1-expanding access to education, 2-improving internal efficiency, 3-promoting the quality of teaching and learning, and4- improving system management. As a result, a linear expansion of the existing processes and methods may not be as sufficient as the fulfillment of these objectives within a reasonable time. This is why; some countries and institutions have turned to information and communication technologies (ICT) and are exploring ways ICT can help them pursuing their educational goals. Algeria is a case in point.

The first section of this chapter focuses on the potential of these technologies in enhancing access, ensuring effectiveness, quality, and management of the educational sector. The second part addresses video conferencing and how it promotes the teaching of ESP (hence for English for specific purposes). Finally, the use of ICT, video conferencing, and the teaching of ESP in Algeria are highlighted.

1.2. Expanding Access to Education through ICT

The economic developments and social justice turned attention to expanding access to education. It is true that worldwide illiteracy rates have declined in the last decades [(1)]. But it is also true that the emphasis on knowledge is now much higher than forty years ago. In the past, societies could flourish economically even when more than half of the population was illiterate, but this is no longer possible in the Information societies. To remain economically competitive and prosper in this widespread knowledge-driven economy, countries cannot fund large sectors of their population to be excluded from education, or at the lower level of the educational process.

Expanding access to education means integrating those populations who have been excluded from education for cultural or social reasons. In cultures- such as Algeria- with strict rules and traditions regarding interaction between genders, girls may be forced to leave school before puberty for a simple reason i.e. avoiding contact with male colleagues and teachers. For girls who remain in school, the rules regarding with whom they may or may not talk make it difficult to succeed and reach further degrees. One of the techniques regarding the fulfillment of this task i.e. expending access to education is the use of ICTs.

1-Across the world, from 1970 to 2000, the illiteracy rate for populations aged 15 years and older declined from 37% to 21%. In the least developed regions, illiteracy rates were cut in half in this period, from 53% to 27% (although 23 countries, mostly in sub-Saharan Africa still show illiteracy rates above 50%) (UNESCO (2000) World Education Report. The Right to Education for All throughout Life, pages 37-38, Figures 2.3 and 2.4. Paris: UNESCO Publication).

For more than a century, education has used technology to expand beyond the physical limits of schools and university campuses and reach more students. For instance, in the beginning of the last century, Australia and New Zealand used a system of itinerant teachers to educate children and youth living in sparsely inhabited territories. In 1992, 41% of higher education students in Thailand and 38% in Turkey studied at distance. The China TV University System and Anadolu University in Turkey serve more than 500,000 students each year. The United Kingdom Open University has provided education for more than 2 million individuals since it was established about 30 years ago (Daniel, 1996; Harry, 1999). Generally, distance learning institutions use a mix of technologies starting with less expensive technologies such as printed material, videos, CD-ROMs, e-mail, and the Internet, then moving to faster and more powerful resources such as videoconferencing as the need for expansion increases.

Additionally, technology can promote alternatives for educating women that are more cost effective than all-female schools without disrupting cultural traditions. Television and radio broadcasts or Internet-based technologies enable girls to continue their studies from home or small learning centers. To conclude this part, one can say that technology functions as a neutral agent without gender or cultural allegiances, thereby facilitating communication.

The possibility of ICTs to overcome barriers in communication was clearly illustrated in an essay exercised in a co-educational class at the African Nazarene University that required the use of computers. Faced with the challenge of learning a new technology, the students forgot tribal rivalries and gender differences to exchange information and work side by side (John, M.T., & John, F. I. 1998).

1.2.1. Promoting the Efficiency of language teaching

There is no one best way to teach foreign language, nor a single optimal set of teaching materials. This is because teachers will vary both in how they teach and what they need and want to teach. It follows therefore, that there is no single 'magic bullet' that can be offered by ICT to support language teaching across all ages. However, looking at the current provision of language teaching, and at the future languages strategy, there are a number of key roles that ICT have the potential to promote Language teaching: first, it can increase motivation to learn languages. This can be done through enabling language learning across institutions and outside formal educational contexts. Second, it offers opportunities for meaningful practice of language in authentic contexts. This may result in offering opportunities for maximal progress in language acquisition through responsive diagnostic and feedback systems. The third role is that ICT helps providing innovative language engineering devices which provide just-in-time support in language use. Finally, it enables information and resource sharing between language teachers.

The above mentioned aspects of ICT respond to three key issues in language teaching: first, the need to ensure that teaching language is seen as relevant and enjoyable to learners; second, the need to offer more opportunities for learners to practice language; and third, the need to support language teachers, particularly at primary level, in rural areas or teachers working on less popular languages.

1.2.2. Promoting Student-Centred Curricula

The Industrial Revolution has affected all the political, economic, social, and educational domains. In terms of education, the traditional systems have a tendency to rely on curricula developed at the beginning of that era. Now, those systems do not represent a necessity in the job market. They also offer little in the way of motivation for bright students. Eventually, a few unexpected students will be able to pass over a grade, but going faster through the system is not encouraged, and early graduates may find obstacles when they attempt to gain access to the next level.

For low-income students i.e. those having less academic support and leaving in poor and remote areas, schools offer the least prepared teachers. This is due to the fact that the wealthier schools attract the best ones. This is why when the need to work conflicts with schools' requirements, the student sees no reason to stay in school. As a result, these systems (traditional ones) are the primary responsible for social inequalities, lose of many excellent students, and increase the costs of education through high dropout rates and grade retention, and pass on to employers or other systems the costs of retraining their graduates.

This is why ICT have the potential to bring the products of the most excellent teachers to the classroom wherever in the world. It can speed the path toward a degree and expand their learning options through self-study for self-motivated and disciplined students. Those students can find courses on the Internet and choose their own programme of study and schedules. In virtual schools, Students can also take extra online

courses to graduate in advance or accomplish specific interests and curiosity. On the other hand, for those who need to have equilibrium between their studies, work and family obligations, full or part-time workers and parents of small children, this flexibility may be most cost-effective for them.

When it comes to distance learning projects, management is not a task without difficulty, and, in many cases, local regulations function as obstacles to innovations. Consequently, the demand for more and specialized education is encouraging new arrangements that rely on ICT in establishing communication networks among partner institutions and facilitating student-centred, rather than program-centred organizations.

1.2.3. Improving the Quality of Learning

Defining the concept of "quality learning" in a little more details may result in considerable disagreement among scholars. However it is generally accepted that, for learning to occur, the learners must be motivated (which is a key factor in successful learning), basic concepts must be understood and knowledge must be advanced through more complex, higher-order thinking skill tasks. The use of ICT to enhance the quality of learning diversifies the systems of representation through the use of various types of stimuli including images, sound, videos and animations. It also addresses the needs of diverse learning styles [(2)].

2-A learning style is a student's consistent way of responding to and using stimuli in the context of learning. Keefe (1979) defines learning styles as the "composite of characteristic cognitive, affective, and physiological factors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment."

The traditional model of learning has been challenged by the emerging filed of research on brain physiology and cognitive psychology. Physiologist and psychologists argue that the mastery of advances and classroom organizations will rely more on specialism rather than on grades, but the framework is maintained.

To be cost-effective within this structure i.e. to rely on specialization than grades, a critical number of students is needed for the learning context. This justifies school construction and maintenance, particularly personnel costs. In areas of low population density, building and maintaining schools to serve the traditional paradigm is economically prohibitive. But in fact, the requirement of having one specialist in each specialty makes schools an even more expensive venture. This is why; some countries try to avoid this problem by leaving the solution to individual families.

However, this solution may ends with catastrophic results. If those families choose to move to urban areas and ensure their children's education, they will endanger their country's weak economic balance and further deplete the economy of their native regions. Additionally, if they decide to remain, they will jeopardize their children's future. On the other hand, areas of high population density but fragile economy are not free of problems. In this case, the traditional model encourages administrators to hold as many students as possible in one classroom to control personnel costs, which leads to overcrowded and unsafe environments that are unfit for learning.

1.2.3.1. Learning Time vs. Classroom Time

Several factors endeavor the idea that the potential of promoting revolutionary changes in the traditional educational paradigm can be achieved through the use of ICT. It represents the capacity to reach students in any place and at any time so that it excludes the premise that learning time equals classroom time.

To avoid overfull classrooms, a school may implement a dual-shift method without reducing its students' actual study time. As a result, students may attend school for half a day and spend the other half involved in educational activities at home, in a library, at work, or in another unconventional setting. They may also be required to observe an educational radio/television program and complete related activities, work on a computer-assisted lesson at the school's laboratory - of course if available- or in a community learning center [(3)].

1.2.3.2. Motivating to Learn

ICT are effective instructional aides to engage students in the learning process. Videos, television, and computer multimedia software provide information that can be authentic and challenging in addition to motivating students' sensorial equipment through images, color, sound, and movement. The following examples represent that the use of ICT has a greater impact on motivating the learner and facilitate the task of being engaged in the learning process: a project in Malawi filmed community members in their traditional jobs to introduce scientific concepts to

3- "Community learning center" means a school-based or school-linked program providing informal meeting places and coordination for community activities, adult education, child care, information and referral and other services. "Community learning center" includes, but is not limited to, a community school program as defined in ORS 336.505 ("Community school= program" defined), family resource centers as described in ORS 417.725 (Key elements of system), full service schools, lighted schools and 21st century community learning centers.

elementary school children (Gonthi 1993). Additionally, the Brazilian telecurso is a televised educational program for young adults in search of high school equivalency diploma. This program also uses videotapes of activities known to the students when introducing abstract concepts (Castro: 1999). Yet, engaging the learner in this process can be the most challenging task for teachers. According to Papert (1993:153):

> An effective teaching/learning process must stimulate intellectual curiosity and offer a sense of enjoyment that will move the students from the passive role of recipients of information to the active role of builders of knowledge.

1.2.4. Fostering Inquiry and Exploration

Learning is more than information transfer. Even though basic skills and information are essential mechanism of the teaching/learning process, Learning requires the ability to analyze and synthesize information, use it in diverse circumstances, and propose new lines of inquiry that foster knowledge. To attain those abilities, some strategies are essential such as: Inquiry and exploration.

ICT have the potential to bring back curiosity to education. This can be done in different ways: students can be taken on electronic journeys through time and space. Movies, videos, audio technology, and computer animations convey sound and movement to fixed textbook lessons. They also provide social studies and foreign language students with explicit experiences of distant societies and former times. Additionally, spreadsheets can store and analyze large amounts of data necessary for complex mathematics and science studies.

In addition, the Internet can offer virtual reality settings where students can control parameters, contexts, and scenarios. Another example of technology use to improve the quality of learning is computer simulations. They can convert unsafe and expensive experiments into safe and cost-effective procedures.

Yet, it should be noticed that teachers and instructors play an important role in using ICT for teaching and as guides and facilitators when providing background material and guiding principles for research (Kuechler, 1999). They need to monitor the process, particularly for adult students, who have a tendency to browse the web, rather than follow prearranged search plans. They also are instrumental in helping students to split unreliable sources from the reliable ones; and make sense of the huge number of information that may overwhelm them. These changing roles of teachers are discussed in the following sub section.

1.2.5. The Changing Roles of Language Teachers

The changes in the teaching and learning paradigms represent a great deal for teachers to adopt their roles in response to the above mentioned criteria. With the integration of ICT in the curricula, the teacher's role is multiplied and shifts from being just a transmitter of knowledge - armed with books in hand- to become a facilitator, guide of learning process, integrator of the new ICT media, researcher and designer of suitable learning scenarios, collaborator (with other teachers and learners) orchestrator, learner, and evaluator.

Teachers will play the role of *facilitators* i.e. they need to be aware of a variety of materials available for improving students' language skill,

not just one or two texts. According to Normala and Maimunah (2004: 4):

> The shift in the teacher's role from a dominant information feeder to a facilitator offer creates many unique opportunities for teachers to build relationships with students as teachers may fill the varied roles of coach, facilitator, and co-learner.

The language textbook is no longer the sole source of information. Multimedia programs for instance offer sound and vision, showing how native speakers interact. Additionally, many references are available in the form of electronic dictionaries and encyclopedias. Also, current affairs in the countries of the target language can be accessed in online newspapers which provide up-to-date information on. Another benefit is that official websites present background information on policy, tourism, and political views. So in response, teachers need to know how to teach and facilitate the task for learners to use all this material effectively. In sum, as facilitators, teachers are required to be flexible, responding to the needs their students have. This is why teacher training is a key element to ensure success in this more flexible language class, so that teachers can use multimedia and other resources effectively.

Additionally, teachers have to develop the spirit of being *collaborator*. Collaboration with colleagues will reduce the burden and make the efforts more fruitful and rewarding. Evidently, co-operation within a specific teaching institution will establish more professional and produce man-made responses to the local situation. But the new media afford possibilities for exchange between institutions and beyond

(national) borders. Teachers of the less broadly qualified and used languages could well profit from such internet exchanges. This will help them overcome the sense of isolation related to many experiences in their teaching situation. This is why, new management patterns must emerge to ensure fair distribution of the amount of work to be done, and revised job descriptions will be necessary to assign and bring together the responsibilities in hand. They will also need to develop reasonably sophisticated management skills in order to be able to provide a healthy balance between the different elements which make up the new learning environments. Mastery and confidence in the use of technology needs to be applied to the learning inclinations and abilities of individual learners whilst covering the prearranged curriculum which are often set by outside authorities. Because of the proximity of ICT, many decisions ought to be made on casual sources and time budgets need to be regularly reviewed if optimal results are to be attained. For many teachers, affording classroom to the outside world presents as much a threat as an opportunity. Their authority is challenged in a world of constantly changing patterns. For example it is often difficult to establish a difference between "correct" and "incorrect" language use. In the protected environment of the textbook they have remedy to the authority of the author(s) and publisher. In real world, they must constantly be looking for new patterns established by consistent data from trusted sources.

Another role of teachers is *teachers as learners.* This further challenge is often presented to them by learners holding more advanced computer skills than they do. However, if they are prepared to enter into the quest of an ongoing learning together with their pupils, they will find it a satisfying and successful experience. A requirement is that they are

prepared to act as the experienced guide for their learners and not as the all-knowing expert who controlled and dominated the classroom of yesteryear.

When it comes to the role of being *evaluators,* teachers have to be aware that if task-based, project oriented work in the foreign language classroom using the new media is to become the norm, or at least form an important part of activities, then models of evaluation need to be revised radically. Standard multiple-choice examinations are, for example, hardly likely to check the learners' recently acquired skills in (foreign language) Web literacy. A portfolio-based approach to assessing language proficiency and skills acquired would give the impression to be a more suitable way of recording advancement in the target language. As the skills to be acquired by learners are primary equal to those to be mastered by teachers-in-training, this form of evaluation should be practised in initial and INSET ,i.e. , IN-Service Training courses, providing teachers with initial hand experience of the method and through direct significance to their own situation.

Concerning the role of *integrators of media,* teachers must not only know and understand the functions of the diverse media presented in a media-rich setting, but also know when it is necessary to deploy them. In the joint construction of projects with their learners, they need to demonstrate the exact path for their learners when making use of Microsoft Word, graphics and presentation programs. Integration of audio-visual aids will make learners aware of the fact that the target environment of the foreign languages is as exciting and multi-faceted as the society in which they live.

The teacher needs also to be a *researcher.* Marion and Marian (1999) explain that the term teacher-researcher is an important term to them because it has redefined their roles as teachers. To keep along with developments in the target language' countries, and in and increasingly complex world, teachers need to recognize how and where they can access the necessary information for their own and their learners' use. Knowledge and skilled use of exploration engines and reliable data sources are essential. For those concerned with mainstream education, the propriety and reliability of information sources must figure as one of the central criteria for the choice of background material.

In addition, teachers are required to be *orchestrators*. In order to orchestrate successful learning scenarios, teachers need to learn how to put together tasks and materials to guide their learners to successful implementation and conclusion of their projects. But first they need to be designers of difficult learning scenarios. Unlike working with conventional teaching materials (textbook, workbook, audio and video materials), which have been graded, pre- assembled and collated in a chronological order, designing new learning scenarios is much more difficult. This is due to the fact that it requires higher order skills involving researching and evaluating source materials, setting overall aims and objectives and developing meaningful and manageable tasks' sequences. For teachers tackling this for the first time, the task is very daunting indeed. Encouragement, help and advice is needed in terms of examples of good practice which may serve as sources of inspiration for similar undertakings.

In sum, if these new roles of language teachers are accepted and encouraged by educational authorities, the implications in terms of duties and responsibilities need to be considered. On the other hand, the time devoted to lesson preparation increases as these tasks are taken on. So this fact must be honoured in the contracts, if teachers are to implement and admit the approach.

1.2.6. ICT as a Foreign Language Teaching Support

Since its introduction to modern science, ICT opportunities were considered as being critical. Very heated debates and clear differences took place amongst educationalists on using computers and the Internet in Foreign Language Teaching. The techniques offered, the activities and the degree of application in the language teaching syllabus have undergone a number of serious changes alongside the evolution of technology. As a tool stage, the computer usage can be considered as a vehicle for delivering instructional materials to learners (through drill and practice). The development of computer – based activities designed to develop learner's knowledge and interaction is seen as a way of engaging learners in a wide range of communicative tasks. This was the moment computers assumed the role of stimuli in language learning. They were used as instruments for understanding and using language through spelling and grammar checkers, desktop editing programmes. All these steps belong to CALL (Computer assisted language learning) [(4)]. Another support ICT brings to language learning and teaching is the Hypermedia.

4- *Computer Assisted Language Learning (CALL)* is an intercontinental and interdisciplinary journal which leads the field in its dedication to all matters associated with the use of computers in language learning (L1 and L2), teaching and testing.

Hypermedia has a number of advantages not included in the CALL. First, it provides both language teachers and learners with a variety of multimedia resources, such as texts, graphics, sound, animation, video linked together. It also offers an authentic learning environment by combining listening with watching. In addition language Skills (reading, writing, speaking, and listening) can easily be integrated in the teaching/learning process and combined in task- based learning. It is also better for learners to use ICT in their classes. They will have a greater control over their learning as they can go at their own pace; do some activities on their own, skip some parts of the text or revise the ones they find difficult. Another major advantage of hypermedia or ICT usage as a foreign language teaching and learning support is that learners can focus on the content and have access to different links and websites offering grammar explanations, exercises, vocabulary, pronunciation, etc. This makes ICT brings variety to the class since it encourages students to learn the foreign language in a new and pleasant way, not just by interacting with the teacher and reading from the book. Another factor related to ICT application is communication. It gives more opportunities for communication between peer learners (the GVC program [(5)] is one of the best examples). They can exchange information in real time, participate in blog discussions, work in teams on different projects, exchange emails, search for information, etc. All This makes them have a better insight into the culture of the country and people they study their language as they will profit from using the authentic material provided by the Internet.

5- The Global Virtual Classroom (GVC) is a collection of free, online educational activities and resources. It aims to complement the efforts of governments and educators around the world to integrate technology into their classrooms and curricula and to link their schools to the Internet in educationally productive ways.

To summarize all the above mentioned benefits, Padurean & Amargan (2009:99) list the following roles computers may have in a language classroom:

✓ *Computer as a teacher*: it teaches students new language (foreign one) using multimedia CD ROMS. In such programmes, students can listen to recordings, watch videos, speak into the microphone, record their progress or learn words by clicking on pictures and hearing their pronunciation. An alternative to CD ROMS is the World Wide Web (WWW) where students can practice all their skills and it is more useful for the teacher than the CD ROM because teachers can intervene with their own ideas or materials.

✓ Computer as a tester. It tests students on the already learned structures by giving them the opportunity to practice their knowledge using different Internet websites. However; a problem these sites represent is the fact that the practice programmes are very limited in terms of practice materials. Since the only answer the computer can give is *Right* or *Wrong.* Despite these limitations, computer grammar or vocabulary practice is enjoyed by students because they feel like playing and get the feedback without fearing the teacher's or friends' criticism. They can also work in groups, sitting at the same computer and discuss the answers. Basically, the practice material refers to multiple – choice exercises, dual – choice exercises, true or false.

✓ *Computer as a tool*. It assists students to do certain tasks as it is seen as tools because they provide tools for acquiring a foreign language. The large numbers of web-sites, pictures, projects, exercises, audio and video materials are all tools in the teaching and learning process.

✓ *Computer as a data source.* It provides students with the information they need to solve different tasks. However little can be said about computers as information providers since, due to computers and the Internet, almost any information needed can be accessed. A particular aspect that educationalist – especially those working on the CALL want to highlight is random Internet navigation. This is why teachers should offer them a number of useful websites and guide them in such a way as to find out information as soon as possible and solve their tasks.

✓ *Computer as communication facilitator*. It allows students to communicate with others. This can be done by e-mail, chatting, or participating in discussion forums. Teachers can set up discussion forums and use them to communicate with their students. Or students can exchange didactic e-mails, discussing a topic presented in the classroom or any other topic of interest. ESP Platform.

In sum, this part has pointed out the advantages of using ICT in the classroom. But it is also worth mentioning to state that the traditional teaching methods can not be replaced. Textbooks and any other printed materials are necessary in the teaching/learning process. But ICT lessons can alternate traditional classes, or traditional activities can be improved by using the computer or the Internet.

As a conclusion, the above section of this chapter aimed to outline from previous research and experience the potential of using ICT to enhance and update the educational policies, objectives, and practices.

The effectiveness of ICT depends heavily on context and quality of application. Besides, since ICT is only tools for education, they represent a hard task when trying to isolate the factors that may contribute to a positive result such as promoting the quality of both teaching and learning. In the same line with the better performance in traditional measures of academic achievement, a secondary benefit of ICT in education is to familiarize new generations with the technologies that have become fundamental mechanisms of the modern world.

Schacter (1999) states that: With these caveats in mind, evidence from large studies and meta-analyses suggests that the use of ICTs, particularly computer technologies, is correlated to positive academic outcomes, including higher test scores, better attitudes toward schools, and better understanding of abstract concepts. However, research on the outcomes of ICT on educational attainment continues to be criticized, along with all other areas of education, since they are well recognized as how they are used. The trail from potential to effectiveness is neither simple nor automated because it was, still is, and will continue to be context dependent. This is what will be highlighted in the section taking the Algerian context as an illustration of the availability of ICT in developing countries.

1.2.7 ICT and ESP teaching

Before having an idea about the role played by ICT in the teaching of English for specific purposes, it is worth mentioning to highlight the concept of ESP. Over the decades, there has been a reasonable amount of debate about the differences between ESP and general English, and what

should or should not be counted as ESP. Dudley Evans (1997) among others has provided descriptions in an attempt to elucidate common misunderstanding by categorizing its features into: absolute characteristics and variable characteristics.

1.2.7.1. Authentic resources used in ESP learning

Noonan and Miller (1995) define authentic materials as those which: "Were not created or edited expressly for language learners". Authentic materials illustrate how English is used naturally by native speakers. This means that most everyday objects in the target language can be qualified as authentic materials and can be used not only for general English but for ESP teaching and learning as well.

There are indefinite authentic resources; it is simply a matter of searching creativity (Vilhelmina& Daiva, 2009). This may include day-to- day objects such as business cards, banks leaflets, photographs, catalogues, currency, reports, financial statements, instructions, bank accounts, application forms, pictures, registration forms, letters/emails, diagrams, agreements, brochures, bank instructions,…etc. However; one of the most challenging tasks regularly faced by ESP teachers is how to capture the students' interest and stimulate their motivation to learn. This endeavor the idea that the materials derived from the real world, and then brought to classroom by ESP teachers helps students to reflect on authentic language use and may contribute to the overall learning process. Alongside with the advantage of the world websites, ESP teachers/students have at their disposal a large amount and variety of

material available: texts, visual materials, newspapers, magazines, live radio and TV recordings, video clips and much more.

Additionally, embarking the ESP students in deeper authenticity makes them develop their own strategies when dealing with actual language and on the other hand prevents them from being dependent on simplified language. Easily accessible websites can help students find relevant authentic task-based materials. Thus the role of the learner is important, because in the day to day learning/teaching the exposure to authentic materials can make the task more interesting and motivating.

Authentic materials available online can also keep students informed about what is happening in the world around them so that their knowledge will have an educational value. Guariento and Morley (2001:347-353) argue that:

> Extracting information from a real text in a new/different language can be extremely motivating, therefore increasing students' motivation for learning by exposing them to "real" language" (Anything can be used as authentic material, but from a practical/economical point of view, the most useful resource is the Internet, with large amounts of different text types, language styles, and videos of interviews that cannot be found in textbooks which become very dated and do not include improper English.

1.2.7.2. The impact of ICT Tools Used In Learning ESP

Prensky (2001) states: "contemporary students can use a variety of tools to learn independently". Today's technology offers students all kinds of new and highly effective tools they can use to learn on their

own. However, though information technologies provide a variety of opportunities and forms of learning ESP in particular and FL in general they sometimes represents a sort of influence from the cultural, social and value perspective(Hennesy, Heemskerk et al., 2005)

Additionally, Hennesy (2005) highlights significance of ICT as a cultural artifact that is gradually influencing pedagogy in parallel with changes in teachers' practice, thinking, approach, roles, and methods of technology use. Some others clam that learning outcomes depend on the following: learning environment, learners' attitudes to the aim of a task, and motivation (Harpert et al, 2000). the following section will deal with one of the instances of using technology in the educational sector, i.e., video conferencing.

1.3. Video Conferencing

As it was seen in the pervious sections, advances in technology challenge the traditional paradigms of teaching and learning. The evolution of distance education has been recognized as one of the little areas in education where technology has been central to the teaching task (Bates, 1995). One of these interesting current technologies is video conferencing. According to Heath & Holznagel (2002:4**):**

> As we move into the new century, advances in technology communication systems provide more sophisticated educational opportunities for content delivery across distances to reach wider audiences.

They add that VC is one of the powerful alternatives that educators can use to deliver instruction either face-to-face or across distances as it

offers a feasible means to develop a framework when addressing social changes and work place. Panteli & Dawson (2001) argue that video conference can also reduce barriers such as travel safety, costs, and time that can impede trips for interviews, visits to potential job sites and conferences designed for intellectual exchanges.

1.3.1. Definition of Video Conferencing

Being in use since the early 1960s, video conferencing is a communication means used for lectures, tutorials, workshops, project reviews, remote site visits, etc. It can be either two ways (point -to- point) i.e. between just two locations, or multipoint which is technically more demanding, linking three or more sites with sound and video in real time.

Depending on the system and type used, VC may include data sharing facilities that can help reaching the task put forward by teachers and learners. They include electronic whiteboard that all participants can draw on, or text based real time 'chat' (like e-mail but it appears instantly on recipients' screens) and application sharing such as word processors, spread sheets, PowerPoint, CAD packages [(6)]… etc.

Laurillard (2000) defines VC as a "One-to-many medium, making it a sensible way to provide access for many sites to a remote academic expert." According to another definition by the British Educational Communications and Technology Agency (BECTA, 2003), VC allows people in different locations to see and talk to each other. It may also support the electronic exchange of files, sharing of computer applications

6-Computer-aided design (CAD), also known as computer-aided design and drafting (CADD), is the use of computer technology for the process of design and design-documentation.

and co-working. In fact VC is a function which can rely on a variety of technologies which have been developed and updated through different phases.

This is why it is not the technology in itself. However, the term is- in fact- applied to a wide range of situations from live video lecturing devoted to small or large size audiences, to a point-to-point and/or individual-to-individual desktop communication chat over the internet using Skype, Yahoo, and MSN.

Those mentioned forms of video conferences can be classified under one feasible categorization: *large* and *small* scale. The majority of large scale VCs is currently satellite-based. This allows broadcasting from a central point to many different locations regardless of distance. However, small scale refers to VC between relatively few points for small meetings. Both forms use ISDN i.e. Integrated Services Digital Network link for the fulfillment of those functions.

According to BECTA (2003): Three types of VC system are available: *desktop units*, *roll-abouts*, and *room systems*. Desktop video conferencing involves each individual using a computer, with one onscreen window for each site. Wheareas roll-about system stores all the equipment required in a wheeled cabinet. However, a room system includes the same equipment, but housed in a permanent installation.

1.3.2. Functionality

According to Heath & Holznagel (2002), VC can network i.e. arrange set of connections between rural schools, colleges, and/or service

centers, giving them the capability to transmit and receive live programming. While some educators are exploring the use of VC to supplement traditional face-to face coursework, many educational institutions use VC to deliver extensive coursework at a distance. This gives birth to complete university degrees, high school equivalency and enrichment programs which are some of the common uses for VC. In addition, VC fosters collaborative teaching and learning environments, facilitates communication with experts- as experienced by the ESP postgraduate students at the University of Tlemcen / Algeria with ESP and ICT experts-, and is easily tailored to individual or group needs (Goggin et al., 1997). In the same line, Foreman (2003) points out that: "For collaborative, problem-based learning that requires brainstorming, planning, negotiation and problem solving synchronous communication optimizes performance because of its speed and immediacy".

Moreover, VC can be a tool for improving student outcomes through meeting more needs of the diverse body of students by opening up possibilities for clarification, negotiation, collaborative feedback, and thoughtful evaluation of teaching and learning (Laurillard, 2000) via easier access to a means for personalised dialogue and collaborative teaching and learning (Smyth:2005).

1.4. ICT in Algerian Education

Algeria is encouraging and promoting the use of ICT to improve the development process in general and the educational system in particular. This is being done through paving the way for an ICT framework besides an implementation strategy. The government has emphasized on developing an ICT-related human resources. Algeria has also created a committee responsible of defining the elements of an

Algerian national information society strategy. This was done as a response to the worldwide emerging knowledge and information society. It is anticipated that the committee will work on creating synergies among the different sectors in the area of: 1- infrastructure including ,for instance, roads, water supply, sewers, and telecommunications.2- training, research, as well as, information systems and ICTs. The committee will identify a national ICT working group, which will be charged with formulating short-, medium-, and long-term action plans for ICT- usage.

1.4.1. The Algerian Educational System

The Arabian Campus Web site [7] describes the Algerian educational system as follows:

> Primary education is mandatory and lasts for nine (9) years (École fondamentale which ceased in 2003 with the new educational reforms). Whereas in today's Algerian' primary school, education lasts for five (5) years. Middle school lasted four (4) years with the new reforms. Secondary education which is obligatory and consists of three-year cycle of study provided in secondary schools and technicums.

There are three branches of secondary education: general, specialized, and technical/vocational. Students in both general and specialized secondary education study for three years and sit for the Baccalauréat" examination. This gives access to higher education but some institutions require it to be of a certain stream (science, arts, etc.).

7-An academic service provider established in the United Arab Emirates for the purpose of promoting accredited higher education programs and institutions within the Arabian region. With its extensive range of services offers unique advantages for students searching for programs as well as the Institutions trying to promote its programs within the region and abroad.

The main objective of technical and professional secondary education is to prepare students for dynamic life and workplace needs (technicians and skilled workers). Higher education is provided by universities, specialized and national institutions of higher education. The latter falls under the responsibility of the ministry of higher education and scientific research.

The specific degrees awarded are defined by the field of study, not the institution. The Ministry of Higher Education approves the curriculum, which is consistent for each field of study. The Algerian institutions also award post-graduate degrees (magister& doctorat) in most fields in which a Licence or DES is awarded.

1.4.2. ICT Policies in Algeria

The Algerian government gives the ministry of post and information technology the responsibility of implementing and managing the national ICT policy [8]. At the same time the government has also initiated collaboration with a number of worldwide agencies to develop the ICT standing in the country. For instance, in 2002 the World Bank co-operated with the ministry of post and information technology to develop and implement projects for the creation of the enabling environment and humanizing admission to ICT while making it reasonable for all.

Table1.1 provides an idea about the state of national ICT infrastructure in Algeria [9].

8- Study in Algerian Education System. Arabian Campus available at: http://www.arabiancampus.com/studyinalgeria/edusys.htm.

9- World Development Indicators 2006. The World Bank available at http://devdata.worldbank.org/external/CPProfile.asp?PTYPE=CP&CCODE=D

Indicator	Estimates
Telephone – main lines in Use	2.572 million (2005)
Internet users	1.92 million (2005)
Telephones – mobile Cellular	13.661 million (2005)
Radio broadcast stations	AM 25; FM 1; shortwave 8 (1999)
Television broadcast stations	46 (plus 216 repeaters) (1995)

Table 1.1: ICT in Algeria

The level of ICT integration is still constant and at an early stage. In 2000 a regulatory law was passed where the old public institution in charge of domestic telecom was split into two commercial organizations. The law also created an independent regulatory authority of posts and telecommunication. Presently there are three operators: Algerian Telecom represented by mobile and fixed lines, Orascom including Djezzy and Lacom for fixed lines, and Alwatanya with its tow agencies: Nedjma and internet access with mobile phones.

In 2003, the country launched a program to ensure access to ICT through making computers available for every home initiative. Some forms of media, such as radio and television, have achieved high diffusion rates. Mobile phones are ordinary and the number of Internet users increase rapidly. This is due to the number of Internet cafés, shops, and access centers that are available, particularly, in urban areas.

To facilitate the entry of Algeria into the information society, the following national ICT initiatives have been designed [10]:

- ✓ The project of the Ministry of Education to equip all schools with computers by 2005.
- ✓ The distance Education Project.
- ✓ The Virtual University Project
- ✓ The research network to be put in place by the Ministry of Higher Education and Scientific Research.
- ✓ The health network developed and maintained by the National Health Development Agency (ANDS).
- ✓ The Djaweb Internet platform [11].

1.3.4. ICT environment in Algerian education

The government is dedicated to set forth a plan for the integration of ICT within the educational system. The restructuring of the educational process and addition of ICT with a set structure was formally included in the country's formal ICT policy in June 2002 with a portion of three billion dinar.

The Ministry of Education is working on constructing the infrastructure to facilitate an ICT environment. All secondary schools were equipped with computer labs (15 computers: 10 for students, five for teachers) connected to the Internet through ADSL, and 30% of this establishment had Internet access. On the other hand, half of the middle schools adopted ICT as a fundamental part of the educational programme.

10- Algeria: The United Nations Economic Commission for Africa (UNECA) http://www.uneca.org/aisi/nici/Algeria/algeria.htm

11-Djaweb, Algeria-Telecom's Internet subsidiary will launch before the end of December, a platform of access to broadband internet totalling more than 100,000 lines. In a separate note it was announced that Djaweb will become an "autonomous

subsidiary" late 2006. Djaweb will remain a subsidiary of AT, but with its own status and budget.

In the case of the primary schools, the ICT strategy remains partial to the administration and teacher training. The existence of computer labs at primary schools remains subject to local contributions and by parents and community members' contributions. When it comes to higher education, all universities have computer labs and Internet access for faculty, students, and administration in addition to the availability of digital libraries.

Each university has developed its own ICT policy to enhance and accelerate the educational progression. The purpose is offering enhanced learning opportunities in either virtual, distance or open universities. When it comes to the stage of preparing a framework enhance the level of ICT access and practice in education, the Algerian government has signed some agreements with international organizations. For example, UNESCO which is responsible of a number of initiatives for the proper integration of ICT in the Algerian education system and the Japanese government has provided funding for teacher-training programs totaling to $750,000.

There are a number of initiatives that have been adopted as an attempt to improve the quality of teaching and learning (Hamdy, 2007). The related strategies, under the heading of e-learning, were set forth to:

- ✓ Promote the development of e-learning resources.
- ✓ Facilitate public-private partnerships to mobilise resources in order to support e-learning initiatives.

- ✓ Promote the development of integrated e-learning curriculum to support ICT in education.
- ✓ Promote distance education and virtual institutions, particularly in higher education and training.
- ✓ Promote the establishment of a national ICT centre of excellence.
- ✓ Provide affordable infrastructure to facilitate dissemination of knowledge and skill through e-learning platforms.
- ✓ Promote the development of content to address the educational needs of primary, secondary, and tertiary institutions.
- ✓ Create awareness of the opportunities offered by ICT as an educational tool to the education sector.
- ✓ Facilitate sharing of e-learning resources between institutions.

1.4.4. Training professionals on teaching and use of ICT in Algeria

In Algeria, the programme of ICT training devoted to teachers has been limited to the necessary information, with nearly everyone receiving 30-60 hours of training. Although 100% of secondary school teachers and 60% of middle school teachers have received the basic ICT training, this has to date been recognized very slight impact on the quality or technique of delivery of education in the classroom. Major training components to develop an ICT skill for the Algerian teachers are :

- ✓ Basic ICT training: basic operations, Windows-based software, e-mail, and Internet
- ✓ Intermediate training: classroom applications, Internet for teaching, and e-mail as a means for communication and collaboration

✓ Advanced training: development and design of educational software, on-line classes, telecommunication, e-mailing, development of interactive Web sites, construction of multimedia presentations, producing creative work

1.4.5. Implementing ICT in Algerian Education:

Table 1.2[(12)] lists the core factors of implementing ICT in Algerian education and provides a summary of the current stage of development in Algeria in terms of enabling or constraining ICT applications in the educational system.

Factors	Enabling Features	Constraining Features
Policy framework	A national ICT policy for educational development was set forth in 2002. The government has adopted ICT in all domains, particularly the education sector, as an integral part of the development process.	The policy for ICT exists, but to be successfully implemented it needs strong infrastructure and resources. Vast areas of Algeria are still lagging behind in basic needs.
Infrastructure and access		Algeria faces problems of poor infrastructure and connectivity issues.

Availability of appropriate learning materials	The development and provision of tools and learning material are at the heart of the policy of ICT for educational development.	There are not enough appropriate learning materials.
Rural/urban divisions	A major concern of the national ICT policy is provision of access and connectivity to all areas of the country	Few schools and even fewer universities and higher institutions are available in rural communities
Gender equity	A number of development projects, especially non-formal education programmes, are directed towards females being part of the underserved population.	In general, the level of illiteracy is higher among females and this is reflected in their access to ICT as well as training and skills.
Human resource development		The multilingual base in Algeria poses a major hurdle to unifying or implementing programmes at a large scale. Professional development programmes and teacher training is still limited to

Factors	Enabling Features	Constraining Features
		basic ICT training with no connection or relevance to integration into the educational process. Professional development and ICT programmes lack connection with content and curriculum development in a manner that allows proper for Implementation of reform. The disconnection among the different development programmes impedes proper impact and progress.
Sustainability	The political arena has stabilized somewhat in Algeria, thus setting the	Several projects and initiatives have been underway, but due to the

	grounds for proper implementation of the development programmes and allowing for a more sustained reform effort The political stability leading into economic reform allows for attracting investment and support locally and internationally.	obstacles posed by the political unrest, many of them have been discontinued.

Table 1.2: Factors Influencing ICT Adoption in Algeria

This section is a short country report resulted from the larger info-Dev-supported Survey of ICT in Education in Africa. It provides a general overview of current activities and issues related to ICT use in Algeria. The data presented should be regarded as illustrative rather than exhaustive. ICT use in education is at a particularly dynamic stage in Africa; new developments and announcements experience on an every day source somewhere on the continent. Therefore, these reports should be seen as an illustration which was contemporary at the time they were taken; it is apparent that certain facts and statistics presented in this study may become dated very quickly. It is likely anticipated that individual Country Reports from the Survey of ICT and Education in Africa will be modernized in an interactive process over time based on additional research and feedback received through the info-Dev web site.

1.4.6. Video Conferencing in Algerian Universities

The use of VC as a driving force in implying fundamental changes in the area of educational has been a central issue under discussion since the last decade of the 20th century. Today's education at large experience challenges caused by new technologies- VC is the best example- abundance of information sources is being forced to search for new and effective methods for teaching and learning. This makes the application of VC for teaching/learning purposes become major issues of contemporary education. The Complexity of learners' attitudes and expectations that help understand language learning aspects is becoming a question of the day.

Aou Bekr Belkaid University of Tlemcen has also benefited its students using this new technology. VC is used by different departments such as that of science and technology, engineering, and English. At the level of the English department, a series lectures with experts from other foreign universities have been scheduled. The aim is to give learners more opportunities to meet experts. This task can be a hard one in terms of arranging the meeting and making those experts travel to Algeria. This is why VC is the best solution. All this is done by the creation of the center of teaching via video equipped with high quality materials and good internet connection.

1.5. Conclusion

The overall theme of this chapter, which is the effect of ICT on education, is a complex object to investigate: several factors influence it

as it is closely connected to society, the political background and decision making, and it is deeply dependent on the previous history and the values and norms of education. The school is a workplace for teachers and other professionals, providing a unique learning environment for students. The rapid advances in ICT have a profound impact on educational policies, contents, structure and methods of delivery in Algeria. They have greatly expanded learning opportunities for all age groups and have displayed a powerful potential as tools for teachers. Meanwhile, they pose new challenges to education communities for capacity-building and policy change in achieving Education For All goals in new technology-facilitated learning environments in the emerging information society. In promoting the use of ICT in education, video conferencing was chosen an example. Video conferencing stands out as a rich communications technology that offers new and interesting possibilities for distance education. The following chapter will highlight and furnish a discussion of the rationale behind the choice of case study as a research design, the choice of the methodology used to conduct the present work.

Chapter Two

Chapter Two: Research Design and Procedures

2.1. Introduction

This chapter describes the research design, approaches, and procedures. It will do so by giving the rationale behind using the case study. Then an overview of the quantitative and qualitative approaches is provided. This is followed by a full description of the combination method i.e. both qualitative and quantitative approaches used in this study to analyze the obtained dat. To do so, semi-structured interview and participant observation will be use as instruments. Mouton (2001:133) summarizes the whole process by the following quotation:

> To satisfy the information needs of any study or research project, an appropriate methodology has to be selected and suitable tools for data collection and analysis have to be chosen.

2.2. Research Design

This research was conducted under the umbrella of the case study research design. The reason for choosing this type of research is that it focuses on understanding the phenomenon -in this case the use of video conference in higher education- within its natural settings. In addition, it is the most common qualitative method used dealing with information systems (Myers, 2003).

The discipline of information system is characterized by continuous, often revolutionary change. Due to the fact that researchers are regularly unable to provide guidance on how to supervise new systems at their introductory phase, they often rely on practitioners in promoting and/or evaluating such change, and find themselves investigating how those practitioners implemented and managed change, thus developing theories for it. This is why the case study can be implied to capture and formalize the knowledge of practitioners, develop theories

from practice, and move on the testing stage (Benbasat et al., 1987). Another reinforcing aspect for the use of the case study is that it relies on multiple sources of evidence and multiple data collection techniques.

Case study, as defined by Yin (1994), Eisenhardt (1989), and others, has well-defined steps. However it is significant, at this level, to note down that it does not involve the use of a particular sort of evidence. Yin (1994) lists six most important sources of evidence: documents, archival records, interviews, direct observation, participant observation, and physical artifacts. Additionally, it can be accomplished using quantitative and/or qualitative methodologies. A frequent confusion is that case studies are solely the result of ethnographies or of participant observation (Yin, 1981).

This unique characteristic-the ability of the researcher to use observations of a single unit or topic, or contextual case, as the central point of a study, along with its plurality as a research method-has enabled researchers using the case study to go beyond the boundaries of the traditional research paradigms.

In spite of how it is used, for either theory building or theory testing, case study research is an essential research methodology for applied disciplines. It is a process of scholarly inquiry and exploration whose fundamental objective is to create new knowledge (Herling et al, 2000). It can also be considered as a research strategy aiming at examining an existing phenomenon and the associated contexts that are not clearly apparent. For example, experiments vary in that they focus on isolating the phenomenon from its context; histories as well vary in that they are limited to past phenomena.

These distinctions amongst types of evidence, data-collection technique, and research approach are believed to be significant in defining case study research. In the vein of all other forms of research, it must be concerned with issues such as methodological strictness, validity, and reliability. This is accomplished through the six elements below (Stake et al. 1981):

- ✓ Determine and define the research questions.
- ✓ Select the cases and determine data-gathering and analysis techniques.
- ✓ Prepare to collect data.
- ✓ Collect data in the field.
- ✓ Evaluate and analyze the data.
- ✓ Prepare the report.

All the above mentioned strengths of case study justify its choice in this work. For example, it enables the researcher to have an in-depth vision of the use of video conferences as a means of content delivery for the ESP postgraduate students at the University of Tlemcen and the series of events related to it (the way those lectures were delivered and received by the audience). It also allows data crosscheck as many sources of evidence were used such as interviews, direct observation, participant observation, and physical artifacts.

2.3. Research approach

The present study opts for a combination of quantitative and qualitative methods regarded as a worthy method in improving understanding. In practice, both methods are frequently considered to be appropriate within a single investigation. It is up to the researcher to choose specific methodologies which will allow him to obtain a somehow clear understanding of the topic. But before defining, giving the

strengths, and justifying the use of this combination; it is appropriate to draw attention to the two approaches (qualitative and quantitative) in isolation.

2.3.1. Qualitative Approach

Qualitative research uses a *naturalistic approach* [(1)] that seeks to understand phenomena in context-specific settings, such as real world setting where the researcher does not attempt to manipulate the phenomenon of interest (Patton, 2001: 39). This approach is roughly defined as "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (Strauss and Corbin, 1990: 17). Instead, it is the kind of research that produces findings arrived from real-world settings where the "phenomenon of interest unfold naturally" (Patton, 2001:39).

Unlike quantitative researchers who seek causal determination, prediction, and generalization of findings, qualitative researchers seek instead illumination, understanding, and extrapolation to similar situations (Hoepfl, 1997). In social sciences, researchers undertaking qualitative investigations are governed by a specific paradigm i.e. *the interpretive social sciences paradigm*. With its emphasis on the relationship between socially-engendered concept formation and language, containing qualitative methodological approaches such as phenomenology, ethnography, and hermeneutics, interpretive paradigm is

1-Naturalism commonly refers to the philosophical belief that only natural laws and forces (as opposed to supernatural ones) operate in the world and that nothing exists beyond the natural world. Followers of naturalism (naturalists) assert that natural laws are the rules that govern the structure and behavior of the natural world, that the universe is a mere product of these laws and that the goal of science is to discover and publish them systematically.

characterized by a belief in a socially constructed, subjectively-based reality, one that is influenced by culture and history. Nonetheless it still retains the ideals of researcher objectivity and researcher as passive collector and expert interpreter of data. Gilbert (1993) notes that qualitative methodologies provide avenues that can lead to the discovery of deeper levels of meaning, i.e. recognition of the importance of the subjective, experiential "lifeworld" of human beings (Babbie, 1995; Blanche et al. 1999).

Yet, research that makes use of a qualitative methodology will draw on data collection methods such as participant observation, interview and/or focus group (Jennings 2001). Due to the fact that it relies on the texts and discourses of participants and involves small numbers of participants in the research process as a result of the process of gathering in-depth information, it is considered as being subjective. (Gilbert, 1993; Walle, 1993; Gum, 1994)

In this study, the qualitative approach is expected to demonstrate the validity and reliability of claims obtained from the ESP postgraduate students participating in a series of video conferences with experts outside Algeria. It may also serve in demonstrating the generality of their feelings, impressions, and attitudes towards those sessions to meet their expectations. Perhaps one of the major limitations of qualitative research and evolution is the time required for data collection, analysis and interpretation. Indeed, the researcher has to spend a considerable amount of time in the research setting in order to examine holistically and aggregately the interaction, reactions and activities of subjects (Babbie, 1995). This is why making use of the quantitative approach may give clear understanding of the topic under investigation, i.e. the use of video conferences in higher education.

2.3.2. Quantitative Approach:

Unlike the qualitative approach, quantitative research is grounded in the *positivist social sciences paradigm* [(2)], which primarily reflects the scientific method of the nature sciences (Creswell, 1994; Jennings, 2001). According to Noonan (1994), researchers who adopt a more deductive approach use theory to guide the design of the study and the interpretation of the results. They are likely to abstract data from the participants into statistical representations rather than textual pictures of the phenomenon. This means that the entire research process is objectively constructed and the findings are usually representative of the population under investigation. Its main strengths are precision and control. Control is achieved through sampling and design, whereas precision is seen in the reliable quantitative measurement.

A further strength is experimentation which leads to statements about causation, since the systematic manipulation of one variable can be shown to have a direct causal outcome on another when other variables have been dropped out or controlled (Babbie, 1995; Blanch et al., 1999). Furthermore, hypotheses are tested through a deductive approach, and the use of quantitative data permits statistical analysis (Welman et al., 2001).

Despite all the above mentioned benefits of quantitative approach, one of the limitations reported by critics is that scientific quantitative approach denigrates human individuality and the ability to think (Walle, 1996; Massey, 2003). In the same line of thought, Gilbert (1993) argues that its mechanistic philosophy tends to reject several concepts related to freedom, choice, and moral responsibilities.

2- This paradigm is primarily based on a number of values, including: a belief in an objective reality; knowledge of which is just gained from sense data that can be directly practiced and established between independent observers. Phenomena are areas under discussion to natural laws that humans realize in a logical manner through

This leads to the point that a scientific approach cannot, in fact, be absolutely objective, since subjectivity is involved in the choice of a problem as valuable of research and in the interpretation of the results.

The following table summarizes the common differences usually cited between the two approaches:

Qualitative Quantitative	**quantitative approaches**
Inductive approach to conducting Interviews.	Deductive approach to taking physical counts
Sampling approach related to relative value of data sources	Sampling approach related to a pre-determined statistical design
Observation recorded in representational form (images, narratives, notes)	Observations recorded as pre classified categories or numbers
Open-form observation approach subject to contextual variables	Closed-form observational approach to meet already-established methodological criteria
Interpretation situation-driven, representing specific situations and difficult to generalize	Interpretation procedure-driven, deriving objective facts and easy to generalize

Table 2.1 comparison between qualitative and quantitative methods (Farrington and Nelson: 1997)

=empirical testing. This can be done through making use of inductive and deductive hypotheses derived from a body of scientific assumption.

According to Coll & Chapman (2000:28):

> Some research questions will be readily answered using qualitative means, others quantitative, and some will be best addressed using a combination of the two. What is necessary is the appropriate research designs.

In the same vein, Blaikie(1991), Easterby- Smith et al (1991); Creswell, (1994); Decrop, (1999); Bowen (2003); and Massey (2003) emphasize the following benefits of combining qualitative and quantitative methods:

- ✓ While the quantitative design strives to control for bias so that facts can be understood in an objective way, the qualitative approach strives to understand the perspective of the programmed stakeholders, looking to first- hand experience to provide meaningful data (Easterby-smith et al, 1991).
- ✓ The accumulation of facts and causes of behavior are addressed by the quantitative methodology, whereas the qualitative methodology addresses concerns with the changing and dynamic nature of reality (Bowen, 2003).
- ✓ Quantitative data are collected under controlled conditions in order to rule out the possibilities that variables other than one under study may account for the relationships identified, while qualitative data is collected within the context of its natural occurrence (Massey, 2003).

In the case of understanding the use of video conferences for ESP postgraduate students (the case under investigation in this work), combining both approaches will help the researcher to seek reliable and valid results so that data can be representative of a true and full picture of

integrating ICT in general and VC in particular in tertiary education. In addition, some research questions raised in this study will be readily answered using qualitative means, others quantitative, and some will be best addressed using a combination of the two.

2.4. Data Collection:

Data collection is an essential component to conducting research. It is, generally, conceived as complicated and hard task. This is why O'Leary (2004:150) remarks:

> Collecting reliable data is a hard task, and it is worth remembering that one method is not inherently better than another. This is why whatever data collection method to be used would depend upon the research goals, advantages, as to the disadvantages of each method.

The principle collection categories include: participant observation, interviews and focus group (Dalton, Elias et al., 2001). In this study, two of the above mentioned techniques have been used: an interview (semi-structured) and participant observation. A detailed description of these instruments is provided bellow. This is preceded by highlighting the setting, hardware and procedure of the video conferences as well as the informants (sample population) involved in the study.

2.4.1. Setting

The present study has been conducted in the department of foreign languages (English section) at Abou Bekr Belkaid University of Tlemcen. The purpose behind this investigation is to describe the use of internet-based video conferences to enhance, enrich, and develop knowledge and language proficiency of those ESP postgraduate students and future teachers at the same time. To make a video conference call each user needs some form of video conferencing system and access to a suitable communication link. Those systems come in a variety of formats, i.e.

some are computer based, others are dedicated units, but all have a number of common features.

Being aware of the basic equipments required for a video conferences sessions, a room including a camera, microphone, a video conferencing component or video conferencing software, and a display were provided. These equipments are described in the following subsection.

2.4.2. Hardware

A computer system has two basic parts: hardware and software. The equipment associated with a computer system is the hardware. Computer hardware performs four crucial functions: input, processing, output, and storage. Computers are electronic device programmed to accept data (input), process them it into useful information (output), and store them it for future use (storage). The processing function is controlled by a number of commands (software); we will explore this later. The main hardware components are:

Camera: Video conferencing systems consist of at least one camera which will show a presenter. It can be attuned through the video conferencing software to capture the scene in a classroom.

Microphones: There is a numeral of microphones available for Video conferencing calls. However the one used was *Desktop microphone* i.e. a flat which sits on the table and picks up the voices as the speakers engage in the videoconferencing session.

Monitor: In a video conferencing room, there generally are at least two monitors. These monitors reveal a view of the remote room and the

originating room. It is better to have double hung monitors in the back. This will enable the teacher to see the far-end room and also view from the diffusion room.

Whiteboard and Projectors: An interactive whiteboard attached with a projector helpful in enlarging the picture. A large screen gives a greater impression with the far end participants and has a bigger occurrence in the room. An interactive monitor gives the added capability to permit the teacher, the capability to work from the touch screen to run the conference.

Codec: coder/decoder - A part of software [3] that codes and compresses the extrovert and decodes and decompresses the incoming audio and video signals. This is what can be said about the hardware equipments used in those sessions. On the other hand, a frequent software was used i.e. Skype.

2.4.3. Procedure

Fourteen (14) ESP postgraduate students were observed while engaged in a series of video conferences (6 sessions).Those sessions were part of their curriculum and training. The purpose was to provide them with the opportunity to have links with experts in the field of ICT and ESP in geographically separated locations. The participants were all postgraduate students. No special criteria in terms of race, sex, and age range were applied.

3- As important as hardware devices may be, they are useless without the instructions that control them. These instructions used to control hardware and accomplish tasks are called software.

The only motivation was to participate in an exceptional international distance learning experience. Most participants did not have the same experience before except 5 students who participated in the GVC program [4] launched by the department under the supervision of East Carolina University (USA). For the participants, the video conferences sessions represent a training to use ICT in their future career as teachers.

1.4.3.1. Participants' profile

The students engaged in the video conferences sessions received a "Licence" degree in English. Their learning career lasted for four years and prepares them to be future teachers through a variety of courses ranging from phonetics, linguistics, literature (American, British, and African), civilization (American, British, and African) and language skills (reading, listening, writing and speaking). After sitting for a competition test, the fourteen students passed successfully to the present two years learning program, i.e., one theoretical and the other for research work to prepare their magister degree in this new branch of ELT and ESP.

The aim of this postgraduate training is to develop theoretical and practical knowledge needed for English language teachers in an ESP context. This was done through a rich program comprising a variety of courses including: ICT, English for Social Sciences (ESS), and English for science and technology (EST) to give them the opportunity to differentiate between the social and technical branches when using

4- Group of Virtual Communication (sometimes referred to as Global Virtual Class) is a program launched by East Carolina University aiming at developing collaboration between the Algerian, American students on specific topics related mainly to cultural and traditional customs, education , religion ,politics and other notions.

English. To do so, lectures concerning the acquisition of specialists' discourse as well as register and discourse analysis were scheduled. In addition, courses on Needs analysis, content and issues in ESP and course design were also dealt with. The program also contains courses about research methods and applied linguistics. When it comes to the phase of enlarging their knowledge, foreign language courses were added. This includes French for specific purposes.

Regarding the procedure of the above mentioned courses, each course had to be completed in twenty hours. After that the students were requested to present a research paper related to the topic. This was followed by an exam. After finishing all the above mentioned lectures, each student presented a research proposal which highlighted the general layout of the thesis he or she was to undertake for the fulfillment of the 'Majister' degree in ESP.

2.4.3.1. Video conferences procedure

Each video conference session was about a specific topic. They were scheduled as follows:

Video Conference	**Topic**	**Teachers in the far-end Location**	**Date**
1	Learning Languages	Professor from Sorbonne-Paris 3	16/03/2010
2	Key Parameters Affecting Learning	Professor from Nantes	06/04/2010
		Professor from	

3	Task-Based Approaches & ESP	Sorbonne-Paris 3	04/05/2010
4	Course Design in ESP	Professor from Sorbonne-Paris	11/05/2010
5	Task And ICT	Professor from Sorbonne-Paris 3	18/05/2010
Video conference	**topic**	**Tecaher in the far-end location**	**date**
6	Dealing with Large Numbers of Students: A Blended Learning Environment in a French University and its Impact on Second Language Acquisition and Student Satisfaction.	Professor from : Nantes	25/05/2010

Table 2.2 information on video conferences

The video conferences proceeded as follows: the teacher in the far -end location sent a paper related to each topic to the teacher in the local department who played the role of a mediator between the two geographically separated locations. After receiving the documents via email-since all the participants created an email address to facilitate communication, a week in advance the students' task was to read, understand the ideas in the paper, and formulate questions related to that topic. Those questions were sent to the mediator teacher in charge of the

project to be reorganized and sent to the teacher in the far-end location. The day programmed for the session, it was the task of the far- end teacher to answer the students' questions, explain key concepts which were new for them, and clarify the rationale behind the content of the documents.

2.5. Instruments

In this study a semi-structured interview will be used and addressed to the students as well as participant observation, i.e. the same students will be observed while in a video conference session.

2.5.1. Semi- structured Interview:

The Semi-structured interview is frequently used as data collection instrument or technique. The researcher has a list of key themes, issues, and questions to be covered. In this type, the classification of questions can be changed depending on the direction of the interview. A guide (rubrics) is also used, but additional questions can be asked. Corbetta (2003:270) presents the semi-structured interview as follows:

> The order in which the various topics are dealt with and the wording of the questions are left to the interviewer's direction. Within each topic, the interviewer is free to conduct the conversation as he thinks, to ask the questions he deems appropriate in the words he considers best, to give explanations and ask for clarification if the answer is not clear, to prompt the respondent to elucidate further if necessary and to establish his own style of conversation.

The strengths of this type of interview are the additional questions that can be asked and the ones that have not been anticipated in the

beginning of the interview. Note taking or tape recording can help the researcher to report the interview. This gives him more opportunities to check out the views and opinions of the interviewees. In this vein Gray (2004:217) notes that probing is a way for the interviewer to explore new paths which were not initially considered. In the same path, David and Sutton (2004:87) argue:

> Having key themes and sub- questions in advance lies in giving the researcher a sense of order from which to draw questions from unplanned encounters.

In sum, the researcher conducting a semi-structured interview is freer than the one conducting a structured interview (kajornboon, 2004) in which the interviewer has to adhere to a detailed interview guide. The following table attempts to summarize both the strengths and weaknesses of this instrument:

Strengths / Uses of semi-structured interview	**Weaknesses / Limitations of semi-structured interview**
1. ***Positive rapport*** between interviewer and interviewee. Very simple, efficient and practical way of obtaining data about things that can't be easily observed (feelings and emotions, for example). 2. ***High Validity***. People are able to talk about something in detail and depth. The meanings behind an action may be revealed as the interviewee is able to Speak for themselves with little direction from interviewer. 3. ***Complex questions and issues can be discussed / clarified***. The interviewer can probe areas suggested by the respondent's answers, picking-up information that had either not occurred to the interviewer or of	1. Depends on the ***skill*** of the interviewer (the ability to think of questions during the interview, for example) and articulacy of respondent. 2. Interviewer may give out ***unconscious signals*** / cues that guide respondent to give answers expected by interviewer. 3. ***Time Consuming*** / ***expensive*** 4. ***Not very reliable*** - difficult to Exactly Repeat a focused interview. Respondents may be asked different Questions (non-standardised). Samples tend to be small. 5. Depth of qualitative information

which the interviewer had no prior knowledge 4. ***Pre-Judgment***: Problem of researcher predetermining what will or will not be discussed in the interview is resolvedWith few "pre-set questions" involved, the interviewer is not "pre judging" what is and is not important information. 5. Easy to record interview (video / audio tapes).	may be ***difficult to analyse*** (for example, deciding what is and is not relevant). 6. Personal nature of interview may make findings ***difficult*** *to* ***generalise*** respondents may effectively be answering different questions 7. ***Validity***: **a**. The researcher has no real way of knowing if the respondent is lying. **b**. The respondent may not consciously lie but may have imperfect recall. If you were being asked to remember things that happened days, weeks or months ago it's likely that you would actually remember very little about what happened. **c**. An interview can sometimes be a "second chance" to do something; having been given the time to reflect on something they did, the respondent tries to make sense of their behavior by rationalising their actions. They are not consciously lying (since they will believe what they are saying is true), but their explanation for their behaviour, with hindsight, may be very different from what they actually felt at the time.

Table2.3 strengths and weaknesses of the semi-structured interview (Harrell &Bradley, 2009:16)

The objectives of using a semi-structured interview in the present research is to answer the research questions raised in this investigation, and test the hypotheses derived from them. In addition, it will serve to detect the similarities and differences among those ESP postgraduate students in how they respond to video conferences, the difficulties encountered when using this type of lecturing, and to highlight the students' impressions, expectations, and recommendations.

2.5.2. Participant observation

It has been generally acknowledged among specialists that participant observation is a qualitative method with roots in traditional ethnographic research. Beeker and Gree (1969:322*)* define participant observation as follows:

> By participant observation we mean that method in which the observer participates in the daily life of the people under study, either openly in the role of researcher or covertly in some disguised role, observing things that happen, listening to what is said, and questioning people over some length of time. Generally speaking, by engaging in participant observation, the researcher tries to learn what life is like for an "insider" while remaining, inevitably, an "outsider".

Despite all the problems associated with participant observation and in particular the claim that it only produces subjective or individual views of social behavior, it remains along with unstructured and semi-structured or structured interviews, a vital part of many case studies. This is due to the fact that it is useful in a variety of ways: first, it allows for

insights into contexts, relationships, behaviors as it can provide information previously unknown to researchers that are crucial for project design, data collection, analysis and interpretation of other data. In addition, it gives the researcher the ability to check the nonverbal expression of feelings. This may help in determining who interacts with whom and grasp how participants communicate with each other.

Moreover, there is a general agreement among educationalists that this technique is often referred to as a naturalistic approach i.e. it gives researchers a method to view the world through the eyes of other people, and look at them in their natural environment. In other words, the researcher does not artificially interfere with people's lives and they are free to act naturally. This allows him to gain insights which surveys cannot produce. This is illustrated by Whyte (1981; 44): *"As I sat and listened, I learned the answers to questions I would not have had the sense to ask if I had been getting my information solely on an interview basis."*

Bernard (1994) lists five reasons for including participant observation in case studies, all of which increase the study's validity:

- ✓ It makes it possible to collect different types of data. Being on site over a period of time familiarizes the researcher to the community, thereby facilitating involvement in sensitive activities to which he or she generally would not be invited.
- ✓ It reduces the incidence of reactivity or people acting in a certain way when they are aware of being observed.
- ✓ It helps the researchers to develop questions that makes sense in the native language or are culturally relevant.

- ✓ It gives the researcher a better understanding of what is happening in the culture and lends credence to one's interpretations of the observation.
- ✓ It enables the researcher to collect both qualitative and quantitative data through surveys and interviews.

In the same way, Demunck and Sobo (1998) provide several advantages to opting for participant observation. These include that it allows for detailed description, which they interpret to mean that one's goal of describing behaviors, intentions, situations, and events as understood by one's informants is highlighted. Dewalt and Dewalt (1998) add that it improves the quality of the collected data and their elucidation, and then facilitates the development of new research questions and hypotheses.

In the present study, participant observation is used as data collection instruments to observe the informants in real world context. Another objective is to develop a deep understanding of the use of video conference in its natural context. In addition, it is designed to provide insights into the behavioral, interactional, and communicative aspects of using technology in Algerian higher education.

2.6. Data analysis:

Data analysis represents the "construction phase" of the study. This process includes: deciding on the suitable analysis to conduct for each question, preparing data for analysis, and summarizing results. From the

existing literature - be it quantitative or qualitative analysis- successful data analysis requires the following steps:

- ✓ Understanding the existing data analysis methods.
- ✓ Early planning for data analysis in the study and making revisions in the plan as the work develops.
- ✓ Understanding which methods will best answer the research questions put forward by the researcher.
- ✓ Highlighting the data that have been collected.
- ✓ Once the analysis is finished, recognizing how the weaknesses or the limitations in the data or the analysis affect the conclusions driven.

This leads to the conclusion that the study questions generally direct the analysis, but the type and value of the data determine what analyses can be established and what can be inferred from them. As mentioned in the very beginning of the chapter a combination of both qualitative and quantitative methods will be used to analyze the obtained data. Mouton and Marais (1990) see such a bridge as necessary, since a single approach cannot succeed in encompassing human beings in their full complexity.

2.6.1. Qualitative data analysis

Analyzing data qualitatively is essentially a simple process. It consists of three parts: *Noticing*, *Collecting* and *Thinking* about interesting things. Figure2. 1 represents the process and the relationships among its parts

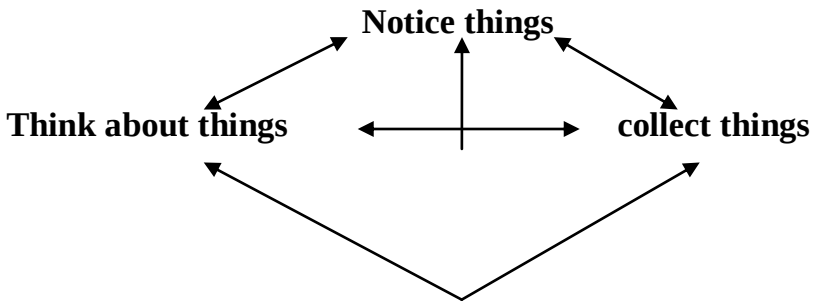


Figure2. 1 Qualitative data Analysis

(Seidel 1998)

Figure2.1. suggests that the process of qualitative data analysis is not linear. This means that when the researcher is engaged in this process, he does not simply notice, collect, think about things, and then write a report but the whole process has the following characteristics:

- ✓ Iterative and Progressive: The process is iterative and progressive because it is a cycle that keeps repeating. For example, when the researcher is thinking about things he may also start noticing new things in the data. He then collects and thinks about these new things. In principle it is an infinite process.
- ✓ Recursive: The process is recursive i.e. one part can call the researcher back to a previous part.
- ✓ Holographic: The process is holographic. In other words each step in the process contains the entire process. For example, when the researcher first notices things he is already mentally collecting and thinking about those things.

After collecting data using participant observation, the researcher engaged in a three step process of qualitative analysis, which is

appropriate in this study since it focuses on aspects such as interaction, motivation and behavior:

- ✓ *Data reduction* which refers to the process of selecting, and thus simplifying, the data that appears in written field notes or transcriptions.
- ✓ *Data display* i.e. ways used to display data. These include: matrices, graphs, and charts illustrating the patterns and findings from the data.
- ✓ *Conclusion: drawing/verification* that refers to a process of building a preliminary thought about patterns and explanations from the findings. Additionally, verifying them frequently by checking the data, and forming a new matrix.

The three steps are presented in the following figure

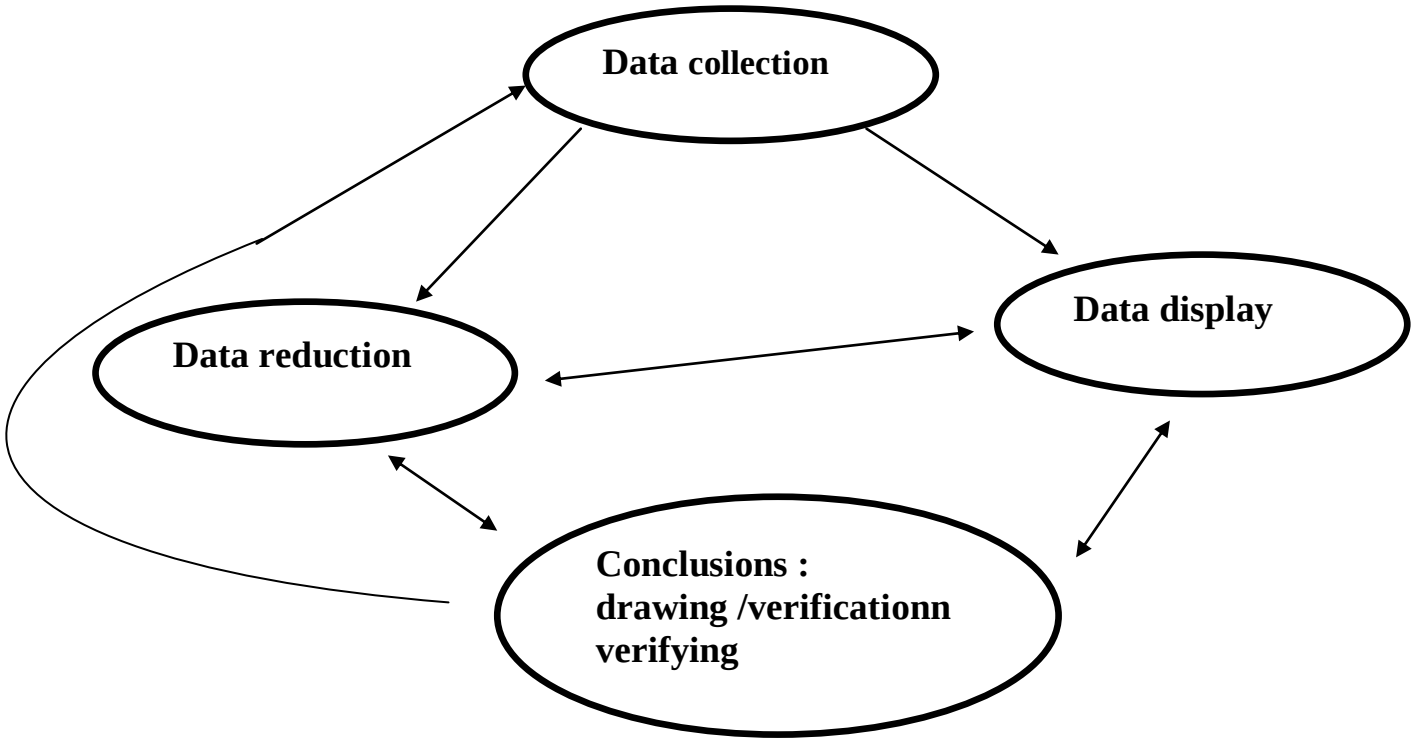


Figure 2.2 Process of Qualitative Data Analysis: An Interactive Model (Miles et al., 1994)

2.6.2. Quantitative data analysis:

Quantitative analysis is suited to theory testing and developing universal statements i.e. it provides a "general" picture of a situation or the context under investigation. It thus produces results that are generalisable across other contexts, although they neglect the reality of situations. In addition quantitative investigation may smooth the task of understanding the topic by using some programs such as the SPSS (statistical package for social sciences). Thus, the use of graphs (histogramme, secteurs…etc) or smart arts (hierarchie, processus…etc) may give the work a more scientific direction. These techniques will be used to analyze the interview findings. It should be mentioned that in situations where the sample size is satisfactory and the sample has been suitably selected to represent the target population of awareness, the relevance of statistical methods will provide greater validity to research' conclusions.

2.7. Conclusion

Chapter two provided a discussion of the rationale behind the choice of case study as a research design and the choice of the methodology used to conduct the present work. The range of methods and approaches that were highlighted falls within the paradigms of both quantitative and qualitative research. This was supported by a description of the use of combination and its benefits. Finally the method of data

collection, analysis, sampling (informants), and procedure (including the video conferences session and the setting) were also described. The following chapter deals with the findings of each instrument and the analysis of data as well as the interpretation of the main results according to the stated objectives, research questions and hypotheses.

Chapter Three

Chapter There: Data Analysis and Interpretation

3.1 Introduction

This chapter will review the process of data analysis and interpretation. This involves the combination of both quantitative and qualitative methods to reflect on the research questions and objectives, and to ensure, later on, validity and reliability of findings. The concept Validity involves whether the researcher really observes what should be observed. Whereas reliability can be seen as the degree between the natural situation of the investigation and data that the researcher recorded or obtained from the instruments used (interview and participant observation).

3.2 Analysis of the interview

This part provides a detailed description about the semi-structured interview used as a data collection technique. This includes: the procedures, the findings, besides, and the analysis and interpretation of the main results related to the research questions and hypotheses raised by the researcher.

3.2.1 Procedure

As far as the semi-structured interview is concerned, the researcher arranged a meeting with each participant separately. This meeting was held in November 2010 (after the end of the theoretical year as well as the video conferencing sessions). At the beginning, the researcher explained the purpose of this semi-structured interview, i.e. the use of VC in higher education in order to understand the effectiveness of VC as a means of knowledge acquisition and so on. Some introductory remarks were developed aiming fundamentally at putting the students in the right path and insuring that the data they will provide will not go beyond the central objective of the questions. Those remarks were, for instance, you are not obliged to answer all the questions, you can shift from one

question to another, and you may ask the interviewer to repeat or clarify the unclear questions.

In this sense, very general questions were asked at the beginning dealing with the number of video conferences sessions they were engaged in and the time devoted to each. Then, more specific questions about the real issues of incorporating video conferences in content delivery were asked. After the interview, all the participants were thanked by the researcher who requested them to provide comments and their impressions on the interview. This was done intentionally to obtain more varied data and recommendations from them.

The semi- structured interview questions were put under the following rubrics: *The technology used in the video conferences sessions;* which deals with the appropriateness of the equipments used. This includes the following questions:

- ✓ Which part of the technology failed? In other words is it the sound or the image?
- ✓ Was the audio of good quality?
- ✓ Was any use made of a data sharing facility?
- ✓ Which data sharing did you use?

The second rubric deals with *Content delivery. At this level, participants* were asked whether this technology could be used as an alternative to face-to-face teaching. To do so the discussion turned around:

- ✓ What was the topic of the video conferences?
- ✓ Was the video conference effective as a means of content delivery?
- ✓ Was communication successful during the sessions?

The last rubric deals with *students' attitudes and perceptions. Here the focus was on* the difficulties faced by the participants in this project. The following questions facilitate the task

- ✓ Did you link up successfully?
- ✓ How do you feel about the use of video conferences in education generally?
- ✓ How did you find that the video conference worked for you?
- ✓ Did the video conference meet your educational expectations?
- ✓ Was there something lacking in the video conference?
- ✓ What do you suggest to enhance the pedagogic benefits of a video conference?
- ✓ Do you feel more confident using desktop video conference?

3.2.2 Results

The results of the semi- structured interview are classified according to the rubrics announced above:

3.2.2.1 The technology used in the video conferences

The first question dealt with the quality of both the video and sound as the central issue. The participants engaged in this study declared that the image was not very clear as to meet their expectations. But this did not seem to disturb them. In fact, the sound (audio) was much more important since it represents the main part of the technology which failed i.e. there were many interruptions. The previous described circumstances caused a lack of motivation, lose of attention, misunderstanding of content, and made the informants feel bored. Figure 3.1 summarizes and

gives a quantitative representation of what have been said above concerning the first question of the first rubric.

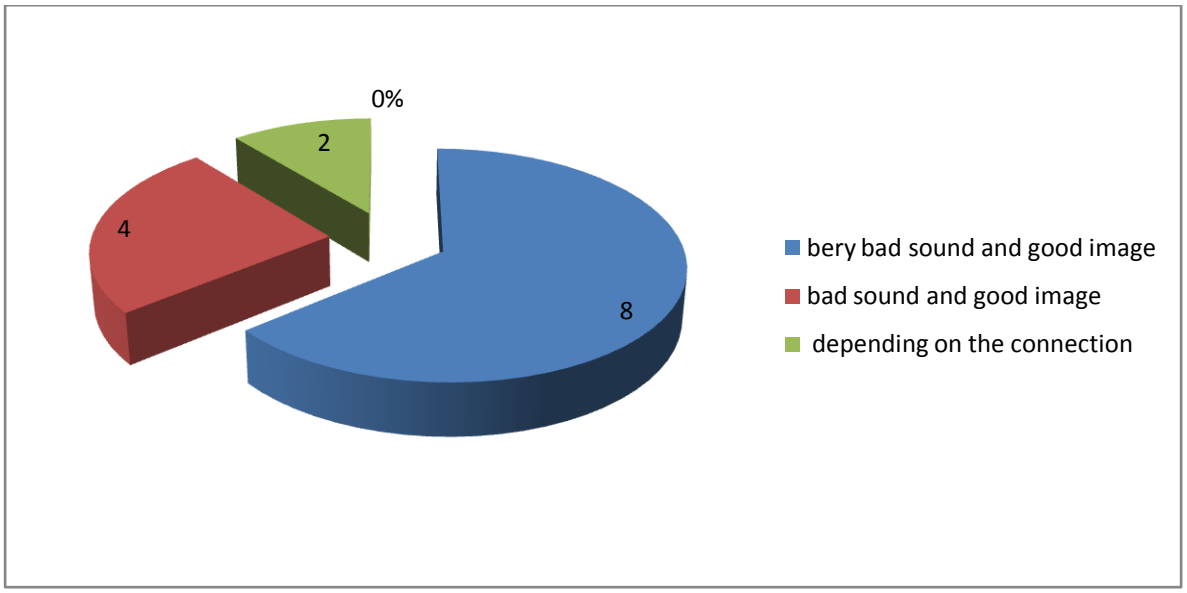


Figure 3.1 the quality of sound and image

To facilitate the task of transmitting data, data sharing facilities were used. This includes power point, typing some sentences on the Skype and showing some documents like figures, graphs and tables….etc. Figure 3.2 highlights the preference of students for the use of those data sharing facilities.

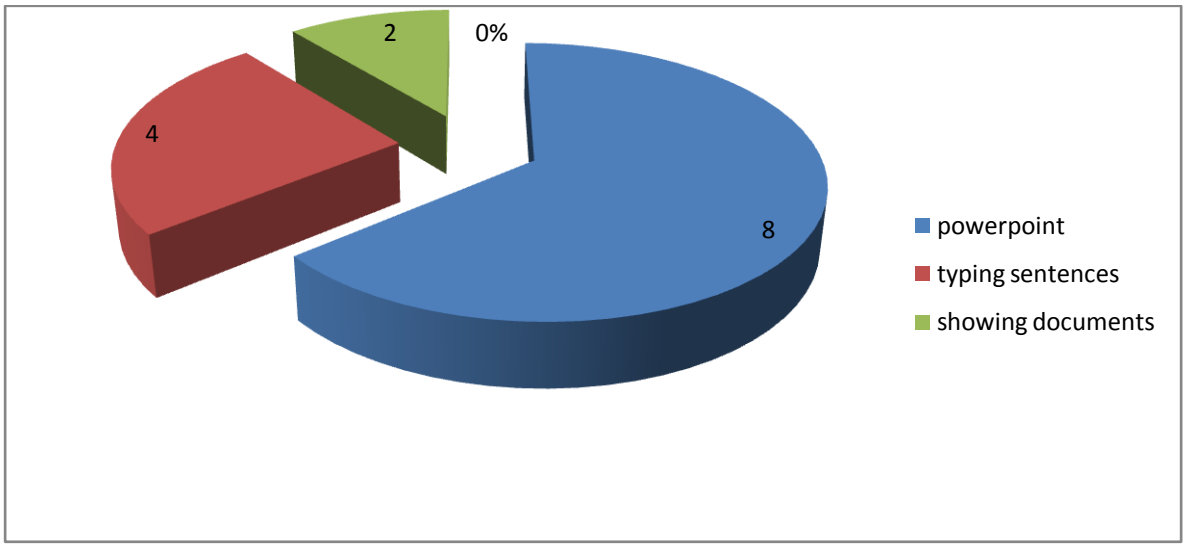


Figure 3.2 students' preference for the use of data sharing facilities

Figure3.3 deals with the different types of VC including: desktop [(1)] and laptop [(2)]. This question was necessary as it gives insights that ICT skills[(3)] are highly needed before even thinking about integrating ICT in language teaching and learning. The students' answers reflect that the term desktop was not known for them. After clarifying and explaining the term by opposing it to laptop, they understood the idea and felt more confident.

1- A small unit, which includes the camera connected to a computer. The unit may include echo cancellation to control the sound and will usually incorporate the microphone and camera and may include the speakers. These units are primarily used for network-based conferencing. Suitable for personal one-to-one conferences or small group use.

2- A laptop, also called a notebook, is a personal computer for mobile use. It integrates most of the typical components of a desktop computer, including a display, a keyboard, a pointing device (a touchpad, also known as a track pad, and/or pointing stick) and speakers into a single unit. It is also powered by mains electricity via an AC adapter, and can be used away from an outlet using a rechargeable battery.

3- This helps them become familiar with the equipment and learn how to make best use of it. This comes quickly with experience and is absolutely essential for the success and sustainability of any video conferencing initiative

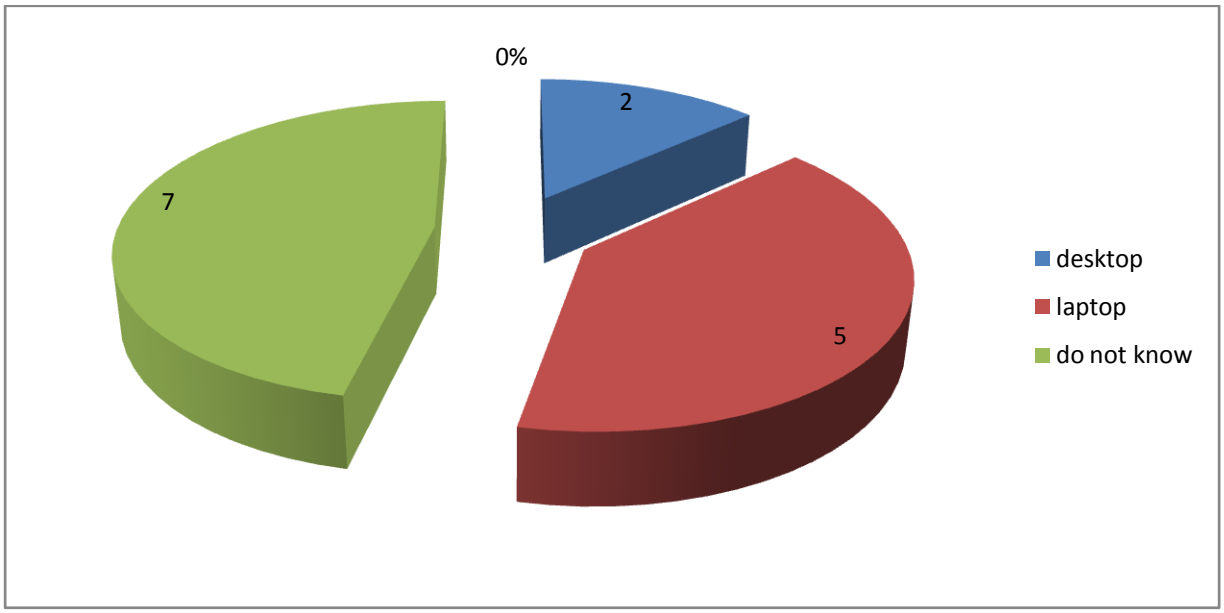


Figure3.3 types of video conference

3.2.2.2 Content Delivery

At this level the focus was on one of the pedagogical issues related to the video conferences as a mean of content delivery. Figure3.4 suggests there was a disagreement among the participants on the use of video conferences. Some refused it taking into consideration the problems encountered during the link. Others argued that if it has been designed appropriately it could be used as an alternative to face- to- face content delivery.

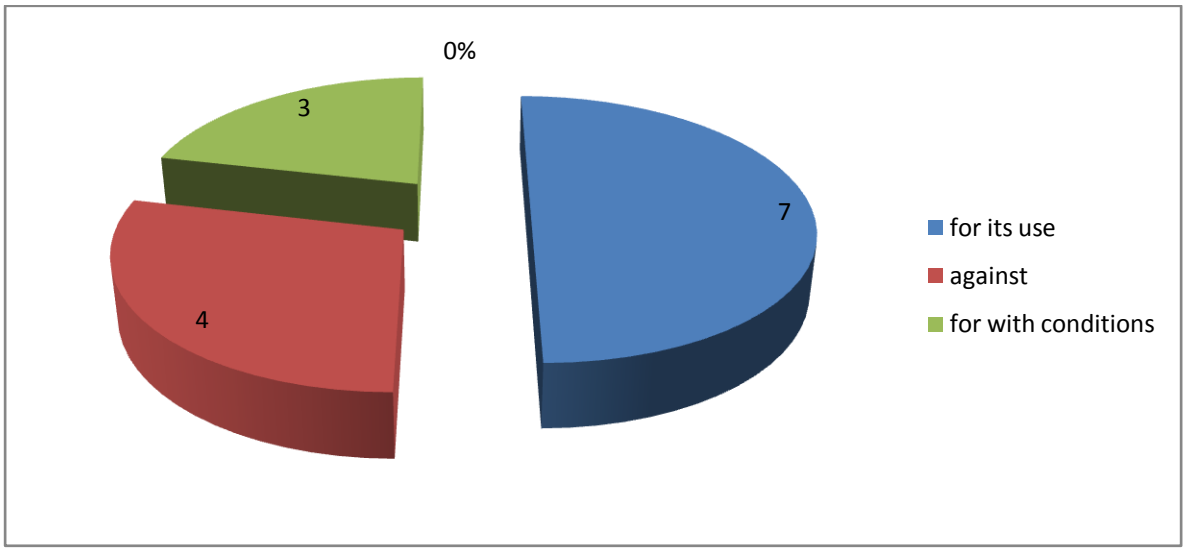


Figure3.4 video conference and content delivery

Figure3.5 illustrates that most participants agreed on the fact that the video conferences were effective as a means of communication as they gave them the opportunity to talk to experts and test their knowledge on ESP. only one student did not find video conference effective and thus preferred face- to- -face lectures.

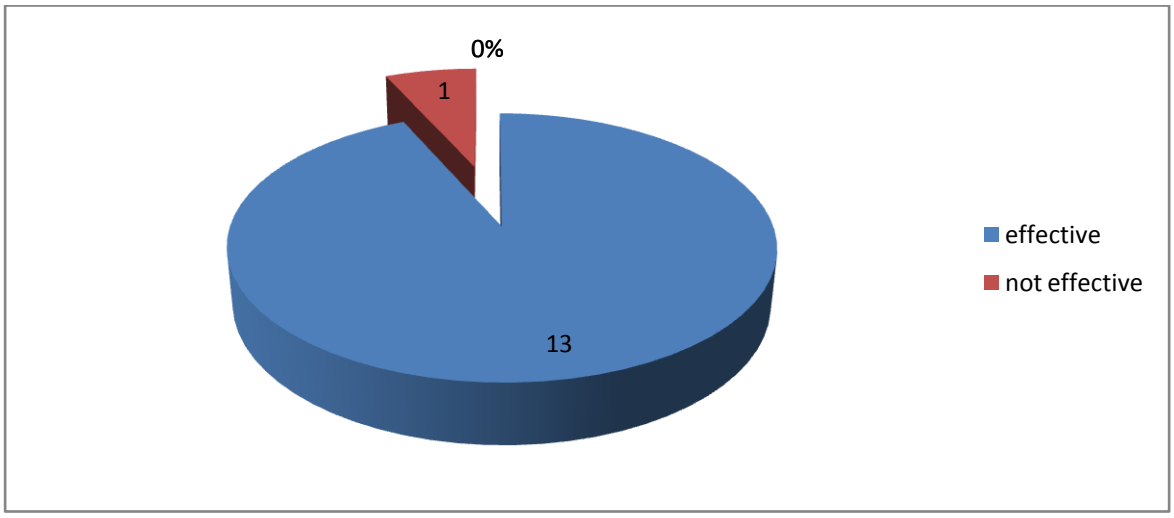


Figure3.5 the effectiveness of video conference

3.2.2.3 Students' attitudes and perceptions

When it comes to this third rubric the results brought insights on the real value of the video conferences sessions. The strengthening points which endeavored the above mentioned results related to the first two rubrics were: Interaction and motivation. Interaction was a significant component in the whole video conferences sessions. It was also the key factor in supporting a more social learning, negotiating meaning with the teacher in the far-end location, and forming a sense of community using this technology. In the same line with interaction, motivation played an important role in determining the success of the video conference experience. Many students claimed that they were highly motivated only in those sessions with less sound and image delays. Concerning the use of technology in education, the participants welcomed the idea and insisted on its spread since it gives more opportunities and creates an authentic environment for both teachers and learners.

The participants' answers also indicated that video conferences worked for them as follows: It introduced them to technology (ICT) i.e. computers, microphones; digital camera…etc, provided them with knowledge about ICT and ESP, gave them the opportunity to talk to experts outside Algeria, met their expectations such as breaking the routine of the traditional learning classroom, expressing their ideas and asking questions online which stands for them as a new experience. Consequently, all participants were ready to engage and repeat the experience and suggested a better internet connection, more time devoted to each video conference, i.e. to schedule the sessions for more than one hour and a half , and generalization of the experience at all levels of university instruction (starting from 1st year of under- graduation).

3.3 Analysis of participant observation

In the same line with the semi- structured interview, the following part summarizes the perceptions and ideas that arose in the focused group, through participant observation. This includes: the procedure of the video conference sessions under investigation as well as the rubrics which were developed to guide the observation.

3.3.1 Procedure

Fourteen ESP postgraduate students were observed while engaged in a series of 6 video conferences with experts in the field of ESP in geographically separated locations. A structured participant observation was used since observation categories had already been planned. The grid of this participant observation is presented below:

Category	**Includes**	**Researcher Should Note**
Description of the setting	Place and time	Anything concerning the place where the video conferences sessions took place, the time devoted for each session, and how long have all the video conferences lasted.
Description of participants	Gender, age, number, and professions	
The technology used in the video conference	Description of the video conference course, i.e. the technology, the quality of connection, sound, image, and the data sharing files.	The type of technology used-in this case it is desktop video conferences-,how was the connection in terms of

		speed, the ability to hear and see , and which type of data sharing which were used(PPT, doc….etc)
Content delivery	Verbal behaviorand interactions, as well as, physical behavior and gestures	Who speaks to whom and how long; who initiates interaction. Additionally, What people do; who does what ;who interacts with whom, who is not interacting
Students' Attitudes and perceptions of the video conference experience	Motivation and interaction.	Whether the participants were motivated or not. Interaction can determine this fact.

The above mentioned grid was adapted following the model presented by

Natasha Mack, et al 2005 (**Appendix A**). This model was chosen because it provides a systematic framework for the researcher engaging in a participant observation as it suggests some general categories of information for instance, description of the setting, the video conference course and the attitudes towards the video conference experience. Those categories were significant to the research topic, questions and hypotheses. After adapting the model to the present situation by putting what to observe under the same rubrics as the semi-structured interview including introductory grids related to the setting and the participants, the observation was done in the ESP class and the duration was generally one hour and a half depending on the video conference session.

3.3.2 Results

In the following section of this chapter, the major results of the observation are reviewed and followed by a discussion of them in relation to the already raised hypotheses.

3.3.2.1description of the setting and participants

Observing the setting indicates that the majority of the video conferencing sessions the participants lived lasted between 1^h: 30 and 2^h: 30. For that, the staff provided them with two different centers in terms of the equipments and the quality of the connection. However, the researcher observed that when setting up the video conference s, the two centers, initially, contained the following equipments: A *camera* pointed toward the students. It was adjusted through the video conferencing software to capture the scene in a classroom. A *monitor* which revealed a view of the remote room and the originating room. This enabled both the local teacher and the participants to see the far-end location. *Whiteboard and Projectors*: An interactive whiteboard was attached with a projector. This helped in enlarging the picture and gave a greater impression with all participants and had a bigger occurrence in the room. The added capability of the whiteboard and projectors is that they permitted the teacher, the capability to work from the touch screen to run the conference. *Speakers* were typically installed to produce sound throughout the class and *microphones* were set up on the tables. This was in the second center, while in the first one only one microphone used by the one who want to speak (either the local teacher or the students). One of the most popular presentation equipments the researcher observed in

this study was the personal computer. A PC was Attached to a video conferencing unit using a VGA cable or video conferencing-software enabled the teacher in the far end location to share images , show slides, web pages, demonstrations,… etc. Another observation the researcher drew attention to is the internet connection. All the video conference sessions used **IP** (internet protocol) based link since it was only possible across networks with sufficient capacity available for the conference.

When it comes to describing the participants engaged in this study, the first thing the researcher observed is that there were 14 participants, 10 female and 4 male. They were seated in front of the screen for optimal viewing. The way they behaved during the sessions also attracted the researcher's attention. In the first center, especially the first conference, the participants concentrated with the teacher in the far end location. This was clearly seen through taking notes as well as keeping silence. The researcher also observed that the participants encountered serious problems in changing the speaker, i.e., giving the opportunity to speak face-to-face (of course via VC) with the teacher in the far end location to all the group members. In their responses, the participants rapidly figured out a visual cue – to raise a hand to indicate for the local teacher a need for a turn.

3.3.2.2 The technology used in the video conferences

In this part, the focal point will be on the important standards and protocols related to video conferences sessions. This is why it can be thought-out as the most technical part of this thesis .A less technologically oriented reader may be more interested in moving

straightforwardly to the other rubrics. In fact, this part forms the basis for understanding the technical details presented in the discussion and interpretation of the main results. A desktop video conference was used as a technology but the internet connection was a critical factor. The quality of this connection was somehow bad in the first laboratory due to the old equipments. This caused many technical problems related to the quality of both sound and image. On the other hand, the second laboratory with its updated equipments insured a good internet connection and therefore good sound and image. The same data sharing facilities were used, i.e., PowerPoint, typing on Skype and showing some documents using the camera. An other result related to this rubric is that communication using video conferencing faces a higher cognitive load than face-to-face one because of a variety of challenges, including those of identifying who is speaking, detecting movement, coordinating eye-contact, turn-taking, and conversation pacing. These factors are discussed and highlighted in the following rubrics.

3.3.2.3 Content Delivery

This rubric deals with one of the main pedagogical issues related to the use of video conferences, i.e. content delivery. The first thing the researcher observed is that the way the content of the video conference sessions was delivered is much different visa vie the traditional face-to-face classroom in several ways. The first of these is that the content was delivered in the form of questions' answering, i.e., the teacher in the far end location had only to answer the questions already sent by the local teacher or the additional ones and which were related to one of the issues mentioned in the second chapter (2.4.3.1.Video conferences procedure).

A part from content delivery is learner-content interaction. The researcher observed that learner-content interaction resulted from students investigating studying the course content over a distance. This includes how students interact with the content presented by the teacher in the far-end location. In addition to this, several factors were seen by the researcher to have direct effects on students' perception of learning the course content. This incorporated continuous contact with the content; clarity of course design; time; participation in online discussions; and mode of delivering course content. In other words, the content required listening with intention on the behalf of the student since it was related to ESP. On the other hand, the second center provided successful video conferences (four conferences) which made the participants feel more comfortable with this technology. Additionally, *turn taking* plays an important role in judging the effectiveness of video conferences as a means of content delivery. Observing the participants gave insights that communicating via video conference represents a different experience from face-to-face one. At this level, some issues such as difficulties in managing turn-taking were covered such as poor sound system which resulted in participants' loses of attention so that the process of communication was slowed down and sometimes completely stopped. The last point to mention is that one of the frequent medium used to deliver the content was PowerPoint to show some slides as well as extra illustrations.

3.3.2.3 Students' attitudes and perceptions.

At this level, the researcher drew his attention to two types of interaction: students-students interaction and students-instructor one. The

former indicated that the interaction that occurs among students in all VC sessions was extremely difference from that in the traditional classroom. This was due to the fact that physical interaction was excluded, which means that it may have a direct impact on learning. In other words, Students' interaction with their classmates contributed to their learning during the VCs; this was clearly seen by the researcher when they started discussing what the teacher in the far end location said in case of losing the connection. In the Summary of Learner-Learner Interaction the results participant observation indicated that students perceived greater learning. Also, collaborative group interaction helped in learning the course content and easing feelings of isolation. When it comes to Learner-Instructor Interaction the results of the researcher observations revealed that the interaction intended to help reinforce students' understanding of the material or elucidate meanings. In their Interacting with instructors students clarify nebulous points and reinforce correct interpretation of course information. Motivation also was a key factor in determining the effectiveness of VC. Observing the participants in the first center indicated that they were less motivated due to the problems related to internet connectivity, the quality of sound, and image. Video conference sessions were seen to be a striking and promising application which allows the ESP postgraduate students communicate and discuss with experts in their field of interest at remote locations. However, its rigid length of delay which was sometimes long and bandwidth necessities where the internet connection was so bad limited its success. Interaction was also a cue. The researcher noticed that though interaction was required, it was limited to questions and answers with only one speaker at a time. On the other hand, the participants were highly motivated in the second laboratory since they interacted freely with the teacher in the far

end location by asking new questions, requesting him to clarify more, and facing the camera with no feeling of being ashamed. Additionally, although the quality of audio was generally good during a video conference session, more cognitive effort on the behalf of the listener was required than in face- to -face session. This created additional barriers for students for whom English is a foreign language. Fortunately, the participants had excellent verbal comprehension skills.

3.4 Discussion and Interpretation of the Main Results

In this section the focus will be on discussing the main results which emerged from both the semi-structured Interview and participant observation. This is preceded by mentioning and drawing the reader's attention to the three hypotheses developed by the researcher, and thus confirms or informs them.

The main point which emerged from the evaluation of the first hypothesis ,i.e., ESP postgraduate students may benefit from the use of oral-video talking with experts of ESP via internet-based video conferencing is that main results related to observing the ESP students revealed that they were generally more concerned with the video-conferencing. Most of the group tended to compare the video-conferencing with the way they had studied English before and with other methods of distance learning including participating in some online forums as well as using Chat rooms such as Skype, Yahoo, MSN and Second life. This means that there was a general perception among all the students that it would be much more beneficial to learn about ESP using VC. In spite of some shortcomings including the fact the participants lacked the confidence to speak and also, they could not

hear, due to the sound was not that good, the results of this study indicated that students vastly prefer VC. In terms of achieving the goal of offering a new way of teaching and learning, the VC technology did what it was supposed to do. However, its success was predicated by the availability of a VC classroom and adequate bandwidth each of which requires a significant capital investment. Alternatively, to face- to -face learning, this technology has good potential. Finally, the patience of the students, their willingness to try something new, adapt their learning style, and maintain a positive attitude was important during the process and confirm the first hypothesis, i.e., the ESP postgraduate students benefited a lot from video conferences talking with experts of ESP.

The second hypothesis was that the use of video conferences as an alternative to face-to-face teaching can help a lot in promoting the knowledge and language proficiency of the ESP postgraduate students. The discussion and interpretation of the results draws attention on: the effectiveness of video conference as a pedagogical means of communication. As an integrated approach with classroom activities containing more than one component is achievable using videoconferencing if preparation is thorough. The results of this study revealed that three basic components of the English language components were incorporated: basic communicative proficiency, language awareness. All the VC session included an introduction to key concepts and expressions which the students were likely to come across as the selected themes were discussed. This is part of language awareness. The synchronous environment of VC as opposed to the asynchronous one of E-mail interaction involves different student strategies. In VC conversations, students come across unknown vocabulary and sentence

structures as well as colloquialisms. This is why the sessions run smoothly and become more fluent; students developed techniques to make sense of the information being given to them by the teacher in the far end location and produced a suitable respond, thus improving communicative proficiency. This experience can be seen as an export function which requires minimum changes in pedagogy and classroom behavior. Because of the shift in the teacher's roles (facilitator, orchestrator, researcher, integrated of media, and learner), planning, strategies and skills required, VC is different than teaching in a face-to-face teaching. For instance, using this medium was more successful when: the staff provided a well equipped laboratory, the local teacher planed and well prepared the students in advance, and the passion of the participants with all the technical problems encountered as well as their willingness to try something new. Additionally, this technology can help the faculty to use VC successfully through adapting the teaching methods as well as learning to use the technology effectively. Moreover, assisting students to participate in video conferencing successfully includes delineating expectations as well as building skills and comfort in participating using the technology. Being aware of the fact that technology is a tool in the hands of teachers, a universal remedy to all educational challenge, and that it can drive, teach, and provide, the teacher in the far- end location had to adjust his methods of communication to the students. For example, seeing the students only through a screen requires greater efforts on his part to ensure that he maintains 'presence' amongst the group. It also requires consistent concentration to keep the students feeling comfortable and keep them plugged in. In addition, he had also found it necessary to be flexible and adaptable in the way he used the technology. This is referred to as

interaction. Interaction was critical to the VC -based learning situation. It is also the key factor of this use of video conference to support a more social learning, negotiating meaning through interaction with experts over distance, and forming a sense of community using this medium. The results of this study do not only emphasize interaction but regularly evoke the social nature of learning and video conference's ability to create community. All the following Interactivity facilities had been covered such as multipoint audio, multipoint video, ability to show desktop, share files, show a document camera image, or to utilize text-based chat or interactive whiteboard. This was done to ensure that though the difficulties encountered related to video and audio, those ESP students benefited from the experience. Usually, not all of the above mentioned methods were used in a single session but the selection of tools was diverse depending on the needs and special pedagogical approaches. All what has been mentioned above lead the researcher to confirm the second hypothesis, i.e., the use of video conferences as an alternative to face-to-face teaching can help a lot in promoting the knowledge and language proficiency of the ESP postgraduate students under one condition, i.e., if VC was designed appropriately in terms of the technical, teachers, and learners' preparation (this will be discussed in chapter four).

The last discussion deals with the third hypothesis, i.e., some difficulties such as internet connectivity, the quality of sound, the quality of image, and lack of interaction may impede the appropriate use of video conferences related to. The results of both the semi-structured interview and participant observation seemed to imply that the way those video

conferences were managed made the most difference between being a useful learning tool, or a poor alternative to face- to- face class. This includes *managing the ESP participants* using a web scheduling tool so that video conferencing is fully automated and made simple; *managing the room*, i.e., a big auditorium where the participants were seated; *managing the endpoints* to ensure the system is working when starting the link with the expert; and *managing the networks* because video conferencing is unique as it is bi-directional and real-time, i.e., it doesn't function well with networks that suffer from packet loss or jitter the network. In other words, the technical difficulties caused initial concern to both staff and students. Generally, those problems were related to the quality of both sound and image. These are important issues in using video conference to ensure a good quality of the session. This is why the incorporation of codec(1) may be helpful. During the interview and even the observation, participants often commented on the video quality of their conference. A general concern expressed was that they were not able to see either the teacher in the far end location or the things he sent all the time. Despite whether the video conference is set up in a *dedicated* conference room, i.e., a room planned and located specifically for business meetings with furnishings, lighting, technology, and services

1-Codec is the technology used to compress the video signal into a series of data packets relayed over the network, to be decompressed at the receiving site to reform the video image.

designed to support productive meetings, large auditorium (**see the image of the two types in appendixB/C**) or if a person is participating from an individual computer, there are certain issues that should be taken into account. One of these issues is: *the camera location.* It has been noted that reaching a realistic eye-contact might be impossible to accomplish

with many video conference setups. This is why a reasonable camera position can help participants spontaneously learn when the distant participant, i.e., the teacher in the far- end location is looking 'straight' at their image. As stated above, eye contact often plays critical roles in facilitating smooth turn-taking in face-to-face meetings. However, most of the video conferences sessions the ESP participants engaged in did not support turn-taking very well because eye contact appropriately was not well transmitted. That is why; the process of smooth turn taking was slowed down. This was due to the fact that the remote teacher was displayed in (2-D), i.e., two-dimensional image standards used in most video conferences on a screen where there was little opportunity to use recognized and accepted methods (such as hand-raising) of indicating the need for a turn to speak. This can be considered as an expression of a visual signal that seemed to be reasonably natural in video conferencing and occurred in a number of sessions. The appropriate explanation for this to happen is that the camera is usually located on top of the screen which displays the participant's face. This is why; users are generally not capable of establishing eye contact and thus the content is difficult to understand. Similar discussion arose concerning the sound quality of video-conferencing. Both audio and video qualities were critical for the ESP participants who were more forthcoming in their criticisms. In other words, the results obtained confirm that if the audio quality is ruined, communication among the participants in the two locations is hard. There might be a critical level for the audio delay between sites, i.e; those longer than 0.5 sec. tend to provoke collisions when speaking and cause problems related to body language, which in turn greatly discourages spontaneous interaction. On the other hand, the delay should not exceed 0.15 sec or the natural flow of communication starts to suffer. This is

why minimizing the length of delays can help facilitating eye contact and thus turn taking. From the above discussion related to the variety of technical problems which were of direct impact on reaching successful video conferences calls, the third hypothesis is confirmed.

3.5 Conclusion

As a conclusion, videoconferencing as a format for courses that have large amounts of technical content or visual demonstration is worth pursuing. It is closest to a face-to-face experience for the ESP postgraduate students who raised many concerns such as the perception that the VC technology was a barrier to their interaction with the teacher in the far end location. If this concern can be addressed in future applications, the technology has merit. The other concern of this format is that it requires good network connections, large video displays, and a willingness of the instructors and students to work with it and have patience through technical difficulties. It also requires an investment of time and money. The last concern is the savings achieved through reducing travel time and costs, improving quality access, and, as this study also demonstrated, short-term classroom space utilization. In the eyes of many students, technology is a compelling and interesting part of their lives which may provide explanations of their initial interest. Educational technologists, however, have long argued that it is not the technology itself, but how it is used, which makes a difference to learning.

From all the observations made above, it was obvious that those ESP postgraduate students have benefited a lot from studying through video-conferencing, including the option of using the computer, or displaying texts on the screen. In addition, the students' felt they were less distracted when learning via video-conferencing than in an ordinary class. There seemed to be a feeling of obligation and commitment on the part of the students, not only to be present at classes, but also to actively participate and contribute. The last chapter will discuss some of the conclusions derived from this experience attempting at offering some suggestions and recommendations for a better future research on the use of video conference as a means of content delivery.

chapter Four

Chapter four: Suggestions and Recommendations for the Use of Video Conference

4.1. Introduction

This chapter suggests the integration of technology in language teaching and learning; mainly video conferences at higher education. Some important factors are raised and discussed concerning this pedagogical issue including namely; the use of video conferences for administrative and teacher development, course enhancement, and blended and/or distance learning. This chapter is also concluded by pointing out some of the limitations of video conferences. Finally, it ends by giving some recommendations and suggestions for better understanding and integrating video conferences to enhance the quality and the sustainability of higher education and scientific research in Algeria.

4. 2. Pedagogical Applications of Video Conferencing

The availability of new tools often creates opportunities for change in practice. Among these, Video conferencing and other networked tools can be effective in creating constructivist learning scenarios in which students use those tools to create their own solutions to curricular problems. The main pedagogical applications of VC are listed below

.

4.2.1. Advantages of pedagogical use of video conference

Recently educational facilities have begun supporting university students taking advantages of video conferencing technology. Its equipments, i.e., video conference can help facilitate instruction and provide distant learners with a host of resources and access to content providers, teachers, and librarians. Moreover, adopting video

conferencing as a method of content delivery will help enhancing communication and instruction. This can be done through connecting the local students with others outside the country and producing networks carrying large volumes of video and text data. Other benefit students may have from video conferencing technology includes librarians who can use video conferencing to develop strategies, provide resources and improve the quality of their service and delivery.

Additionally, video conferencing facilitates learning by allowing remote or distant learners to meet regardless of their location. Students can take classes at multiple universities. In essence classes that are not available at one location may be available at another through video conferencing. Video conferencing can also benefit non traditional students who are not able to attend classes during normal hours. it can also be used as a career or employee training tool. Many colleges are now collaborating with local businesses to offer students certification and business training. Expert subject matter delivered from individuals in the field is easily delivered to students using this new technology. Student can also take advantage of mentoring services offered by companies in distant locations using video conferencing technology. The possibilities are virtually endless.

As an interactive communication medium, another key benefit of video conferencing is that it’s almost like being there. The visual link and communication among participants enhances understanding and helps participants connected to each other, supporting cooperation among traditionally isolated institutions. Also, video conferencing can improve preservation and appeal to a variety of student learning styles by including varied media such as video or audio clips, graphics, animations, computer applications and break-out discussions.

One of the benefits of the video conferencing seminars is that the students have a chance to meet experts to share their specific research interests. They can also attend presentations on a range of topics related to their areas of interest they might not otherwise engage with. Another valuable outcome of the video conferencing seminars is that students have a chance to discuss issues from different perspectives, which helps break down assumptions about related fields they may not realize they had. The video conferences enable students to exchange information and ideas in real-time at a distance.

In sum, these moments come up in face- to- face learning but video conferencing enables more meaningful relations between two sites at a distance.

4.2.2. Enhancing the Use of Video Conferences

The following suggestions could be given to enhance the use of VC as a new pedagogical technique. First, there is a need for more training in e-learning techniques and strategies for teachers and learners. This can be done through the gradual introduction of video conferences courses for students in general and teachers in particular. The second suggestion which may ensure a better use of video conferences is to try not to involve the learner with many courses using different techniques simultaneously. This is why a more strategic planning for the management of video conferences is needed. In other words, the university has to develop and adopt a strategy of gradual introduction of distance learning. Finally, ICT training should be driven by the *pedagogical* requirements of both teachers and students and not led by the technology itself. This last idea is a basic one and should always be considered when developing courses of this

nature. The following criteria are of worthy value to anyone involved in developing and delivering video conferencing or other ICT related training courses associated with distance learning. The first of these is *including the key service providers in the University*: a multi- service approach for the design, development and delivery of this type of training ensures that there is a necessary combination of educational, technical and presentational skills as well. These service providers also have an important role to play in promoting, supporting and managing the video conferencing facility and its use at the university level.

The second is to *provide training at a departmental level*: where possible, it is necessary for the staff to provide the training at a departmental level. This allows them to have training in the same line with the strategic teaching and learning needs of that department. Therefore staff development should not only be servicing the needs of the individual but also those of the organization. This idea is supported by Gibbs and Blackmore who believe that "… staff development becomes an adjunct to organizational development rather than a personal matter" (as cited by Maier et al (1997)). Additionally, where possible, departmental support staff should be included in all video conferencing and ICT related training. This provides an opportunity for an appreciation of the complementary roles of the teacher with their needs and the support staff with their technical expertise. Support staff should be encouraged to obtain a dynamic role in video conferencing and ICT related training.

The third ingredient is to *be apparent concerning the objectives of the training*: the reinforcement of effective teaching with video conferencing is the requirement for a good communication and

presentational skills to ensure good teaching practices. This is why when designing training; it is important to be clear about the boundaries of that training. In other words, the central issue of video conferencing training should not be to teach the basics of good presentation or effective teaching. These supporting skills should be addressed in other staff development courses and built upon in video conferencing training.

The fourth cue is to *use a methodical approach in designing training:* it is, in fact, important when designing training to identify and explore all the appropriate components as early as possible. It would be recommended, at this level, to use an approach, like the 'moral framework' as it provides a checklist and a means of cross referencing that all components and their interrelationships have been considered. The framework is also useful in evaluating and communicating progress with all project team members.

The fifth key is *thinking carefully about who delivers the training*: the trainers can greatly affect the shape and style of any training. They should have previous experience in ICT training if possible; have experience of using the technology to teach. This ensures that they will have firsthand knowledge of the subject area and can empathize with participants, appreciating their fears and anxieties. They can also share experiences and suggest innovative applications of the use of technology.

The sixth parameter is to *balance the training methods*: making a balance of training methods is required to ensure that the participants are given the opportunity to acquire information, assimilate and reflect on it, view it in their own context and gain

experience themselves. Evaluations to date have been very positive in terms of the content and teaching methods with the participants finding most benefit from the practical and hands-on sessions.

The final phase to be mentioned is to *make the trainees aware of the potential barriers to learning*: for an effective use of technology, staff needs to have a positive reception of the limitations of the technology. In addressing these 'potential barriers to learning' suggestions can be made on how to cope and manage the effective delivery of teaching.

4.3. Preparing good conditions for video conference

After having a look on the pedagogical implications and how to better enhance the use of video conference, the following part summarizes some of the conditions that should be taken into consideration when preparing for video conference sessions.

4.3.1. Technical preparation for video conference

The technology of video conferencing has advanced rapidly in recent years. Picture and sound quality of large room-based systems are reasonable and the costs of installing and running them have dropped so that they are now becoming a realistic option for institutions teaching or planning to teach across more than one site using video conference.

Video conferencing systems can be broadly grouped into three categories:

- ✓ Room based or 'studio' systems designed for use by from

perhaps five participants up to a lecture theatre or even a large conference.

- ✓ Roll about systems, designed to enable the system to be portable. Typically, these systems are designed for small group use
- ✓ Desktop based systems designed for individual or small group use.

Furthermore, the distinction between point to point systems where two sites are linked- this study was the case- and multi-point systems where one main site is linked to a number of sites simultaneously can be illustrated through Figure 1 and figure 2.

Figure.1. Single point

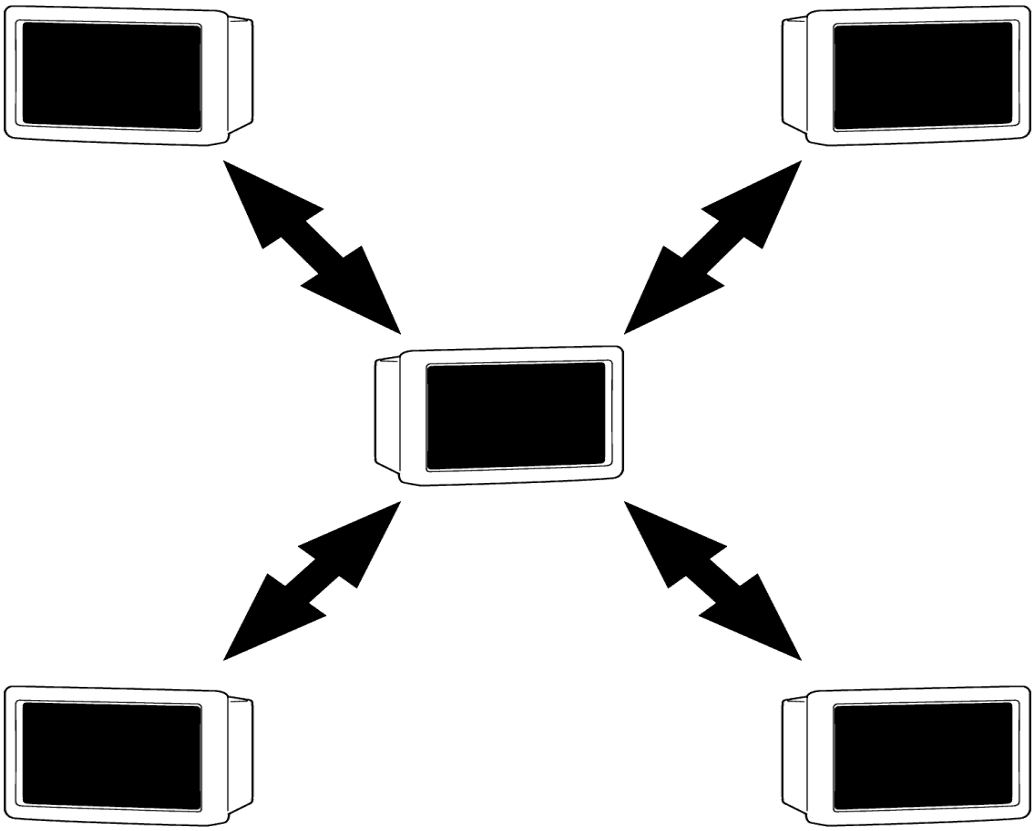


Figure.2. Multi-point

The following ideas aim at providing staff that are using or planning to use video conference including small size group number of students with the necessary guidelines. Those guidelines were developed from the existing literature of using a point to point video conference system and while the issues are not specifically addressed to multi-point systems, many of which are also applied to them.

4.3.1.1 The Role of the Technician

Having a technician is a key factor in the technical preparation of video conference. He will take care of the controls during the sessions. For this to happen, the staff should be provided with this support- at least for the first sessions. When it comes to the fact of working with a

technician, the following ideas are necessary to take into consideration:

- ✓ It is necessary to familiarize the local teacher and even the students with the controls, this will help them understand what can be done with the equipment while a technical problem or a delay appears.
- ✓ Meeting with the technician in advance will also help to discuss the issues related to the plans program; the visuals needed for the display as well as making any camera adjustments required.

4.3.1.2 The visual display equipment

As mentioned in the last point related to the role of the technician, the equipment in the video conference room is far better in many respects than that found in most traditional classrooms. Typical facilities are:

- ✓ A document camera for displaying overhead-type graphics, information from books, photographs and small objects. It is a very versatile tool. Objects as well as documents can be displayed. The camera will be able to zoom in to reveal detail that could not be seen by students in a conventional lecture if the teacher just held the object. In addition, because the environment is not controlled in which the object is being seen, the teacher can be sure that all students will be able to see the detail and not just a few at the front.
- ✓ A slide projector. This will help in power point presentations.
- ✓ A PC link for displaying presentation packages, spreadsheets and databases.

- ✓ A video recorder.
- ✓ A whiteboard for spontaneous writing and drawing.

In addition to the above facilities, a fax/copier is very useful. This will help both teachers fax handouts or copies of work done by student groups within the session. Sound quality and good lighting need to be checked carefully, and often, a short introductory practice session can usefully resolve any difficulties in these areas. Audio feedback is avoided by placing the microphones well away from the main monitor's speaker system, for example. Failure to do this can result in a most amazing echo effect, as voices are beamed back across the world

4.3.1.3 Preparing the Room and Equipment

Video conferencing relies on seeing and hearing. A poor picture can make communication difficult and without sound, the video conference cannot take place at all. It is therefore essential to test the connection before the conference begins by check the type of system being used at the far-end and arrange of informal test. Technical difficulties can usually be sorted out and adjustments to the physical environment can also be addressed. Additionally, some thought to arrangements in the room are needed. For example, planning where contributors will sit may help so that movement will not disrupt the flow of the event. Consequently, video conference partners will be more interested in seeing the students than their furniture

4.3.2 Teachers' preparation for video conference

Using video conferencing technology has changed the normal teaching environment and this can cause concern for both teachers and

students. However, by approaching the possibilities offered by video conferencing in a positive manner the teaching experience can be turned out to be successful for all concerned. Preparing teachers for the use of video conference may have concerns related to the following issues:

Many teachers are not able to use the video conferencing equipment because of its complexity though it is designed to be easy to use and there will be basic guidelines supplied with the system. However, the best solution is to push them practice and use the equipment themselves. If it is possible, having a technician to control the equipment when they are teaching is necessary as mentioned above. This will certainly make giving the session easier.

Being aware of the limitations and possibilities that using this particular technology offers will assist with the planning of the sessions and make them more effective. For example, by thinking about what can be done visually with the equipment, teachers may think of ways in which their sessions can become more interactive.

Teachers will have to adapt their particular teaching style when using video conferencing. One of the difficulties in teaching at a distance is the potential alienation felt by students at the remote site; the teacher is not at those students' site and they cannot interact with him as they normally would. The teacher can have difficulties in receiving feedback through the body language they normally have in a traditional classroom.

4.3.3 Students' preparation for video conference

Students need to be prepared in advance for their videoconference. They need to be comfortable with the nature of teaching and learning via videoconference as well as with the technology itself. It is most important for students to know the purpose/objectives of the course in general and the videoconference component in particular. A course outline should be provided. The later explains the role of videoconferencing in the program and any expectations regarding pre- or post-reading and/or activities. Any requirements regarding attendance and participation should be stated.

Students will have to learn about the concepts to be presented in the video conference in the weeks/month prior to the scheduled video conference. The objectives of a successful video conference have to be aligning with the curriculum goals. They can be asked to develop questions to ask on the day of the conference at least 1-2 weeks before the video conference. A day before the video conference teachers may Review video conferencing protocol with the students. If possible, allow students a "practice session" to familiarize themselves with the format of the conference. Additionally, students will be seated or "in position" before connecting. This will help familiarizing students with the technology. A simple guide can be issued to students providing them with information on teaching and learning through videoconferencing, and appropriate opportunities to discuss that information (particularly the importance of interaction and the expectations in this regard).

.

4.4. Limitations of video conference

Limitations related to integrating video conferences as a method of teaching and learning can be covered. Despite the fact that the advantages of this technology have been widely acknowledged, it has the following limitations:

4.4.1. General Limitations

- ✓ The initial cost of the equipment and leasing the lines to broadcast conferences may be prohibitive (Idaho, 2006).
- ✓ The actual use of VC may be limited due to signal discrepancies between the transmitted and received messages and transmission or reception delays due to limited bandwidth or active lines (Panteli and Dawson, 2001). This study tried to highlight this since the ESP students have experienced many delays which prevented smooth interaction as well as slow down -in sometimes completely stop- the process of communication.
- ✓ Poor image transmission may affect not only visual interaction associated with body language, eye contact, social cues, but also document sharing capability and the image of objects that participants may be asked to comment upon (Panteli and Dawson, 2001).
- ✓ Unfamiliarity and inexperience with technology may be a drawback in initiating VC meetings (Panteli and Dawson, 2001). This was clearly seen in the case of the ESP postgraduate students where it was the first experience for them and even for those participating in the GVC program (the GVC lectures were in the form of cultural exchange whereas in the video conferences sessions it was teacher to students).

✓ One of the key factors this study dealt with is that video conference restricts fewer formal and non-verbal forms of communication as gestures along with other body language features are regularly difficult to pick up due to the poor transmission of information, slow movement and unclear pictures.

4.4.2. Limitations for Education

✓ Unless a strong effort is made by the instructor, students not located with the instructor may remain uninvolved in the course (Idaho, 2006). This was clearly seen when observing the ESP students where a great deal was done from the part of the teacher in the far end location to transmit the message.

✓ If visuals, similar to hand-written or copied materials, are not properly prepared, students may have a difficult time reading them (Idaho, 2006). This study supported the idea by mentioning the role of the delays encountered to slow down the process of communication.

✓ If the system is not properly configured, class members may observe an audio "echo" effect (Reed and Woodruff, 1995). The result is audio interference that detracts from the learning environment. The present study highlighted this fact through the notion of interaction as well as turn talking.

4.4.3. Limitations in Organization

➢ Maintaining constant eye contact with the people at the other end by looking at the screen limits opportunities for side-conversations. This means that conversations between the ESP students are not highly motivated. This resulted in lose of interaction between them and the teacher in the far end location.

- Managers often fail to apply rules in running a video-conference that they would normally use in setting up a conventional face-to-face meeting (Panteli and Dawson, 2001).
- There is a need to change individual behavior within the setting of a virtual meeting in order to avoid potential misunderstandings and possible social embarrassment. For example, the ESP participants are expected to address questions to specific people-in this study the teacher in the far end location is the point- by calling their names, rather than just establishing an eye contact (Panteli and Dawson, 2001).

4.5. Recommendations for a Better use of Video Conference

Although there is a considerable body of literature concerning the use of video conferences in higher education, certain aspects are recommended and require future consideration and more explanation. They are listed in the following sections:

4.5.1. Recommendations to Teachers

The following recommendations are seen by the researcher to have a direct impact on the effectiveness and appropriate use of video conference as a means of content delivery as well as facilitate the task for teachers opting for this new medium. The first is related to *Investigating and developing instructional designs and learning activities.* It would be preferable if those activities focus on providing space and motivation for students. This will help them work individually and collaboratively to create and share their own understandings of learning content using video conferencing, besides, other information and communications technologies. To achieve the

purpose of working in collaboration teachers are also recommended participating in any online or face-to-face in learning networks whenever possible. This will facilitate the task of sharing ideas of successful teaching and supporting each other.

The second recommendation is linked to *increasing personal competency with video-conferencing and other digital technologies*. This can be done by exploiting the professional development opportunities and self-study provided by the technologies themselves. Additionally, it may help enhancing personal productivity in performing instructional, professional and administrative tasks.

The last point related to recommendation to teachers is *integrating other media into the lessons***.** By doing so, learners will be able to acquire the skills of searching, personalizing, and manipulating information from many sources to construct their own knowledge. This can be supported by developing blended learning opportunities for students and teachers alike whereby face- to- face encounters among participants are blended with video-conferencing and online learning opportunities. Additionally, the development of activities whereby students can learn how to use and control the videoconferencing technology will help to co-create their own learning experiences.

4.5.2. Recommendations to Administration

When it comes to the level of administration or staff opting or planning for the use of video conference, the following recommendation are said to be of great value. The first one is *providing central coordination and policy development.* This will help

supporting distance education enrichment and administrative applications of networked technologies, including video-conferencing. Additionally, providing opportunities for formal and informal training via networking among teachers who are using video-conferencing technologies will ensure that they are dependent upon communications technology and have a technical support so that active learning in their classes will be available.

The second is related to *developing ICT policies.* This can be done with the intention that teachers who participate in distance education programming are supported in the efforts involved in effectively teaching in distributed contexts. To do so, organizations should provide effective supervision and support for students in remote video-conferencing classrooms by developing cost effective ways. These will likely include: designs such as use of teacher aides, on-call support from administrative or other teaching staff, construction of remote video-conferencing rooms with direct observation by school staff, and other strategies to provide assistance to students and the remote teacher in a timely fashion.

The last recommendation is *a continuum support for the emerging video-conferencing.* This can be done through focused community of practice by: first, continuing the secondment of educator/leaders from the system to provide province wide coordination, training and support for the videoconferencing community. Second, continuing support and animation of the online community. Third, maximizing the capacity of the Super Net will facilitate the transition of documents in any medium as well as support document exchange between and among students and teachers. This

can be done by making use of the capacity of available technologies to make this task as seamless and easy as distributing materials in a face-to-face classroom. Fourth, continue support for the development of TD resources available anytime and anywhere for new and experienced video-conferencing teachers. These should including: promising practice guidelines, instructional videos related to both pedagogical and technological training on effective video-conferencing application, community building, support and advice forums, technical reviews and announcements of new technologies, and results and reviews relevant video conferencing related research studies.

4.5.3. Recommendations to Learners:

In the same line with teachers and administration, learners are considered as being an important part of video conference. This is why they are recommended first: to *learn to use the video-conferencing technologies.* This will offer them new source of knowledge suitable to their classes and learning environment. This can be done through an imaginatively plan for ways that this environment can be most effectively used to enhance their education.

Additionally, they are recommended to *develop a spirit of being assertive in remote video-conferencing classrooms.* This will ensure that no one disrupts or deprives them of their learning opportunities. This study indicates that insufficiently functioning technology (due to network problems and incorrectly setup hardware) leads to ineffective learning situations. Research on distance education has found that pedagogy is more important than technology in order to affect learning (Phipps & Merisotis: 1999). Additionally, it is agreed but also claimed that technology must work properly if the students have the

chance to learn at all. This is why the use of unstable technology clearly affects the learning situation negatively for the students, which focused too much on the failing technology instead of their learning tasks.

The last recommendation is related to *avoiding being refrained from using video conferences.* During this type of courses students are also recommended not to neglect the synchronous tools due to problems with perceived audio and video quality. This will reduce motivation among them because of the problems with the network and hardware. This study showed that some important aspects of a good learning environment were put aside because of the problem with the underlying technology. It is, therefore, important to consider basic issues such as reliable technology and infrastructure, guidelines and pedagogical methods in order to develop easy to use learning environments that include desktop video-conferencing.

An important conclusion is that there is need for continuous support during a distributed course that uses more advanced technologies like video-conferencing tools. This is important not only for the setup and maintenance of desktop computers and the net-based learning environments, but also for support with pedagogical issues such as recommendation of course design and pedagogical methods and training. It is at least as important to educate the teachers about the technology and pedagogical aspects as having a working net-based learning environment. Using the most suitable pedagogical techniques is simply as important as the material to be studied, and perhaps even more so than for traditional courses. Despite many shortcomings in current examples of distributed courses, this study shows some interesting results indicating that a combination of synchronous and

asynchronous methods can be fruitful in net-based learning environments. In conclusion, attaining an effective environment for net-based learning includes not only working technology but also a well-planned course where the incentive to use the technology is clear.

Despite these views, there is current excitement over the development of low-cost pc-based video conferencing, using public domain software and small cameras. If video of the client becomes just a further data type, so the argument goes, and then video will be used naturally to support communication. Where high-bandwidth communication, high-bandwidth in the psychological sense, is found to be significant, then video will be demanded. Whatever thing is possible with video conferencing if sufficient amount of money is available. However, institutes must have a clear plan about how they to teach as well as where they want teaching to be delivered before committing to a specific delivery technology if cost effective systems are to be well established.

4.6. Conclusion

The foremost profit of using video conferencing is overcoming the limitations of distance. With diverse technologies, it is feasible to connect geographically dispersed persons or groups to include an assembly or a collaborative work session. As seen, throughout this work, video conferencing is a wide-ranging term covering many technologies and possibilities. A video conference can be among two or multiple locations, it can make use of focused equipment or run a normal computer – it can be assisted with content sharing, accompanied with other response channels and it can also be streamed live or recorded for later use. There are many solutions and some of them might be recognized as being better for a definite case than others. Additionally, choosing the most suitable video conferencing

tools and utilizing them to their best ability can be a confusing task especially for a novice. By selecting the finest tools, and utilizing them according to the optimum practices, it seems to be possible to embrace a successful conference, and, thus, to empower the participants to take advantage of the new technology by overcoming the limitations of distance.

In the same line of though, video conferencing enhancements also need not be scheduled every day, but instead used for special events such as guest speakers, debates, personal introductions, and other enrichment activities. In other words, adopting a blended learning setting, much of which is based on lower cost technologies, could lower or eliminate altogether jurisdictions' current need to expand their room-sized video-conferencing capacity. The minimum requirement to achieve reasonable sound quality is to have the video conferencing room free from external distractions. Also the microphone(s) should be of some quality. In an optimum scenario, there would be a single (possibly wireless) microphone for the presenter and group microphones for the participants. Thus utilizing an audio mixer with noise gate and echo cancellation helps the quality – this functionality is nowadays integral to many separate video conferencing end-points and even in some web conferencing solutions.

General Conclusion

General conclusion

The researcher in this thesis tried to investigate the use of video conferencing by the department of foreign languages (English section) at the University of Tlemcen. This was done through observing the ESP postgraduate student in a series of video conferences. It was clearly seen that this new pedagogical method is still at a very early stage and yet the recognition of its potential for educational interaction between remote participants is well established. However, video conferencing is not confined to a single mode of teaching. But, it provides an avenue for delivery of traditional pedagogies as well as for exploring new ways of educating children and adults.

To clearly understand all the above mentioned tasks, the researcher used a case study research design, and a combination of both qualitative and quantitative methods for data collection and analysis. The main objective was to find answers to the following research question:

1. How do ESP postgraduate students perceive the use of oral –video talking with experts of ESP via internet-based videoconferencing?
2. Can it be used as an alternative to face-to-face interaction to improve their knowledge and language proficiency?
3. What are the difficulties encountered during the link with those experts in the far end location?

And thus confirm or inform the hypotheses derived including:

1. ESP postgraduate students may benefit from the use of oral-video talking with experts of ESP via internet-based video conferencing.
2. The use of video conferences as an alternative to face-to-face teaching can help a lot in promoting the knowledge and

language proficiency of the ESP postgraduate students at the University of Abou Bakr Belkaid Tlemcen.

3. There are some difficulties facing the appropriate use of video conferences related to internet connectivity, the quality of sound, the quality of image, and lack of motivation and/or interaction.

The general layout of this work comprised four chapters: chapter one reviewed the importance of ICT in education. This included the following two sections: the first one shed light on how ICT can expand access to higher education whereas the second one gave insights into the use of ICT in Algerian education, the video conferences experience, and how video conferences can be useful for ESP teaching and learning. Chapter two reviewed the data collection procedures undertaken to answer the research questions and test the hypotheses. This included the research design, the research methodology, and instruments of data collection, sampling, and data analysis techniques. Chapter three discussed data analysis and interpretation.. Chapter four concluded this thesis by giving some suggestions and recommendations related to the use of video conferences in higher education.

The results obtained from both the semi-structured interview addressed to the ESP postgraduate students engaged in the series of video conferences sessions and participant observation of the same informants indicated that they benefited to a certain extent from the oral-video talking with experts of ESP including the option of using the computer , or displaying texts on the screen. In addition, the students' felt they were less distracted when learning via video-conferencing than in an ordinary class. There seemed to be a feeling

of obligation and commitment on the part of the students, not only to attend the classes, but also to actively participate and contribute. In terms of achieving the goal of offering a new way of teaching and learning, the VC technology did what it was supposed to do. This confirmed the first hypothesis.

However, the success of video conference relied on the availability of a well equipped room and adequate bandwidth each of which requires a significant capital investment. The researcher was increasingly concerned about the impact of network bandwidth on desktop video conferencing. He noticed that stepping up from a voice call to a video call means using a lot more bandwidth per call. Additionally alternatively, to face- to -face learning, this technology has good potential and thus confirm the second hypothesis. Now overcoming the shortcomings was the task of the staff. This was done by providing those students with an updated equipped center with high internet connectivity. This is why better video conferences sessions in terms of image and sound could be achieved. As with all teaching and learning environments, there will be issues to be dealt with and challenges to overcome. For example, some consideration needs to be given to: Multi-site timetabling, access and equity at remote sites , suitable teaching approaches, potential for less content to be covered, more structure when planning sessions, and added layer of complexity. This resulted in satisfaction of the participants this is why the third hypothesis i.e. there are some difficulties facing the appropriate use of video conferences related to internet connectivity was confirmed.

The research plan in this study used data from a single site within one institution (the department of foreign languages- the English section- at the university of Tlemcen) thus significantly

reducing the external validity of the findings. Mixed methods including semi-structured interview, participant observation, and combination between qualitative and quantitative approaches were used as instruments to collect and analyze the necessary data and thus, measure the validity and reliability of interest in this study. The second limitation of this study is the group size chosen. As mentioned in the previous chapter only 14 students were taken as informants so this may reduce the reliability and validity of generalizing the results to a large group. The final limitation concerns the recording of the video conferences sessions. There were no recordings this is why observation findings and analysis were based only on what has been taken as notes during the sessions. There is therefore a need to study if synchronous communication can stimulate the tradition of seminars and how asynchronous and synchronous tools should be integrated in order to find a balance between them for different learning situations and for different groups of students**.**

In today's world, it is a fact that technology is driving progress on many fronts. Education is no exception. How this is going to affect students and teachers will have to be investigated on a much wider scale. Video conferences over IP (internet protocol) - from the desktop or small group size- are only a small part of this convergence. We are aware of the shortcomings in validity and reliability of the results identified in this paper, but one cannot neglect that it: (1) discussed important aspects that may help to overcome those problems related to internet connectivity, quality of both sound and image; (2) developed a new framework to modify net-based learning environments in the future. Greater consideration should be given to gaining a better understanding of the interaction between technological and human factors. It is clear that research has to consider both the pedagogical

point of view as well as the technological, which other researchers also have suggested. Future research should also consider whether attitudes towards videoconferencing are uniformly developed across organizational boundaries and within other institutional contexts. Therefore, the following questions open the door to future research to better understand the availability of ICT –video conference in particular- in the Algerian higher education:

1. Can the video conferences sessions experienced in the small size group (14) be expended to large scale students?
2. If so, will it be appropriate as a content delivery method?
3. How can synchronous communication stimulate the tradition of seminars and how asynchronous and synchronous tools should be integrated in order to find a balance between them for different learning situations and for different groups of students**?**
4. Are attitudes towards videoconferencing uniformly developed across organizational boundaries and within other institutional contexts?

Bibliography

Bibliography

Arnold, T and Coyly, S and Griffith, M (2005). Videoconferencing in the classroom: Communications technology across the curriculum. Devon County Council

Babbie, E (1995). The Practice of Social Research (7th Ed). Belmont, CA: Wadsworth.

Bates A.W (1995).Technology: Open learning and distance education. New York, Routledge.

Bowen, K A, (2003). "An argument for integration of qualitative and quantitative research methods to strengthen internal validity". In Using research in nursing: a workbook for practitioners pp133-136

Becker, H. S., and B. Geer. (1969), "Participant Observation and Interviewing: A Comparison," In Issues in Participant Observation pp 322-331.

BECTA, (British Educational Communications and Technology Agency) (2003): "What the research says about video conferencing in teaching and learning." In Presenting at conferences, seminars and meetings pp 117-137

Benbasat, I., Goldstein, D.K. and Mead, M. (1987) "The Case Research Strategy in Studies of Information Systems." In Challenges of information technology management in the 21st Century pp. 360-386

Blaikie, N (1991), "A Critique of the Use of Triangulation in Social Research : Quality and Quantity" In Advances in mixed methods research: theories and applications pp 115-136

Blanche, M.T and Durrheim, K (1999). Research in Practice: Applied Methods for the Social Sciences .University of Cape Town Press

Bernard, H. R (1994). Research methods in anthropology (2nd Ed). Thousand Oaks, CA: Sage Publications.

Castro, C.M. (1999). "The Flexible Solution for Secondary School Equivalency." In TechKnowLogia, Vol 1(2):pp 21-23.

Coll, R. K., and Chapman, R. (2000). "Qualitative or Quantitative? Choices of methodology for cooperative education researchers". In *Journal of Cooperative Education. Vol 35*(1), pp 25-35.

Corbetta, P. (2003). Social research, theory, methods and techniques Vanderbilt University Press: Nashville London: Sage.

Creswell, J. W. (1994). Research Design: Qualitative and Quantitative Approaches. Thousand Oaks, CA: SAGE.

Dalton, J. H., Elias, M. J. and Wandersman, A. (2001). Community psychology: Linking individuals and communities. Stamford, CT: Wadsworth.

Daniel, C. D (1996) "Seeing is Believing--or Is It?" Oxford University Press. pp. 158-172. In Akins, K. (1996)ed., Perception, Vancouver Studies in Cognitive Science, vol. 5: pp. 158-172.

David, M and Sutton, C.D (2004). Social Research: the Basics. London: SAGE Publications.

David, M. G and Andrew, F. M (2003): "Are you looking at me? Eye contact and desktop video conferencing". In ACM transactions on computer-human interaction pp221-243.

Decrop, A. (1999). "Qualitative Research Methods for the Study of Tourist Behaviour". In Consumer Behavior in Travel and Tourism. Pp 335-365

Demunck, V.C and Sobo, E.J (1998).Using methods in the field: a practical introduction and casebook. Walnut Creek, CA: AltaMira Press.

DeWalt, K. M., DeWalt, B. R., and Wayland, C. B. (1998). "Participant observation." In H. R. Bernard (Ed.), Handbook of methods in cultural anthropology. Pp: 259-299.

Dudman, J (2006). Voice over IP: What it, Why People Want it, and Where it is Going. JISC Technology and Standards' Watch.

Easterby-S, Mark, R.T, and Andy, L (1991). Management Research: An Introduction, London: Sage Publications, Ltd.

Eisenhardt, K. M. (1989). "Building Theories from Case Study Research". In The Academy of Management Review, Vol. 14 pp. 532-550.

Fiorito, L (2005). Teaching English for Specific Purposes (ESP).

General policy manual (1982), Chapter 6 university of Missouri-Colombia.

Foreman, J. (2003) Distance learning and synchronous interaction. The Technology Source Volume, DOI: Fulk,

Fortanet-Gómez, I and Räsänen, C.A (2008). ESP in European higher education, integrating language and content,

Gibbs, B, Phipps, R., and Merisotis, J. (1999). *"What's the difference? A review of contemporary research on the effectiveness of distance learning in higher education"* In quarterly review of distance education: research that guids practice Vol1 issue 1-4 pp

Gilbert, G. N. (1993). Analyzing Tabular Data: loglinear and logistic models for social researchers. London: UCL Press

Goggin, N. L., Finkenberg, M.E., Morrow, Jr., J.R. (1997). "Instructional technology in higher education teaching " In Technology In Teaching: pp 280-290.

Gonthi, H.F. (1993). "Video and Teacher Education: Primary School Science, Video Teacher Education in Malaw"i. Paper presented at the Commonwealth Secretariat's Training of Trainers in Science, Technology and Mathematics. Education Regional Workshop Report (Kaduna, Nigeria).

.

Gray, D. E. (2004) Doing Research in the Real World. London: SAGE Publications.

Guariento, W. and Morley, J. (2001) "Text and task authenticity in the EFL classroom". ELT Journal, vol 55(4), pp 347-353

Gummesson, E (1994). Qualitative Methods in Management Research. Sage Publication, California

Hammersley and Atkinson (1983), Chapter 6 "Documents" in Ethnography. (2nd Ed). Routledge

Harrell, M.C and Bradley, M (2009) Data collection methods: semi-structured interviews and focus groups Rand Corporation ,National Defense Research Institute(U.S.)

Harper, B. et al. (2000). "Employing Cognitive Tools within Interactive Multimedia Applications". In: Computers as Cognitive Tools: No More Walls, pp.227-245.

Harry, K (1999). *Higher Education through Open and Distance Learning: World review of distance education and open learning.* London: Rutledge/Commonwealth of Learning.

Heath, M.J., Holznagel, D (2002). Interactive Video conferencing: A Literature Review. NECC

Heemskerk, I., Brink, A., Volman, M., Dam, G., (2005). "Inclusiveness and ICT in Education: a Focus on Gender, Ethnicity and Social Class". In Journal of Computer Assisted Learning, pp.1-16.

Herling R. W; Weinberger, L; and Harris, L. (2000). Case study research: Defined for application in the field of HRD. St. Paul: University of Minnesota, Human Resource Development Research Center.

Hoepfl, M. C. (1997). "Choosing qualitative research: A primer for technology education researchers". In Journal of Technology Education, 9(1), pp 47-63.

Jennings, N.R. (2001) "Autonomous agents for participating in multiple on-line auctions" In , Artificial Intelligence: Theories, Models, and Applications pp54-64.

John, M.T., & John, F. I. (1998). "Technology Builds Global Acceptance among African Students". Paper presented at the International Conference on Thinking, Singapore, June 1997.

Kajornboon, A. B. (2004) Creating Useful Knowledge: A Case Study of Policy Development in E-learning at Chulalongkorn University Language Institute. Dissertation. University of Melbourne: Australia.

Kuechler, M (1999). "Using the Web in the Classroom" In Social Science Computer Review, vol 17 pp 144-161

Laurillard, D (2000) "Teaching as Mediated Learning" Chapter 1 In Rethinking University Teaching : A Conversational Framework for the Effective Use of Learning Technologies pp13-24

MacLean, M. S. and Mohr, M .M. (1999). "Teacher- researchers at work." In National Writing Project, p. vii-ix.

Marais H.C. (1990) Basic concepts in the methodology of the social sciences

(1st Ed), Human Sciences Research Council Pretoria

Mayer, R.E., Quilici, J., Moreno, R., Duran, R., Woodbridge, S., Simon, R., Sanchez, D., and Lavezzo, A. (1997). "Cognitive consequences of participation in a "Fifth Dimension" In Education and Technology: Critical Perspectives, Possible Futures Vol 6, pp 353-369.

Melmed, A. (1995). The Costs and Effectiveness of Educational Technology: Proceedings of a workshop. DRU-1205-CTI, Santa Monica: RAND Corporation.

Meyers, L.A., M.E.J. Newman, and M. Martin, S. Schrag (2003) "Applying network theory to epidemics: Control measures for

Mycoplasma pneumoniae outbreaks". in The network challenge: strategy, profit, and risk in an interlinked world Pp 204-210.

Miles, Matthew B. and A. Michael Huberman: (1994). Qualitative Data Analysis: An Expanded Source book (2nd Ed) Sage Publications.

Mouton Johann and Marais H. C. (1990) "Basic concepts in the methodology of the social sciences". In HSRC studies in research methodology
Volume 14 de HSRC series in methodology

Mouton (2001). The practice of social research. Cape Town: oxford university press

Natasha, M; Cynthia, W S; Kathleen, M. Macqueen ; Greg, G and Emily, N (2005). Qualitative Research Methods: A Data Collector's Field Guide Family Health International P.O. Box 13950 Research Triangle Park, North Carolina

Nguyen, D. T. and Canny, J. (2007). "Multiview: improving trust in group video conferencing through spatial faithfulness". In Human-Computer Interaction INTERACT 2009: pp. 1465–1474.

Normala, O and Maimunah, A. K (2004). "The problems with problem-based learning in the language classroom". In Problem-based Learning: Pursuit of Excellence in Education, vol 1 pp 36-44

Nunan, D., and Miller, L (1995). New Ways in Teaching Listening. Alexandria, VA: TESOL.

O'Leary, Z (2004). The Essential Guide to Doing Research. London: Sage

Padurean, A and Amargan, M (2009) “Foreign Language Teaching Via ICT” in Journal of Social Informatics vol. VII pp 97-101

Panleli, N and Dawson, P (2001), "Video Conferencing Meetings: Changing Patterns of Business Communication,". In New Technology, Work and Employment, Vol 16(2), 88-99.

Papert, S (1996).The Children's Machine: Rethinking School in the Age of the Computer (New York: Basic Books, 1993); The Connected Family: Bridging the Digital Generation Gap Atlanta: Longstreet Press

Patrick, J (1999). An analysis of learner arguments in a collective learning Environment TECFA, University of Geneva, Switzerland

Patton, M. Q. (2001). Qualitative evaluation and research methods (3rd Ed.) Thousand Oaks, CA: Sage Publications

Phipps, R. & Merisotis, J. (1999). *What's the difference? A review of contemporary research on the effectiveness of distance learning in higher education.* The Institute for Higher Education Policy, DC:. Washington

Prensky (2001) Digital Game-Based Learning McGraw-Hill.

Project Manual (2001) chapters 6.2, 6.3, and 6.4 O P D Montevideo, IACI - Inter-American Children's Institute - OAS

Reed, Jodi; Woodruff, Merry(1995) "Using Compressed Video for Distance Learning" In Distance Educator, vol1 pp2 -10

Savenye, W., Robinson, R.S. (1996) “Qualitative Research Issues and Methods: An Introduction for Educational Technologists”. In Handbook on Research in Educational Communications and Technology. pp. 1171-1195.

Schacter, J. (1999). The Impact of Education Technology on Student Achievement

Sivin, K, J., Bialo, E., and Rosso, J.L. (2000). Online and Electronic Research by Middle School Students. Milken Family Foundation.

Slavin, R.E. (2002). "Evidence-based education policies: Transforming educational practice and research" In Educational Researcher, vol 31 (7), pp 15-21.

Smyth, R. (2005). "Broadband videoconferencing as a tool for learner-centred distance learning in higher education". British Journal of Educational Technology *vol 36* (5),pp 805-820.

Strauss, A and Corbin, J (1990). Basics of Qualitative Research. Grounded Theory Procedures and Techniques. Sage, London.

Susman, G.I. and Evered, R.D. (1978)"An Assessment of the Scientific Merits of Action Research,". In Administrative Science Quarterly vol 23, pp. 582-603.

Tang, J. C and Isaacs E. A (1992). Why do Users Like Video? Studies of Multimedia-Supported Collaboration. Mountain View, CA: Sun Microsystems Laboratories.

Vaičiūnienė, V (2009) "Some Aspects of ESP Teaching Methodology in the Context of Higher Education". In: Language and culture: New challenges for the teachers of Europe pp. 218-227.

Vilhelmina, V and Daiva, U (2009). "Authentic Resources in Technology-based ESP Learning". In Studies about Languages. Pp 94-98

Walle B. Van De (1996) "Recent advances in fuzzy preference modeling". In Intelligent Systems and Soft Computing for Nuclear Science and Industry, pp 98-104

Welman, J. C. and Kruger, S. J.(2001). Research Methodology - for the Business and Administrative Sciences, (2nd Ed), Oxford University Press Southern Africa, Cape Town, South Africa.

William, F.W, (1994). Participant Observer: An Autobiography. Cornell University Press trade paperback

Yin, R. (1981) "The case study as a serious research strategy". In *Knowledge: Creation, Diffusion, Utilization* pp 97-114.

_____ "The case study crisis: Some answers" . In *Administrative Science Quarterly Vol 2 pp 58-65*.

Yin, R. (1994). Case study research: Design and methods (2nd Ed.). Beverly Hills, CA: Sage Publishing.

Appendices

Appendices

Appendix B: A dedicated video conferencing room

Appendix C: an auditorium video conferences room

The presenter station showing the document camera

PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA
MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH

ABOU BEKR BELKAID UNIVERSITY – TLEMCEN
FACULTY OF ARTS AND LANGUAGES
DEPARTMENT OF FOREIGN LANGUAGES
SECTION OF ENGLISH

Using Video Conferences for ESP Postgraduate Students: An Example of Distance Learning at the University of Abou Bekr Belkaid- Tlemcen

RÉSUMÉ

Thesis presented by:
Mr. Bensafa Abdelkader

Supervised by:
Dr: Hamzaoui Hafida

2011 - 2012

RÉSUMÉ

Information and communication technologies (ICT) have become commonplace entities in all aspects of life. Education is one of these aspects. Within education, ICT has begun to have a presence but the impact has not been as extensive as in other fields. Additionally, the quality of education has traditionally been associated with strong teachers having higher degrees of personal contact with learners; whereas, in today's information age, learning is no longer confined within the four walls of a classroom. The instructor armed with a textbook, is no longer the sole source of educational experience. Information resources are everywhere, often separated from the learner by time and space.

The use of ICT in education lends itself to more student-centered learning settings often this creates some tensions for some teachers and students. But with the rapid movement of the world into the information society, the role of ICT in education is becoming more and more important and its development will be continued through distance learning. It is one of the most rapidly growing fields of education which is becoming accepted and indispensable in the educational system in both developed and developing countries.

One of these technologies used is Video conferencing. It is a powerful alternative that educators can use to deliver instruction across distances. It can reduce barriers such as travel safety, costs and time that can impede trips designed for intellectual exchanges as it

offers a viable means to develop a framework for addressing social and work place changing.

The above mentioned criteria motivated the researcher to undertake this research work and examine the use of video conferences in higher education to enhance the quality and flexibility of the teaching programme offered to the ESP postgraduate students at Abou Bekr Belkaid University (Tlemcen). Indeed, the University of Tlemcen has programmed a series of lectures in the field of ESP provided by many experts from the universities of La Sorbonne- Paris 3, Nantes and Le Havre. The aim was to examin how these video conferences were organized, developed, upgraded and adapted to students'needs as well as whether they answered those needs with the ever increasing costs of travel (plane ticket and accommodation), and the constrain of planning a meeting with the visitor teachers in terms of time and place. The institution faces many problems which make it difficult to ensure those lectures. Consequently, the solution to bridge that gap, facilitate the meetings, and save time and money on travel and accommodations is to use video conferencing which is becoming increasingly popular.

The objective of this research work is to look at the role of video conferences in the 21st century education. It will do so by investigating the potentials and the effects of using internet-based desktop video conferences to improve ESP postgraduate students' language learning outcomes and examine their perception of using online VC as an alternative to face-to face interaction. Attention will be given to showing that the importance of ICT in general and VC in particular is context dependent.

Three research questions are formulated to guide this study:

4. How do ESP postgraduate students perceive the use of oral –video talking with experts of ESP via internet- based videoconferencing?

5. Can it be used as an alternative to face-to-face teaching to improve their knowledge and language proficiency?

6. What are the difficulties encountered during the link with those experts?

The research hypotheses that were derived are:

4. ESP postgraduate students may benefit from the use of oral-video talking with experts of ESP via internet-based video conferencing.

5. The use of video conferences as an alternative to face-to-face teaching can help a lot in promoting the knowledge and language proficiency of the ESP postgraduate students.

6. Some difficulties such as internet connectivity, the quality of sound, the quality of image, and lack of interaction may impede the appropriate use of video conferences related to.

Regarding the general layout, this work comprises four chapters:

Chapter one will review the importance of ICT in education. It will include two sections: the first one will shed some light on how ICT can expand access to higher education; the second one will give insights into the use of ICT in Algerian education, the video conferences experience, and how can video conferences be useful for ESP teaching and learning.

Chapter two will review the data collection procedures undertaken to answer the research questions and test the hypotheses. This will include the research design, i.e., case study, the research

methodology (a combination of qualitative and quantitative methods), instruments of data collection (semi-structured interview and participant observation), sampling, and data analysis techniques.

Chapter three will present the data analysis and discuss results. This includes the procedure of each data collection method, and the analysis of results related to the research questions and hypotheses raised.

Chapter four will conclude this thesis by giving some suggestions and recommendations related to an effective use of video conferences in higher education.

Video Conferencing and the Teaching of ESP in Algeria

The use of VC as a driving force in implying fundamental changes in the area of educational has been a central issue under discussion since the last decade of the 20th century. Today's education at large experience challenges caused by new technologies- VC is the best example- abundance of information sources is being forced to search for new and effective methods for teaching and learning. This makes the application of VC for teaching/learning purposes become major issues of contemporary education. The Complexity of learners' attitudes and expectations that help understand language learning aspects is becoming a question of the day.

Aou Bekr Belkaid University of Tlemcen has also benefited its students using this new technology. VC is used by different departments such as that of science and technology, engineering, and English. At the level of the English department, a series lectures with

experts from other foreign universities have been scheduled. The aim is to give learners more opportunities to meet experts. This task can be a hard one in terms of arranging the meeting and making those experts travel to Algeria. This is why VC is the best solution. All this is done by the creation of the center of teaching via video equipped with high quality materials and good internet connection.

This research was conducted under the umbrella of the case study research design. The reason for choosing this type of research is that it focuses on understanding the phenomenon -in this case the use of video conference in higher education- within its natural settings. In addition, it is the most common qualitative method used dealing with information systems (Myers, 2003).

The discipline of information system is characterized by continuous, often revolutionary change. Due to the fact that researchers are regularly unable to provide guidance on how to supervise new systems at their introductory phase, they often rely on practitioners in promoting and/or evaluating such change, and find themselves investigating how those practitioners implemented and managed change, thus developing theories for it. This is why the case study can be implied to capture and formalize the knowledge of practitioners, develop theories from practice, and move on the testing stage (Benbasat et al., 1987). Another reinforcing aspect for the use of the case study is that it relies on multiple sources of evidence and multiple data collection techniques.

Case study, as defined by Yin (1994), Eisenhardt (1989), and others, has well-defined steps. However it is significant, at this level, to note down that it does not involve the use of a particular sort of evidence. Yin (1994) lists six most important sources of evidence: documents, archival records, interviews, direct observation,

participant observation, and physical artifacts. Additionally, it can be accomplished using quantitative and/or qualitative methodologies. A frequent confusion is that case studies are solely the result of ethnographies or of participant observation (Yin, 1981).

All the above mentioned strengths of case study justify its choice in this work. For example, it enables the researcher to have an in-depth vision of the use of video conferences as a means of content delivery for the ESP postgraduate students at the University of Tlemcen and the series of events related to it (the way those lectures were delivered and received by the audience). It also allows data crosscheck as many sources of evidence were used such as interviews, direct observation, participant observation, and physical artifacts.

In the case of understanding the use of video conferences for ESP postgraduate students (the case under investigation in this work), combining both approaches will help the researcher to seek reliable and valid results so that data can be representative of a true and full picture of integrating ICT in general and VC in particular in tertiary education. In addition, some research questions raised in this study will be readily answered using qualitative means, others quantitative, and some will be best addressed using a combination of the two.

The Semi-structured interview is frequently used as data collection instrument or technique. The researcher has a list of key themes, issues, and questions to be covered. In this type, the classification of questions can be changed depending on the direction of the interview. A guide (rubrics) is also used, but additional questions can be asked. Corbetta (2003:270) presents the semi-structured interview as follows:

> The order in which the various topics are dealt with and the wording of the questions are left to the interviewer's direction. Within each topic, the interviewer is free to conduct the conversation as he thinks, to ask the questions he deems appropriate in the words he considers best, to give explanations and ask for

> clarification if the answer is not clear, to prompt the respondent to elucidate further if necessary and to establish his own style of conversation.

The strengths of this type of interview are the additional questions that can be asked and the ones that have not been anticipated in the beginning of the interview. Note taking or tape recording can help the researcher to report the interview. This gives him more opportunities to check out the views and opinions of the interviewees. In this vein Gray (2004:217) notes that probing is a way for the interviewer to explore new paths which were not initially considered. In the same path, David and Sutton (2004:87) argue:

> Having key themes and sub- questions in advance lies in giving the researcher a sense of order from which to draw questions from unplanned encounters.

In the present study, participant observation is used as data collection instruments to observe the informants in real world context. Another objective is to develop a deep understanding of the use of video conference in its natural context. In addition, it is designed to provide insights into the behavioral, interactional, and communicative aspects of using technology in Algerian higher education.

Data analysis represents the "construction phase" of the study. This process includes: deciding on the suitable analysis to conduct for each question, preparing data for analysis, and summarizing results. From the existing literature - be it quantitative or qualitative analysis- successful data analysis requires the following steps:

- ✓ Understanding the existing data analysis methods.
- ✓ Early planning for data analysis in the study and making revisions in the plan as the work develops.

- ✓ Understanding which methods will best answer the research questions put forward by the researcher.

- ✓ Highlighting the data that have been collected.

- ✓ Once the analysis is finished, recognizing how the weaknesses or the limitations in the data or the analysis affect the conclusions driven.

This leads to the conclusion that the study questions generally direct the analysis, but the type and value of the data determine what analyses can be established and what can be inferred from them. As mentioned in the very beginning of the chapter a combination of both qualitative and quantitative methods will be used to analyze the obtained data. Mouton and Marais (1990) see such a bridge as necessary, since a single approach cannot succeed in encompassing human beings in their full complexity.

The main point which emerged from the evaluation of the first hypothesis ,i.e. ESP postgraduate students may benefit from the use of oral-video talking with experts of ESP via internet-based video conferencing, is that the ESP students were generally more concerned with video conferencing. Most of the group tended to compare it with the way they had studied English before and with other methods of distance learning including participating in some online forums or using Chat rooms such as Skype, Yahoo, MSN and Second life. They agreed that VC was a beneficial experience to learn about ESP in spite of some shortcomings such as bad sound or image quality which were overcome thanks to interaction or further clarifications. The results of this study indicate that students were vastly in favor of VC as it offers a new way of teaching and learning. However, its success relies on the availability of a VC room and

adequate bandwidth each of which requires a significant capital investment. Alternatively, to face- to -face learning, this technology has good potential. Finally, the patience of the students, their willingness to try something new, adapt their learning style, and maintain a positive attitude was important during the process and confirm the first hypothesis.

The second hypothesis stipulates that the use of video conferences as an alternative to face-to-face teaching can help a lot in promoting knowledge and language proficiency of ESP postgraduate students. The discussion and interpretation of the results draws attention on: the effectiveness of video conference as a pedagogical means of communication. The results of this study reveal that two basic of the English language components were incorporated: basic communicative proficiency, language awareness. All the sessions included an introduction to key concepts and expressions which the students were likely to come across during the discussion of themes. This is part of language awareness. The synchronous environment of VC as opposed to the asynchronous one of E-mail interaction involves different student strategies. In VC conversations, students came across unknown vocabulary and sentence structures as well as colloquialisms. This is why the sessions run smoothly and become more fluent; students developed techniques to make sense of the information being given to them by the teacher in the far end location and produced a suitable respond, thus improving communicative proficiency. This experience can be seen as an export function which requires minimum change in pedagogy and classroom behavior. Because of the shift in the teacher's roles (facilitator, orchestrator, researcher, integrated of media, and learner), VC is seen to be different than traditional a face-to- face teaching in terms of planning,

strategies and skills required. For instance, using this medium was more successful when the staff provided a well equipped laboratory, the local teacher well planed the sessions and well prepared the students in advance, and this in spite of all the technical problems encountered. Additionally, this technology can help the faculty to use VC successfully through adapting the teaching methods as well as learning to use the technology effectively. Moreover, assisting students to participate in video conferencing successfully includes delineating the expectations, i.e. developing new methods of teaching and learning and building skills and comfort in participating using the technology. Being aware of the fact that technology is a tool in the hands of teachers, a universal remedy to all educational challenge, and that it can drive, teach, and provide, the teacher in the far- end location had to adjust his methods of communication to the students. For example, seeing the students only through a screen required greater efforts on his part to ensure that he maintains 'presence' amongst the group. It also needed consistent concentration to keep the students feeling comfortable and kept them plugged in. In addition, he had also found it necessary to be flexible and adaptable in the way he used the technology. This is referred to as interaction. Interaction was critical to the VC -based learning situation. It was also the key factor of this use of video conference to support a more social learning, negotiating meaning through interaction with experts over distance, and forming a sense of community using this medium. The results of this study do not only emphasize interaction but regularly evoke the social nature of learning and video conference's ability to create community. All the following Interactivity facilities had been covered such as multipoint audio, multipoint video, ability to show desktop, share files, show a document camera image, or to utilize text-based chat or interactive whiteboard. This was done to ensure that ESP students benefited from

the experience in spite of the difficulties encountered. Usually, not all of the above mentioned methods were used in a single session but the selection of tools was diverse depending on the needs and special pedagogical approaches. All what has been mentioned above lead the researcher to confirm the second hypothesis but under one condition that VC be designed appropriately in terms of the technical, teachers', and learners' preparation (this will be discussed in chapter four).

The last hypothesis assumes that some difficulties such as internet connectivity, the quality of sound, the quality of image, and lack of interaction may impede the appropriate use of video conferences. The results of both the semi-structured interview and participant observation seemed to imply that the way those video conferences were managed made the most difference between being a useful learning tool, or a poor alternative to face- to- face class. This includes *managing the ESP participants* using a web scheduling tool so that video conferencing be fully automated and made simple; *managing the room*, i.e., a big auditorium where the participants were seated; *managing the endpoints* to ensure the system is working when starting the link with the expert; and *managing the networks* because video conferencing is unique as it is bi-directional and real-time, i.e., it doesn't function well with networks that suffer from packet loss or jitter the network. In other words, the technical difficulties caused initial concern to both staff and students. Generally, those problems were related to the quality of both sound and image. These are important issues in using video conference to ensure a good quality of the session. This is why the incorporation of codec[(1)] may be helpful. During the interview and even the observation, participants often commented on the video quality of their conference. A general

concern expressed was that sometimes they were not able to see either the teacher in the far end location or the things he sent. Despite whether the video conference is set up in a *dedicated* conference room designed for business meetings with furnishings, lighting, technology, and services, large auditorium (see the image of the two types in appendix D/E) or if a person is participating from an individual computer,

---

1-Codec is the technology used to compress the video signal into a series of data packets relayed over the network, to be decompressed at the receiving site to reform the video image.

certain issues should be taken into account. One of these issues is: *the camera location.* It has been noted that reaching a realistic eye-contact might be impossible to accomplish with many video conference setups. This is why a reasonable camera position can help participants spontaneously learn when the distant participant, i.e., the teacher in the far- end location is looking 'straight' at their image. As stated above, eye contact often plays critical roles in facilitating smooth turn-taking in face-to-face meetings. However, most of the video conferences sessions the ESP participants engaged in did not support turn-taking very well because eye contact was not well transmitted. That is why; the process of smooth turn taking was slowed down. This was due to the fact that the remote teacher was displayed in (2-D), i.e., two-dimensional image standards used in most video conferences on a screen where there was little opportunity to use recognized and accepted methods (such as hand-raising) of indicating the need for a turn to speak. This can be considered as an expression of a visual signal that seemed to be reasonably natural in video conferencing and occurred in a number of sessions. The appropriate explanation for this to happen is that the camera is usually located on top of the screen which displays the participant's face. This

is why; users are generally not capable of establishing eye contact and thus the content is difficult to understand. Similar discussion arose concerning the sound quality of video-conferencing. Both audio and video qualities were critical for the ESP participants who were more forthcoming in their criticisms. In other words, the results obtained confirm that if the audio quality is ruined, communication among the participants in the two locations is hard. There might be a critical level for the audio delay between sites, i.e.; those longer than 0.5 sec. tend to provoke collisions when speaking and cause problems related to body language, which in turn greatly discourages spontaneous interaction. On the other hand, the delay should not exceed 0.15 sec or the natural flow of communication starts to suffer. This is why minimizing the length of delays can help facilitating eye contact and thus turn taking. From the above discussion related to the variety of technical problems which were

of direct impact on reaching successful video conferences calls, the third hypothesis is confirmed.

The researcher in this thesis tried to investigate the use of video conferencing by the department of foreign languages (English section) at the University of Tlemcen. This was done by observing ESP postgraduate students in a series of video conferences. It was clearly seen that this new pedagogical method is still at a very early stage in Algeria and yet the recognition of its potential for educational interaction between remote participants is well established. However, video conferencing is not confined to a single mode of teaching, but it provides an avenue for delivery of traditional pedagogies as well as for exploring new ways of educating children and adults.

The research plan in this study used data from a single site within one institution (the department of foreign languages- the

English section- at the University of Tlemcen) thus significantly reducing the external validity of the findings. Mixed methods including semi-structured interview, participant observation, and combination of qualitative and quantitative approaches were used as instruments to collect and analyze the necessary data and thus, measure the validity and reliability of interest in this study. The second limitation of this study is the group size chosen. As mentioned in the previous chapter only 14 students were taken as informants so this may reduce the reliability and validity of generalizing the results to a large group. The final limitation concerns the recording of the video conferences sessions. There were no recordings this is why observation findings and analysis were based only on what has been taken as notes during the sessions. There is therefore a need to study if synchronous communication can stimulate the tradition of seminars and how asynchronous and synchronous tools should be integrated in order to find a balance between them for different learning situations and for different groups of students**.**

In today's world, it is a fact that technology is driving progress on many fronts. Education is no exception. How this is going to affect students and teachers will have to be investigated on a much wider scale. Video conferences over IP (internet protocol) - from the desktop or small group size- are only a small part of this convergence. We are aware of the shortcomings in validity and reliability of the results identified in this paper, but one cannot neglect that it discussed important aspects that may help to overcome those problems related to internet connectivity, quality of both sound and image; and developed a new framework to modify net-based learning environments in the future. Greater consideration should be given to gaining a better understanding of the interaction between technological and human

factors. It is clear that research has to consider both the pedagogical point of view as well as the technological one. Future research should also consider whether attitudes towards videoconferencing are uniformly developed across organizational boundaries and within other institutional contexts. Therefore, the following questions open the door to future research to better understand the availability of ICT –video conference in particular- in Algerian higher education: Can the video conferences sessions experienced in the small size group (14) be expended to large scale students? If so, will it be appropriate as a content delivery method? How can synchronous communication stimulate the tradition of seminars and how can asynchronous and synchronous tools be integrated in order to find a balance between them for different learning situations and for different groups of students?

Summary:

The present study endeavors to empirically investigate the use of ICT and video conferences for ESP postgraduate students: an example of distance learning at Abou Bekr Belkaid University, Tlemcen. On the basis of the results obtained from the data collected through semi-structured interview and participant observation, this work has argued that video conference and was, still is, and will continue to be context dependent du to the technical problems encountered and which were related the quality of sound and image as well as the internet connection. It also argued that this technology can be used as an alternative to face –to- face teaching and thus recommended a better technical teachers' and learners' preparation so that the staff can tailor instruction that meets their needs and improves their students' language proficiency.

Key words: ICT- ESP- video conference- distance learning- language teaching and learning

Résumé :

Les efforts actuels de cette étude empirique de l'utilisation des TIC et des vidéo conférences pour les étudiants de poste graduation on ESP: un exemple de l'apprentissage à distance à l'Université de Abou Bekr Belkaid, Tlemcen. Sur la base des résultats obtenus à partir des données recueillies par semi-structuré entretien et l'observation participante, ce travail a fait valoir que vidéo conférence et a été, est encore, et continuera d'être dépendant du contexte du à des problèmes techniques rencontrés et qui ont été liés à la qualité du son et de l'image ainsi que la connexion. Il a également fait valoir que cette technologie peut être utilisée comme une alternative à l'enseignement face- à- face et a donc recommandé meilleures techniques préparations pour les enseignants les apprenants afin que les responsables peut adapter leur méthodes d'enseignement qui répond à leurs besoins et d'améliorer le niveau de leur étudiants concernant maîtrise de la langue.

Mots clés: TIC-ESP- la vidéo conférence-formation à distance - l'enseignement et l'apprentissage de la langue

الملخص :

تمثل الدراسة الحالية مجهودا لدراسة تجريبية لاستخدام تكنولوجيا المعلومات والاتصالات و المحاضرات عبر الفيديو لطلبة قسم ما بعد التدرج تخصص ESP كمثال على التعلم عن بعد في جامعة أبو بكر بلقايد تلمسان. استنادا إلى النتائج التي تم الحصول عليها من البيانات التي جمعت من خلال المقابلة شبه المنظمة، والملاحظة بالمشاركة،هذا العمل ركز على أن المحاضرات عبر الفيديو، كانت، ولا زالت وستظل تعتمد على المكان الذي تقدم فيه ودلك نظرا إلى المشاكل التقنية التي كانت مرتبطة بجودة الصوت والصورة وكذلك الربط عبر الإنترنت. كما أكد هدا العمل أيضا أنه يمكن استخدام هذه التقنية كبديل للتعليم وجها لوجه، وأوصت هده الدراسة بضرورة التحضير من الناحية التقنية للمعلمين والطلاب بحيث يمكن للمسؤولين تكييف الأساليب التي يتبعونها من اجل تعليم يلبي احتياجاتهم وتحسين مستوى الطلاب لإتقان اللغة.
الكلمات المفتاحية: تكنولوجيا المعلومات والاتصالات- ESP- المحاضرات عبر الفيديو- التعلم عن بعد - تعليم وتعلم اللغة