

## **Pedagogical Methods of Teaching ESP and Related ICT Implementation in Higher Education: A Critical Assessment**

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### **Abstract**

Education has gone through many changes thanks to technological development. In today's society, the impact of technology on education has had a profound influence on the three component of a class: pedagogy, professors and students. Over the past few years, there have been many researches that have epitomized the inclusion of ICT in education. The inclusion of ICT in education must be seen from different angles to decide in what way ICT can be adopted in teaching. Saying so, our focus in this paper is to critically and practically assess the extent to which pedagogical methods adopted for teaching English for specific purposes (ESP) in higher education are effective and impacted by the flows of ICT. The present investigation is essentially exploratory in nature in the sense that we rely on a number of case studies targeting basically Mohammed first university in Oujda.

**Keywords:** ESP, Teaching Methods, Pedagogy, ICT, Higher education, Mohammed First University

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## **Introduction**

At the dawn of the 21<sup>st</sup> century, the use of Information Communication Technology (ICT) has dominated many fields such as economy, industry, politics and education. Concerning the latter field, with a special reference to English language teaching (ELT), many changes have been brought to it, especially when we start talking about English for Specific Purposes (henceforth ESP).

ICT's focus on autonomous learning goes hand in hand with the objective of ESP. In the same vein, it focuses on how learners can become active contributors in the learning process. In this regard, ESP learners' motivation increases if they participate in meaningful life situations through tasks that require real-life interaction (Dudley-Evans & St John, 2009; Hutchinson & Waters, 2010). Clearly put, both ICT and ESP objective is to increase interactive, motivational and autonomous learning environment.

Still, there has been little research on the relationship between ICT and ESP teaching. Some researches valorize the implementation of ICT in ESP by focusing mainly on the opportunities this method offers to both learners and professors whereas only few researches draw attention to the possible challenges that may arise during the incorporation of ICT in ESP classrooms. Among the researches that acknowledge the advantages of linking ICT to ESP is the study developed by - Warschauer (1996) in which he considers ICT as a contribution to the authenticity of the learning process in ESP environment through recreation of real-life situations. Arani (2004), in his investigation entitled "The effect of ICT-based teaching method on medical students' ESP learning", studied the impact of ICT on ESP teaching and learning. The study focuses on comparing ESP in relation to how it works using both the traditional text-based and Internet-based articles through a quasi-experimental method of study involving 60 second-year students of medicine having ESP courses. What Arani found is that students' performance on Internet-based medical English articles is better than the traditional based method.

On the other hand, Shaabi (2010) examines the extent to which adopting technology in ESP classes is successful. The study focuses on investigating ICT practices of six ESP practitioners, the changes that occur in ESP classroom thanks to ICT as well as the factors that impact the implementation of ICT. What has been found is that there is a socio-cultural obstacle that hampers ICT transition in ESP context which manifests itself on the learners as well as on the practitioners' attitudes with regards to technology in learning environments.

However, though ICT contributes to "integrating textual, aural and visual input" (Garrett, 1991, p. 74), it is dangerous to keep idealizing its benefits while turning a blind eye on its challenges and difficulties especially in ESP settings. If we really aim at making changes in the educational system, we absolutely need to reconsider the support of ICT to the traditional way of teaching. As researchers in the field of

ESP, we believe that focusing on and embracing the challenges of implementing ICT in the ESP environment will surely improve its use in Moroccan higher education.

This being the case, the objective of the present paper is to critically and practically assess the extent to which the pedagogical methods adopted for teaching English for specific purposes in Moroccan higher education are effective and impacted by the flows of ICT. More importantly, the present investigation is essentially exploratory in nature in the sense that we rely on a number of case studies targeting basically Mohammed first university in Oujda.

The paper is divided into three independent sections. The first section is devoted to defining key concepts, namely ESP and ICT which is of paramount importance for contextualizing the topic under study. The second section describes the methodology we have followed for answering the research question and hypotheses. The third section is concerned with data analysis and their interpretations. Finally, the paper puts forward some recommendations to reflect on in future research.

## **1. Conceptual Framework**

### **1.1. ESP (English for Specific Purposes)**

ESP is the acronym standing for English for Specific Purposes. Historically speaking, ESP emerged in (1945), mainly at the end of the Second World War (Hutchinson & Waters, 1987). As a politically and economically dominant language at that time, English became oriented to serve particular professional purposes. When we talk about ESP, we talk about specific English that is related to a specific field such as medicine, engineering and business. In this respect, Basturkmen (2006) contends that language in ESP classrooms is learnt to enrich the learners' skills in the job market which demands a great awareness of the materials used to serve the needs of learners.

### **1.2. Information and Communication Technology (ICT)**

Broadly speaking, ICT is the acronym representing Information Communication Technology. It is used for collecting, storing, editing and transmitting information in various forms. ICT is the use of technology by teachers and learners for instructional purposes (Inan & Lowther, 2010). Instructional purposes are varied which necessitates the definition of the purpose that both learners and practitioners of ESP must be aware of during the implementation of ICT in the classroom.

The integration of ICT in education is the latest innovation. It is a 'big' revolution against classical learning and teaching approaches. The history of education is known for successive developments, starting from the Grammar Translation Method through communicative methods such as Audio-lingual method, Direct Method, and Task-based method. These methods are classical and ineffective in the sense that they are teacher-based and do not provide natural learning environments. Still more, they do

not provide students with opportunities to be autonomous and learn by discovery. Their principle aim is to successfully transfer a body of knowledge to learners, turning learning into a monotonous activity (Richard & Rogers, 2014). The use of ICT in education has come to promote learning and teaching and make them interesting and effective. The question that remains is: what are the most distinctive features of education through ICT?

The first most important feature of education through ICT is blended learning. Blended learning is an education project that combines the classroom with digital media and that requires the active agency of learners in the learning process. Some other names for blended learning are online learning, e-learning, and distance learning. It necessitates the creation of a Virtual Learning Environment (VLE) that contains online courses along with facilities for teacher-learner communication and peer-to-peer communication (Osguthorpe & Graham, 2003). For such a platform to work effectively, both teachers and students should be competent in digital matters.

The second most important feature of education through ICT is digital competence. Digital competence is a recent concept that describes technology-related skills. It is a term that has replaced a number of similar terms including 21st century skills, technology skills, information literacy, and digital literacy (Adeyemon, 2009). Therefore, it is the term that describes individuals' constant ability to keep abreast with the evolving new technologies and their use in society (Alamutka, Punie & Redecker, 2008). In education, digital competence is "more than just knowledge and skills. It involves the ability to meet complex demands, by drawing on and mobilizing psychosocial resources (including skills and attitudes) in a particular context." (OECD, 2005, p. 4). Blended learning depends on teachers and learners' digital competence, but the question that needs to be raised is as follows: is blended learning possible in the Moroccan context?

To sum up, using ICT in education is the most recent innovation that is intended to provide a VLA for effective teaching and learning. However, it is demanding both culturally and structurally in contexts like the Moroccan one and is still surrounded by questions such as: How can teachers address special needs? How can teachers address gender issues? What are the emotional and psychological effects of ICT on marginalized students? How can teachers combat students' corruption? Hence the core purpose of the present investigation is to test the feasibility of incorporating ICT in ESP teaching environment in higher education.

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## **2. Research Methodology**

### **2.1. Objective of the Study**

The objective of the present paper is to critically and practically assess the extent to which the pedagogical methods adopted for teaching English for specific purposes in Moroccan higher education are effective and impacted by the flows of ICT. More importantly, the present investigation is essentially exploratory in nature in the sense that we rely on a number of case studies targeting basically Mohammed first university in Oujda.

### **2.2. Research Hypothesis and Questions**

The research hypothesizes that incorporating ICT in teaching English for scientific purposes without taking into consideration the pedagogical principles of teaching language may deteriorate teaching.

To answer the research hypothesis, this paper seeks to answer the following questions.

- To what extent can we rely on ICT in teaching scientific subjects such as Mathematics, Computer sciences and Medicine?
- Is it fair to substitute traditional learning for digitized one?
- How does ICT improve the pedagogical methods?
- What are the challenges faced by professors during the implementation of ICT in ESP classes?

### **2.3. Data Collection and Analysis**

#### **2.3.1. Research method: in depth- interviews**

This research relies on qualitative method that seeks to validate the hypothesis by analyzing an unstructured type of interviews with seven professors of English for scientific purposes in Oujda. As for such unstructured type of interviews, we believe that they enable researchers to have open ended conversation with the participants without necessarily following the order of questions which will surely enrich the research results (Bernard HR, 1995).

The reason behind choosing the qualitative method of analysis at the expense of the others is that it takes into consideration the answers proposed by the population and analyzes them while describing individual experiences.

### 2.3.2. Population Sample

Population (Profs of Higher Education)	Number of informants	Institution	Specialty
	1	Medecine, Oujda	ORTHOPEDICS
	2	FLSH, Oujda	Business English
	2	FSO, Oujda	Math Physics
	1	ENCG ,Oujda	Business English
	3	Ensa, Oujda	Civil Engineering

## 4. Analysis of the results:

This section is devoted to the description and analysis of the data collected from the interviews , aiming mainly at answering the research questions and hypothesis. The description and analysis of the data are conducted in figures and tables, as well as in the form of synthesizing students' elaborations on their responses.

**Table 1. The Effectiveness / Ineffectiveness of the Traditional way of Teaching in ESP Classes:**

Effective	Ineffective	Neutral
33.3	22.3	44.4

The results show that 44.4% professors consider the traditional way of teaching as being both effective and ineffective. One of the professors claims that "The traditional way of teaching should be modernized. Instead of focusing on lecturing, the professor should follow a pedagogical framework to deliver the lessons [...] a pedagogical framework that follows a deductive teaching ". Concerning the ones who consider it as being effective, one of them says 'Technology needs its own methods and since I am not skillful enough to use it, I strongly believe that the traditional methods of teaching are efficient except for the lecturing method which I am totally against '.

However, among those who claim that it is ineffective one respondent argues that 'students are living in an age of technology, why should we stick to the old methods at the expense of new ones? Why should we always be resistant to change? Traditional methods are no more effective because they are teacher-centered [...] as ESP practitioners, we should go beyond the traditional way of teaching because the learner is the center of the learning process. '.

As an interpretation of this result, we can state that the traditional method should be always consistent with the digitalized world we are living in. If we are supposed to use ICT in ESP context, special attention should be paid to the needs of the learners. In words, ICT implementation should go hand in hand with facilitating the courses to students. We have to move from the focus on technology per se to the focus on the learners and how ICT satisfies their needs.

**Table 2. The Perception of ICT:**

<b>Useful</b>	<b>Useful but challenging</b>	<b>Challenging</b>
<b>0%</b>	<b>88.8%</b>	<b>11.1%</b>

The professors' perception of ICT stems from their personal experiences in teaching ESP. What we can deduce from the results is that ICT can be useful only when, as one of the respondents says, 'the levels of students are almost similar and they are quite aware of ICT as a learning strategy and not as an entertaining tool that deviates them from concentration'. Another respondent affirms that 'I am not against ICT but I believe that in Moroccan universities, we do not have a suitable infrastructure to establish ICT in classroom context [...] and I read ICT as an exploitation and imposition of technological methods in a context that does not even provide sufficient technological tools''. What we can deduce from the respondents' perceptions of ICT is that unless we provide suitable materials and adapt to varied contents, ICT implementation would be a loss of time and energy in the class.

**Table 3. Avoiding or Implementing ICT in ESP Classes:**

<b>Avoidance</b>	<b>Implementation</b>
<b>11.1%</b>	<b>88.8%</b>

On the one hand, the participant who has confessed avoiding the use of ICT strongly affirms that 'training is needed before using ICT in ESP classes because to be a professor of English from a literary background, you need first to be trained enough on the subject matter you are teaching so as to know exactly in what way you will be using ICT'. On the other hand, another professor who uses ICT says that 'The position of the video projector is not well placed in the sense that some of the students cannot follow easily the course because they are sitting in a place that is totally neglected by the video projector'. As for another professor, she suggests that 'students firstly need to change their perception with regards technology from being a way of entertainment to being a way of learning. I have noticed



that when I use ppt, the majority of students do not take notes and take advantage of the situation to chat with one another ’

What we could infer from the views of the respondents is that ICT integration in ESP classes is really a challenging task in the sense that there is a number of obstacles that hinders its use, mainly the weakness of the infrastructure of the classroom setting, the weakness of the equipment and the lack of the learners' motivation.

**Table 4. ICT and Related Pedagogical Methods in Teaching English for Specific Purposes.**

<b>Presentation/practice/production using PPT</b>	<b>Task based learning using PPT</b>	<b>Presentation by learners followed by discussion using PPT:</b>	<b>Online platforms (Facebook):</b>
<b>20%</b>	<b>52%</b>	<b>20%</b>	<b>8%</b>

Apparently, pedagogical methods used in teaching ESP differ from one professor to another. The majority opts for the Task-based learning. Concerning the adoption of ICT, 20% of interviewees have confirmed the use of PPT. What we can deduce from the use of TBL is that it helps in increasing student's talking time and decreasing the role of the teacher who becomes a facilitator in the classroom. One of the professors says that ‘Using PPT to provide a task for the learner to perform saves a lot of time and encourages some to discuss the task in groups which reduces the level of anxiety on the part of the learners’. However, she adds that ‘ Students seem not to take the PPT lesson into consideration as they are always waiting for practical materials such as worksheets ’.

As for the presentation based-method, three other professors encourage their students to give presentation on their domains so as, a professor argues, ‘ to get to know the domain I am teaching since I am not a specialist as well as to encourage students’ participation in the class through debating questions. ’

As far as online platforms are concerned, one professor says that ‘Facebook page proves to be an encouraging tool especially in the post reading/listening activity in which students manage to watch videos and initiate a debatable discussion in comments.’

To interpret the findings, we ensure that pedagogical methods differ from one professor to another depending on the level, the needs, as well as the learning style of the learners. Moreover, focusing on the situation of the learner will make the process of ICT implementation a success because one notorious



reason behind the failure of ICT in higher education is underestimating the human factor that influences the use of technology while focusing on the equipment ( Cuban, 2001; Fullan, 2007)

**Table 5. The adaptability of ICT to Course planning.**

<b>Disruptive to course plan</b>	<b>Helpful while following a course plan</b>
<b>100%</b>	<b>0%</b>

As it is demonstrated, 100% professors claim that using ICT does not help follow the stages of the course plan, mainly warm up because, as one of the respondents claims, ‘ PPT is content-based and does not help the use of activities with students ’. This plainly shows that adapting ICT to the course plan should be highly taken into consideration as any course should be well planned. More importantly, what counts is not only the content but also the way that content is communicated. What is dangerous is that the respondents have proved to be illiterate so far as ICT content and meaning are concerned.

#### **5. The Usefulness of ICT in Delivering Presentations by learners.**

All the respondents agree on the idea that ICT helps, great deal, learners to deliver presentation in front of the whole class. One of the professors says, ‘students are more digitally literate than us...They are capable of managing technological problems in a quick way’. Another respondent affirms that ‘Students are really brilliant when it comes to delivering presentations. The use of images and videos are quite relevant to the topic they are talking about ’. A professor of science, puts it differently, arguing that ‘Presenting via the use of PPT is really crucial in SIMPLIFYING the topic [...] one of the activities that proves the usefulness of ICT in delivering presentation is when I asked my students to note at least 10 words that they have heard in the presentation. Later on, when I asked them to put them in sentences, it proved that ICT does not only help them in presenting but also in knowing the spelling mistakes of words’. However, another professor mentions that what is challenging is that [students] don’t know that these ICTs should be just a backup, not the main pot in presentations.'

Apparently, ICT proves to be valuable in delivering presentation by the learners. However, we do believe that technology is but a visual aid. Unless the presentations are vital, technology would not help in overcoming the lack of the content vitality.

**Table 7. The Vitality of ICT in Simplifying Courses in ESP Classes.**

<b>Vital</b>	<b>Hindering</b>	<b>Neutral</b>
<b>22.1%</b>	<b>55.3%</b>	<b>22.6%</b>

As one can see, the percentage of professors who conceive of ICT as a hindrance to simplifying lessons is higher than the number of those who see it as useful. Put differently, a professor mentions that ‘ICT is helpful only when the level of students is almost the same [...] for the students who are weak at English, it does not help them follow the lesson as they are still in need for a more traditional method of teaching that reinforces language’. Another one adds ‘ICT is vital in ESP classes but it should be adapted to the level of students and mainly the ones whose level is still in progress [...] professors need to be trained enough on how to use ICT in ESP classes by taking into consideration the differences of levels’. One of the professors says ‘ICT reduces the TTT and increases the STT’

Among the professors who consider it a vital instrument that facilitates the learning of English, one strongly states that ‘ICT contributes to the simplification of scientific courses mainly through the adoption of images to explain vocabulary. It is useful in the sense that instead of spending 2minutes explaining a difficult word, one can save this 2min and display a photo for the students [...] you know images are likely to be remembered by students’.

What we can conclude from the results is that ICT can simplify scientific topics only if it tends to bridge the gap between the students who are already brilliant and the others who are still weak at English. That is to say, a professor should create his/ her own methodological tools while using ICT so as to adapt it to the environment of the class.

**Table 9. ICT as a Challenging Innovation in ESP Classes**

<b>Lack of sophisticated equipment.</b>	<b>Untrained professors.</b>	<b>Lack of an educational digital awareness on the part of both professors and learners.</b>	<b>Lack of both innovative pedagogical tools that go hand in hand with ICT and creative/motivated professors</b>
90%	60%	90%	60%

The table shows the different challenges that ESP practitioners in different institutions in Oujda face. The lack of sophisticated equipment and the lack of students' and professors' educational digital awareness are agreed upon by all practitioners which shows that before deciding to use any type of ICT in the classroom, the professor should make sure that the equipment is useful and that students are aware of the implementation of ICT in instruction. Otherwise, students will take advantage of the use of ICT to chat with their friends and lose interest in the class. One of the professors says, 'whenever I am using PPT to explain lessons, only 30% of students get indulged in the course. I feel that the others still believe that technology is but a tool of fun and not education. That's why they show indifference'.

Untrained professors, the lack of innovative pedagogical tools that go hand in hand with ICT and creative motivated professors' fall into the second level. To explain, most professors say that they find that their students are more skillful than them when it comes to technology. This shows that we need to have a digital instruction before deciding to use ICT so as to take into consideration the specialty we are teaching and the useful ways that can enhance teaching through ICT.

## **6. Conclusion and Recommendations**

This paper has attempted to dig into the possibility and feasibility of implementing ICT in teaching ESP in higher education in Morocco, particularly in Mohammed First University in Oujda . The data have been collected through interviewing a number of professors from different institutions of the aforementioned university. Upon the analysis of their responses, it proves that the integration of ICT in higher education is not an easy task, especially in association with teaching ESP. To embrace the challenges, we suggest a number of recommendations and strategies that are likely to promote the applicability of ICT in Moroccan higher education.

A proper training program for the acquisition of basic ICT literacy targeting professors to extend their limited knowledge.

ESP learners are supposed to be trained to learn to deal with different digital genres which have become part and parcel of their everyday communication in academic and professional settings.

Provision of sophisticated equipment in all higher education institutions.

A reconsideration of the educational philosophy should be encouraged because classroom practices have to be changed to ensure ICT integration.

New classroom settings are needed to fit this technology-driven education.

Pedagogical roles of both professors and learners should be altered.

Conduct of meticulous research likely to elucidate the gaps in ICT use to produce pedagogically suitable and effective materials identified in specific instructional contexts.

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