

Barriers Affecting Successful Integration of ICT in Moroccan Universities

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Abstract

The implementation of technology in classrooms affords educators more opportunities to work better in their lessons. However, there are numerous distinctive barriers that might prevent teachers from making use of Information and Communication Technology (ICT) in their teaching practices. Admittedly, studying the obstacles to the integration of technology in schools would be an important step in developing the quality of teaching. The primary objective of this study is to discover the barriers that stop university language teachers from using ICT in teaching. In this study the questionnaire is employed as data collection instrument. The questionnaire addresses only university English language teachers. Forty-six university English language teachers are chosen from two universities: Moulay Ismail University Faculty of Arts and Humanities – Meknes and Sidi Mohamed Ben Abdellah Dahr – El Mahraz – Fes as a case study. So as to analyze the data from the questionnaire, the Statistical Package for Social Sciences (SPSS) version 19 is employed. The research findings reveal that Moroccan university English language teachers face multiple barriers such as large classes, lack of computers, lack of

Internet and insufficient technical support that prevent them from using ICT in their teaching practices.

Keywords: ICT, technology, barriers, teaching practices

1. INTRODUCTION

Information and Communication Technology (ICT) has become a crucial section of most organisations and businesses these days (Zhang& Aikman, 2007). Computers started to be placed in schools in the early 1980s, and numerous researchers propose that ICT will be a significant segment of education for the next generation too (Bransford, Brown, & Cocking, 2000). It is self evident that ICT has been developing very quickly in recent years and opens new directions in the area of education. In other words, the speedy growth in ICT has brought conspicuous and notable changes in the twenty-first century, and influenced the requirements of modern societies. Bransford et al. (2000) confirm that “ what is now known about learning provides important guidelines for uses of technology that can help students and teachers develop the competencies needed for the twenty-first century” (p. 206).

Dawes (2001) confirms that technologies have the capacity to assist education across the curriculum and supply chances for useful communication between learners and educators in ways that have not been possible before. That is to say, ICT in education has the ability to be effective in bringing about changes in ways of teaching. However, this potential may not easily be achieved, as Dawes (2001) emphasizes when he states that “problems arise when teachers are expected to implement changes in what may well be adverse circumstances” (P.61). Due to the significance of ICT in society and possibly in the future of education, recognizing the likely barriers to the integration of these technologies in schools would be a valuable step in ameliorating the quality of teaching and learning. Balanskat, Blamire, and kefala (2006) discuss that although teachers seem to admit the importance of ICT in schools, obstacles proceed to be encountered during the processes of adopting these technologies.

Oubviously, the barriers to the integration of ICT into teaching and learning environments have been examined in several distinctive studies. (Ertmer, 1999), for instance, divides the barriers into two main classes: first-order and second-order barriers. First-order barriers stand for those difficulties concerning basically various kinds of resources such as equipment, time, training and support. This means that if teachers do not have enough materials, it will be very hard if not impossible to obtain a satisfactory integration. The second-order barriers relate to teachers' underlying beliefs about teaching and learning.

The purpose of this study is to examine and analyse the difficulties and obstacles faced by teachers while employing ICT equipments in their classes. Admittedly, the primary objective is not to declare general descriptive information about the problem, but rather to investigate the distinctive features of the problem in detail. This research seeks to answer the following research question:

RQ : What are Moroccan university English language teachers perceived barriers to the integration of ICT in teaching?

2. LITERATURE REVIEW

Becta (2004) categorizes the barriers as falling into two primary kinds: the teacher-level barriers such as lack of time, lack of confidence and resistance to change, or the school-level barriers such as lack of training and access to resources.

2.1 Factors Associated with Teachers' Adoption of ICT

Lack of confidence is considered as one of the obstacles that stop teachers from employing ICT in teaching. In the Becta survey of practitioners (2004), for instance, the matter of lack of confidence was the field that captivated nearly all answers from those that took part. This simply means that numerous of the respondents to the Becta survey who detected their lack of confidence as an obstacle concentrated on an apprehension of acknowledging to their students that they had restricted familiarity in the domain of ICT. Therefore, teachers who have little or no confidence in applying technologies in their occupation will attempt to escape them altogether (Dawes, 2000; Larner and Timberlake, 1995; Russell and Bradly, 1997 in Jones, 2004).

Lack of teacher computer competence is another significant obstacle that should be taken into consideration for successful implementation of ICT into teaching. By computer competence, I mean the knowledge and capability to utilize computers and related technology adequately. Jones (2004) announces that instructors competence relate directly to confidence.

The successful implementation of technologies into teaching relies strongly on teachers' encouragement and attitudes. Mumtaz (2000) states that "teachers' beliefs about teaching and learning with ICT are central to integration". That is to say, if teachers hold positive attitudes concerning the application of technologies they can without difficulty give beneficial vision about the adoption of ICT into teaching.

2.2 Factors Associated with Schools' Adoption of ICT

Lack of time is considered as one of the biggest constraints to the implementation of ICT into the teaching situation. According to Manternach-Wigans et al. (1999), instructors are concerned about the lack of time for technology; they are aware of the fact that they require more time to master computer basics, outline how to apply technology into their lessons, and positively utilize the technology in the classroom.

Lack of effective training is another obstacle against the use of ICT into teaching. Brand (1998) has asserted, "If students are going to be prepared for a technological society, they must be taught by confident and skilled teachers. This can only be done by adequate training and development of teachers" (p. 13). Lack of training is a potential source for educators' low levels of confidence and negative attitudes towards computers (Cox, Rhodes & Hall, 1988; Kumar & Kumar, 2003).

The adequate use of technology involves the accessibility of equipments. Pelgrum (2001) discovered that the deficient and unsatisfactory number of computers accessible to teachers was one of the mentioned troubles when educators were questioned about barriers to their employment of ICT. Similarly, Mumtaz (2000) confirms that a lack of computers and software can restrict what teachers can do in the classroom concerning the use of ICT in education. David (1994) stresses four essential elements for educators' effective utilization of ICT. These factors were: professional development, access to technology, technical support, and functionality of the technology. Obviously, if ICT resources cannot be accessed by the instructor, then it will not be utilized.

Lack of technical support is another factor that stops schools from successfully delivering excellent and imaginative lessons using ICT. Jones (2004) declares that the breakdown of a computer generates disturbance and if there is lack of technical support, then it is possible that the typical repairs of the computer will not be implemented resulting in teachers not employing computers in teaching.

3. RESEARCH METHOD

The population considered for this study is constituted of Moroccan university English language teacher. Indeed, 46 is the number of respondents who participate in this investigation during 2013 – 2014 academic year in Morocco. 30 university English language teachers at Moulay Ismail University Faculty of Arts and Humanities English department – Meknes and 19 university English language teachers at Sidi Mohamed Ben Abdellah Dhar – El Mahraz English department– Fes. In this study the questionnaire is utilized as data collection instrument so as to find out the obstacles which prevent instructors from implementing technology in their classes. In this regard, it is necessary to state that the questionnaire targets only university English language teachers. 46 university English language teachers is the total number of the participants in this examination.

In this investigation, the questionnaire is used as data collection tool so as to gather necessary data. Admittedly, the questionnaire is one of the popular instruments utilized in conducting surveys.

A pilot study has been conducted before the actual collection of data to evaluate the instrument and its suitability. Five university English language teachers participate in completing the survey voluntarily. The majority of the subjects are males 60 % (n=3) while the females represent 40 % (n=2). They are asked to complete the questionnaire and state any obscure or unsuitable wording items. Indeed, most of the respondents notice that the items in the questionnaire are obvious. However, some of them affirm that it would be better to write Information and Communication Technology rather just the abbreviation ICT.

A total of 49 copies of the questionnaire were distributed over two weeks from April 24th through May 16th, 2014. Therefore, teachers were given three weeks to complete the questionnaire. The copies of the questionnaire were delivered in person. The collection of the copies of the questionnaire included three weeks starting April 25th and ending May 16th. The return rate was 93,8%. Indeed, one copy of the questionnaire is eliminated because of incomplete data. Two participants

refuse to fill out the questionnaire. Therefore, the total number of respondents to the survey questionnaire in this investigation is 46.

For the purpose of answering the research question, one essential type of data analysis was utilized. To analyze the data from the survey questionnaire, the Statistical Package for Social Sciences (SPSS) version 19 was used. SPSS is used in this examination for statistical analysis. In other words, it is employed so as to create tables and graphs. For the present study, a quantitative research design is adopted on the ground of the nature of the instrument used and the nature of the data collected. Quantitative data provides beneficial and valuable information if the researcher requires to describe a large population (Creswell, 2005).

4. FINDINGS AND DISCUSSION

The research question “What are Moroccan university English language teachers perceived barriers to the integration of ICT in teaching?” is measured through fifteen items in the questionnaire. The first six items deal with factors associated with teachers’ adoption of ICT. Factors associated with schools’ adoption of ICT in teaching are evaluated through eight items in the questionnaire. The fifteenth item is an open-ended question in which respondents are invited to add extra barriers that stop them from integrating ICT in their classes, if any.

Table 1. Response frequencies for factors associated with teachers’ adoption of ICT

	Strongly disagree		Disagree		Undecided		Agree		Strongly agree	
	F	%	F	%	F	%	F	%	F	%
1. Lack of competence	25	54.3	12	26.1	0	0	6	13.1	3	6.5
2. Fear of computer equipment breaking down in the lesson	28	60.9	10	21.7	0	0	7	15.2	1	2.2
3. Belief that traditional way is better	27	58.7	11	23.9	0	0	7	15.2	1	2.2
4. Lack of confidence	27	58.7	13	28.3	0	0	3	6.5	3	6.5
5. Colleagues’ negative views about technology	28	60.9	16	34.8	0	0	2	4.3	0	0
6. Lack of time during the lesson	17	36.9	14	30.4	0	0	6	13.1	9	19.6

The results from the above table show clearly that the majority of the respondents 80,4% strongly disagreeing or disagreeing with the idea that lack of

competence stops them from using ICT in their lessons. 19.6% believe that lack of competence really prevents them from using ICT in their lessons. Also, 82.6% of the participants do not consider fear of computer equipment breaking down in the lesson as an obstacle discouraging them from using ICT in their lessons; however, 17.4% of them view fear of computer equipment breaking down in the lesson as a key barrier preventing them from employing ICT in their teaching. Similarly, 82.6% of the participant teachers do not see the belief that traditional way is better preventing them from utilizing ICT in their lessons; however, 17.4% of them agree with the statement. The highest frequencies of strongly disagreeing or disagreeing are observed for lack of confidence 87% and colleagues' negative views about technology 95.7%. Concerning lack of time during the lesson, 67.3% of the teachers involved in the study strongly disagreeing or disagreeing with the fact that lack of time during the lesson hinders them from making use of ICT in their classes.

Table 2. Response frequencies for factors associated with schools' adoption of ICT

	Strongly disagree		Disagree		Undecided		Agree		Strongly agree	
	F	%	F	%	F	%	F	%	F	%
7. Large classes	7	15.2	7	15.2	0	0	11	23.9	21	45.7
8. Insufficient space	16	34.8	13	28.3	0	0	7	15.2	10	21.7
9. Lack of computers	2	4.3	7	15.2	0	0	11	23.9	26	56.6
10. Lack of Internet	1	2.2	7	15.2	0	0	14	30.4	24	52.2
11. Lack of training	20	43.5	13	28.2	0	0	7	15.2	6	13.1
12. A little access to ICT	15	32.6	14	30.5	0	0	10	21.7	7	15.2
13. Insufficient technical support	7	15.2	8	17.4	0	0	18	39.1	13	28.3
14. Insufficient time to acquire ICT skills	19	41.3	17	37	0	0	8	17.4	2	4.3

The obstacles associated with schools' adoption of ICT in teaching are evaluated through eight items in the questionnaire. From the results shown in the table above, it is possible to observe a big difference in the participants responses 30,4% strongly disagreeing or disagreeing and 69.6% agreeing or strongly agreeing on the idea that large classes discourage them from using ICT in the classroom. Besides, 63.1% of the respondents strongly disagreeing or disagreeing that insufficient space stop them from making use of ICT in their lessons. Whereas, only 36.9% of them agree with the statement. The highest frequencies of agreeing or

strongly agreeing are noticed for lack of computers 80.5 % and lack of Internet 82.6%. That is to say, the respondents do really regard lack of Internet and lack of computers as crucial barriers preventing them from integrating ICT in the schools where they work. As to lack of training, 28.3% of the participant teachers who affirm that lack of training discourages them from making use of ICT in their lessons. In fact, the majority of the participants 71.7% disagree with the statement. It is evident that table 2 makes clear the idea that 63.1% of the respondents demonstrate that a little access to ICT does not stop them from implementing ICT in their classes; however, 36.9% of them see a little access to ICT as a key obstacle. As it is also indicated in table 2, 32.6% of the respondents strongly disagree or disagree with the statement which states that insufficient technical support discourages teachers from using ICT in their lessons. Besides, the majorities of the participant teachers 78.3% strongly disagree or disagree with the idea that insufficient time to acquire ICT skills prevents them from integrating ICT in their lessons. While 21.7% strongly agree or agree with the statement. In the fifteenth item the respondent are asked if there are additional obstacles preventing them from implementing ICT tools in their lessons and mention them. Actually, no additional barriers are stated. Certainly, the conclusion that can be drawn from these results is that most of respondents report that large classes, lack of computers, lack of Internet and insufficient technical support are real barriers that prevent them from using ICT in their classes.

Data to answer this question comes from the questionnaire results. The results of the questionnaire indicate clearly that there are numerous barriers that stop Moroccan university English language teachers from implementing ICT in their classes.

The findings obtained in the present study show that there are various barriers connected to teacher-level barriers that hinder instructors from integrating ICT into their teaching. In other word words, 19.6% of the respondents consider lack of competence as an essential obstacle preventing them from integrating ICT in their lessons. Moreover, 17.4% of the participants stress that fear of computer equipment breaking down in the lesson is another barrier stopping them from integrating ICT in their classes. Similarly, 17.4% of the respondents emphasize that the belief that traditional way is better is a key obstacle. Besides, 13% of the participant teachers declare that lack of confidence prevents them from using technology in their lessons and about 4.3% of the teachers acknowledge those colleagues' negative views about technology is also another essential obstacle. Furthermore, 32.7% is the frequency of teachers who assert that lack of time during the lesson is an important barrier stopping Moroccan university English language teachers from employing ICT in their classrooms.

The findings of the present study suggest that there are also different barriers connected to school-level barriers that prevent teachers from implementing ICT in their lessons. That is to say, most of the participants 69.6% highlight large classes as essential difficulty discouraging instructors from implementing ICT in their classes. Also, 36.9% of the respondents regard insufficient space as another crucial obstacle. Additionally, the majority of the participants 80.5% view lack of computers as an

obstacle preventing instructors from using ICT in their lessons. Besides, most of the respondents 82.6% believe that lack of Internet is a really a significant impediment stopping Moroccan university English language teachers from using ICT in their classrooms. Moreover, 28.3% is the frequency of teachers who affirm that lack of training is a main hurdle preventing instructors from making use of ICT in their lessons. Also, 36.9% of the participant educators state that a little access to ICT stops them from integrating ICT in their classes and about 67.4% announce that insufficient technical support discourages them from implementing technology in their lessons.

At this point, it is safe to say that the most significant barriers according to the findings discussed above belong to the school-level barriers. Actually, the majority of the participant teachers in this investigation believe that large classes, lack of computers, lack of Internet and insufficient technical support are the most important barriers stopping them from integrating technology in their classrooms.

Teaching English in large classes is still not being preferred by nearly all educators. Before going any further, it is fundamental to start with the fact that numerous researchers have different views concerning the number of students in a so-called 'large class'. "There can be no quantitative definition of what constitutes a "large class", as perceptions of this will vary from context to context" (Hayes, 1997:4). Undoubtedly, large classes present distinctive challenges to the teacher. In fact, one of the major findings of the present study is that large classes are one of the main barriers stopping instructors from using technology in their lessons. Peluchette (2005) found that class size can negatively affect technology use. When faculty members make use of technologies like e-mail and chat rooms, large classes can be difficult to manage, especially when teaching an online course.

The participant teachers in this investigation declare lack of computers as one of the most inhibiting factors in their teaching. The finding is consistent with Pelgrum (2001) who discovered that the most frequently mentioned problems when educators were asked about limitations to their use of ICT was the insufficient number of computers available to them. Similarly, Mumtaz (2000) states that a lack of computers and software can seriously restrict what educators can carry out in the classroom with regards to integration of ICT. This point is similar to Cuban's (1986) interests about the technical difficulties teachers experience when a new machine is introduced to teachers in the classroom. Admittedly, if instructors cannot access ICT resources, then they will not make use of them. Hence, access to computers and other hardware types are key factors to the successful implementation of information and communication technology.

Lack of Internet is another significant barrier discovered in this study preventing teachers from implementing information and communication technology in their classes. For instance, the wireless Internet might be either slow or not working. This issue was previously raised by Cuban (1986), where a technology is not accessible and dependable it will be used less frequently. Admittedly, it is possible to say that without enough equipments and support, even educators with well-intentioned plans for technology integration may leave them in exchange for traditional classroom approaches (Sandholtz, 2001). It is also worth-stating that a

lack of release time to master how to employ computers and the Internet has been a frequently described obstacle for public school teachers concerned with making use of computers and the Internet in instruction (Jones, 2001)

Another essential obstacle detected in this examination is lack of technical support. That is to say, insufficient technical support is also likely to discourage educators from integrating technology in their lessons. In concordance with the findings of the present study, Snoeyink and Ertmer (2001) discovered that instructors who made an effort to complete a task on a computer, but who were unsuccessful due to technical problems, would then avoid making use of the computer for many days.

As noted in the literature review, numerous distinctive researchers have highlighted the idea that instructors will be discouraged from employing computers in their teaching since no one would afford them technical support in case there is technical problem. Jones (2004), for instance, declares that the breakdown of a computer produces disturbance and if there is lack of technical support, then it is possible that the typical repairs of the computer will not be fulfilled resulting in instructors not using computers in teaching. That is to say, once the breakdowns do happen, the lack of technical support may signify that the equipment remains out of use for a longer period of time. Hence, instructors are recommended to make a contingency plan to make sure that alternative strategies are available. In other words, teachers should make a backup of their lessons that do not embrace the use of technology if the ICT fails.

Briefly then, it could be concluded that the second hypotheses stating that Moroccan university English language teachers perceived barriers to the integration of ICT in teaching are lack of teacher confidence, resistance to change and negative attitudes is disconfirmed on the basis of the already given findings.

5. CONCLUSION AND IMPLICATIONS

Based on the statistical analysis of the survey data, the conclusions that can be drawn from this investigation are the following:

Moroccan university English language teachers view information and communication technology tools as very essential in their teaching practices. Indeed, instructors are aware of the fact that by using hardware and software types in their classrooms they can add a variety to their lessons. Also, by making use of ICT they can afford the students with more individualized learning experience which has a hand in autonomous learning. In summary, it can be said that the importance of information and communication technology in teaching has been identified, but what is missing is the effective integration of materials into teaching.

This investigation comes to the conclusion that Moroccan university English language teachers are familiar with the importance of ICT in their classrooms. However, this does not guarantee a successful integration of technology in teaching. ICT as a teaching aid is more complicated in that it requires more specific skills from the teacher. This study indicates clearly that teachers are confronted with numerous obstacles that stop them from making use of technology in their lessons. Furthermore, large classes, lack of computers, lack of Internet and insufficient

technical support are the most essential barriers discouraging teachers from integrating technology in their teaching practices.

It is possible to say that this work does provide a good picture of the views of teachers to the essential barriers for ICT integration in their schools. The results of this investigation also show crucial suggestions that do play a role in the successful implementation of ICT in teaching. That is, in order to integrate information and communication technology in Moroccan universities, teachers propose availability of training, availability of ICT resources and effective school policy.

The implementation of information and communication technology is a complicated process that requires more specific skills from the instructors. Besides, some barriers may stop teachers from integrating ICT in their lessons. Certainly, the main objective of this investigation is to find out the barriers that stop Moroccan university English language teachers from using technology in their teaching practices. Admittedly, this study is guided by one primary research question:

RQ: What are Moroccan university English language teachers perceived barriers to the integration of ICT in teaching?

Actually, 46 is the total number of university English language teachers who take part in this study. Those respondents are chosen from two universities: Moulay Ismail University Faculty of Arts and Humanities English Department – Meknes and Sidi Mohamed Ben Abdellah-Dhar- El Mahraz English Department – Fes as a case study. The instrument used in this study is the questionnaire to assemble necessary information. To analyze the data from the survey questionnaire, the Statistical Package for Social Sciences (SPSS) version 19 is used. Admittedly, based on the statistical analysis of the survey data, the conclusion that can be drawn from this investigation is the following:

This investigation comes to the conclusion that Moroccan university English language teachers are confronted with numerous obstacles that stop them from making use of technology in their lessons. Furthermore, large classes, lack of computers, lack of Internet and insufficient technical support are the most essential barriers discouraging teachers from integrating technology in their teaching practices.

This work suggests that the effective integration of information and communication technology in teaching is impeded by several distinctive constraining factors. Based on the findings of the present study, a number of implications related to ICT integration in the Moroccan universities English departments can be drawn from this piece of research. These can be summed up as follows:

- ❖ Provide teachers with the necessary ICT tools, (hardware and software), and good network connection.
- ❖ The classroom design should be appropriate to make a good use of ICT equipments.
- ❖ Teachers' worries and misunderstandings about the implementation of ICT tools into the language teaching material should be minimized.
- ❖ Encourage faculties to develop their ICT integration policies.

- ❖ The government and its education department should provide the encouragement and support that enables teachers to integrate ICT in their lessons.
- ❖ The institution must provide a proper evaluation on integration of ICT tools in teaching.

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