Perceptions of Arabic Language Teachers' of their Competencies and Usage of Integration Technology in Jordanian Schools

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ABSTRACT This study aimed at investigating Arabic language teachers' perceptions of their competencies and usage of technology integration and exploring the obstacles and incentives related to the successful integration of technology in Jordanian public classrooms.

A convenient sample of 40 Arabic language teachers of elementary school students from 14 public schools were selected and nominated by school principals in Al-Zarqa Educational Zone to take part in this study. A three scale questionnaire was used to investigate Arabic language teachers' perception of their competences (TPC) scale and usage of integration technology in their classrooms (TPU) scale and the obstacles and incentives of using CALL in teaching Arabic (OIS).

Results showed that there were significant differences between teachers' perceptions of their competencies and technology Integration. The results also revealed gender significant differences in teachers' usage of technology in the classroom in favor of male teachers. Moreover, significant differences in teachers' usage of technology integration in the classroom were found due to years of experience. Also, teachers with more years of experience reported lower levels of lack of incentives than those with less years of experience.

Implications for further research and recommendations to facilitate the use of technology in Implications for further research and recommendations to facilitate the use of technology in teaching Arabic languages in Jordanian Schools are discussed.

Keywords: *Technology Integration, Teachers' Perceptions, Obstacles; Incentives, Arabic Language Teachers, Primary Fifth grade stage.*

1. Introduction

The rapid developments in technology drive the educational institutions that prepare the new generations to inevitably adapt to the technological innovations. Bates (2000) points out that the need to do more with less, changing needs of the society and the impact of new technologies on teaching and learning are the most important reasons that lead the educational institutions to change (p. 8).

Jordan, an Arab country with limited natural resources has realized the fundamental role of information and communication technology. It is striving to develop its educational system and to identify ways to enhance and enrich all aspects of education. One of these aspects was integration of technology into school curricula. The Jordanian education system enhanced the use of educational technology such as educational television programs, tape recorders, overhead projectors, videotapes, laboratories, workshops, libraries, and computer technology (George, 1996). Despite the fact that MoE has paid much attention to technology integration in classrooms, and technology has been employed in the primary and secondary stages, it is still not used by many primary stage teachers.

Jordan Educational Initiative was established in 2003 to fulfill a key role in the educational transformation. To support the Ministry of Education's (MoE) curriculum reform process, Education Reform for the Knowledge Economy (ERfKE), the Jordanian Education Initiative (JEI) was established as a test bed for the introduction of information and communication technologies (ICT) and e-learning resources into Jordanian classrooms to support innovative teaching practice (Ministry of Information and Communication Technology [MoICT] 2006). With initial assistance from the World Economic Forum (WEF), the JEI sought to apply public-private partnerships to improve the application of

information and communication technology (ICT) in grades 1–12 in Jordanian schools (Ministry of Education [MoE], 2006).

The efforts of this coalition have been coordinated and managed by the JEI Program Management Office (PMO), which is now continuing on as a non-governmental organization (NGO). A general policy is that the MoE requires that all teachers in Discovery Schools take the International Computer Driving License (ICDL) which is an intensive course to train people in a wide range of software products.

Using technology effectively in the teaching–learning process might improve student writing, enhance cooperative learning and integration of curriculum In addition, greater application of new learning styles and strategies increase applications of cross-age tutoring, teacher communication, enhance community relations and global learning" (Whitehead, Jensen, & Boschee, 2003, pp. 10–12). Furthermore, some important contributions of technology usage in schools are to support traditional classroom settings (Rosenfeld & Martinez-Pons, 2005), to open the classroom to the outside world (Gibson & Oberg, 2004; Venezky, 2004) and to enhance student achievement (Krentler & Willis-Flurry, 2005).

Technology integration in the classroom has become an important aspect of successful teaching. It has triggered many researchers to investigate different aspects of such integration (e.g., Abbit & Klett, 2007; Anderson & Maninger, 2007; Bauer & Kenton, 2005; ChanLin, Hong, Horng, Chang, & Chu, 2006; Gulbahar, 2007; Judson, 2006; Kotrlik & Redmann, 2005; Wood & Ashfield, 2008; Zhao, 2007). This is because it allows students to learn more in less time and allows schools to focus on global learning environments if used appropriately. In addition, it could be an effective teaching tool when used to engage all students in the learning process (Almekhlafi, 2006a).

Using information and communication technology (ICT) in teaching gives individual attention to the learner at the console and replies to him. Traditionally, it acts as a tutor assessing the learner's reply, recording it, pointing out mistakes and giving explanations. It guides the learner towards the correct answer, and generally adapts the material to his or her performance (Bates, 2000). This flexibility, which can include allowing the learner to choose between several modes of presentation, is something impossible to achieve with written handouts and worksheets; it would require huge "scrambled books" with pages and pages of mostly unnecessary explanations, together with an extremely complicated system of cross-references. Nor would the learner get the instant feedback so beneficial to the learning process which the computer provides. Gonglewski, Meloni, and Brank (2007) maintained that computer-mediated instruction can provide a very valuable language learning experience.

Convincing and preparing teachers to integrate ICT into their teaching has become a global mission in the last few decades. These concerns emerged because effective use of ICT in classrooms can significantly improve the overall teaching-learning environment, enrich students' learning experiences, foster participation, increase self-reliance and responsibility , and establish the foundations of long life learning (sustained learning) and personal development of individuals (Galanouli, Murphy, & Gardner, 2004).

Research emphasizes the importance of professional development for the successful use of ICT in classrooms. Baylor & Ritchie (2002), for instance, found that the support of professional development and the level of technology literacy of school leadership affected technology acceptance in classrooms and enabled teachers to master these technologies. Teachers cannot prepare their students to be information literate unless they themselves understand how to find and use information.

The technology adoption in education is a very complex process that includes different components and variables such as quality of teacher training in technology, quality of technology hardware and software, and student and teacher attitudes toward technology. Even though technology can be an effective tool when used properly in teaching and learning, teachers still show resistance to integrate technology into their classrooms.

Much research has expounded upon the need for teachers to overcome barriers of using technology, such as the lack of time to learn technology and a lack of technology support and access (Almekhlafi, 2006a; Butler & Sellbom, 2002; Fletcher, 2006).

Support also plays an important role in technology diffusion in education. The support may be in three different forms: technical support, pedagogical support and management support. Technical support is important because teachers and faculty members always need help with the equipment in classrooms. Most of the time, they are not able to overcome technical problems occurring during instruction and need to call a support person (Dusic, 1998; Hardy, 1998).

Pedagogical support is related to technology planning, development, implementation and teacher consulting. Pedagogical support should be provided by technology coordinators (Zammit, 1992). Technology coordinators are generally responsible for informing teachers of how to use certain equipment and programs. Equipment use is not necessarily only limited to physical use but related to how that piece of technology is integrated into instruction, how to plan for its use, and how to improve students learning performance and motivation. Also, technology coordinators should enlighten teachers with concurrent educational technology innovations and learning theories/models (Ritchie, 1996). Hoffman (1998) claims that the pedagogical support provided by the coordinators leads to a greater use of software that promotes higher order thinking skills, and a greater use of computers as tools in academic activities rather than as mere drill-and-practice.

Teachers' teaching beliefs are mostly formed through their personal experience starting as a student and later as a teacher. They lack the opportunities of observing alternative classroom practices because of their work load and environment. Therefore, their teaching beliefs resist the change. They need to be provided with alternative visions of what teaching with technology looks like and opportunities to experience alternative approaches in supporting context. Teachers need opportunities to observe peers working with technology and access to mentors or coaching support as they implement changes in their own teaching (Albion & Ertmer, 2002).

School boards, districts, and school management are not providing adequate administrative support for technology infusion (Cafolla & Knee, 1995). Administrators from different management levels are key people making strategic and executive decisions within schools or school systems and universities. With those decisions, administrators may provide teachers with directions about educational technology use, involve teachers in the technology adaptation process, provide necessary hardware and software, provide incentives that can encourage and motivate teachers to start and continue integrating technology into their lessons (Dupagne & Krendl, 1992; Hoffman, 1998; Knupfer, 1989). One possible solution to overcome this problem and to increase the technology use in schools is to train administrators on educational technology and make them comfortable computer users so that their attitude towards technology is improved and they provide more help teachers integrate technology in their lessons (Ritchie, 1996).

Some researches state that with the current educational system, integrating technology is difficult per se (Sheingold & Hadley, 1990). They advocate that the current instructional design tactics are not useful and practical, and there is lack of appropriate and efficient approaches to plan technology integration. The following factors are also considered to be related to teachers' educational computer use: risk of using technology, sharing of technology resources between teachers (Dusic, 1998), discouraging climate to use computer within schools, lack of use of computers for personal purposes and not having a computer at home (Downes,1993).

Gender difference is another aspect of teachers' attitude toward technology. In general, females exhibit more negative attitudes toward computers, have fewer expectations to use computers and show low level acceptance of innovative behavior. Male teachers attend more training programs than female teachers (Zammit, 1992). However, male-female distinction is a controversial issue. Not all studies found similar results. Sheingold and Hadley (1990) found equal distribution of computer use between male and female teachers. However, exemplary computer using teachers are usually males (Chiero, 1997).

Attitude is not a clear indicator of teachers' disposition towards technology, such as high/good attitude and low/bad attitude. Teachers having different experiences, varying support and different incentives and barriers may exhibit different attitudes. Hardy (1998) classifies computer users into five categories; enthusiastic beginners, supported integrators, high school naturals, unsupported achievers and struggling aspires. While enthusiastic beginners are less experienced compared to the others and showed optimistic attitudes by believing that computers are the future for improving the quality of education, unsupported achievers are comfortable with technology and they see computer as a way of expending on what teachers have taught.

Thus, in order to use the technology for teaching and learning purposes, the educational institutions should develop an innovative approach shaped by a proper planning process, if they want to keep track of changes in technology and get up-to-date. Conlon (2000) summarizes this process as follows:" The introduction of new technology will change our schools. But technology without philosophy is blind. Unless it is harnessed to a clear vision of change then chip by chip, the technology could take us into a future that we would never willingly have chosen for ourselves"(p. 116).

Arabic Computer-assisted language learning (CALL) systems

Current Arabic Computer-assisted language learning (CALL) systems have the weakness that learners cannot phrase in an Arabic sentence freely. Similarly, they cannot guide the learner to correct the most likely ill-formed input sentences. The learner just accepts the information which follows the programmed instruction that is pre-installed in the computer. For these systems to be useful, more research to combine Natural Language Processing (NLP) techniques with language learning systems is needed.

Parsing, the core component in ICALL systems, allows the system both to analyze the learner's input and to generate responses to that input (Holland, Maisano, & Alderks, 1993). Allowing learners to phrase their own sentences freely without following any pre-fixed rules can improve the effectiveness of ICALL systems, especially when the expected learner answers are relatively short and well-focused (Boytcheva, Vitanova, Strupchanska, Yankova, & Angelova, 2004). Both the well- and ill-formed structure of the input sentence can be recognized. The learner should be allowed to correct the typed sentence independently.

In Arabic ICALL, there are two main types of test items for interaction with the learner—selection-type that tends to elicit answers easily classified as right or wrong and supply-type requiring the learners to write a few words. The objective test method is used to assess the learner's knowledge or skills where each question has one (and only one) correct answer—and there is no ambiguity about what that correct answer should be. The present system guides learners to recognize by themselves the erroneous or inappropriate functions of their misused expressions.

In other words, it helps learners to make use of their errors. It doesn't give them the correct answer directly but it enables them to try over and over again. In this system, we use NLP tools (including morphological analyzer and syntax analyzer) and error analyzer to issue feedback to the learner. Furthermore, we propose a mechanism of correction by learners which allows the learner to correct the typed sentence independently, and allows learners to realize what the error is. Arabic ICALL follows the curriculum of Arabic grammar at the Egyptian primary schools.

The linguistic computation of an Arabic sentence is a difficult task (Othman, Shaalan, & Rafea, 2003). The difficulty comes from several sources: (1) the length of sentences and the complexity of Arabic syntax; (2) the omission of diacritics (vowels) in written Arabic ‘‘altashkiil’’; (3) the free word order nature of Arabic sentence; and (4) the presence of an elliptic personal pronoun ‘‘alDamiir almustatir’’. For these reasons, there is very little research involving Arabic (I) CALL (Ditters, Oostdijk, & Cameron, 1993).

Research into Arabic Computer-assisted language learning (CALL) can be classified by two approaches: the Computer as a tool and the Computer as a tutor. In the Computer as a tool approach, some computer programs can be used as a tool that does not necessarily provide any language material at all, but rather empowers the learner to use or understand language. In the Computer as a tutor approach, the process of finding the right answer involves a fair amount of student choice, control, and interaction.

Hegazi, Ali, Abed and Hamada (1989) presented a way of representing Arabic syntax in Prolog as production rules. The system can detect some errors concerning Arabic syntax, and so can be used for an educational environment. Abou Ela (1994) developed an expert system, the Arabic Syntax Analyzer (ESASA), which can be used as a tool to assist Arabic linguists in building Arabic grammar rules. The grammar is expressed using a declarative language called Grammar Writing Language (GWL). This tool is aimed at building Arabic natural language applications including CALL.

The absence of diacritics, which represent most vowels, in the written text creates ambiguity which hinders the development of Arabic natural language processing applications. Thus, ambiguity increases the range of possible interpretations of natural language (Othman, Shaalan, & Rafea, (2003).

Using the Internet for publishing web-based CALL materials that contain non-Latin alphabets requires the solution of various technical problems. There are so many unknown factors associated with the operating system of a distant user that affect the browsing characteristics of these materials. Cushion and Hemard (2002) described how recent technological developments have provided the possibility of overcoming these technical problems in conjunction with the Java programming language and the Unicode character numbering system.

Shaalan (2005) developed an Arabic grammar checker, called Arabic GramCheck. Arabic GramCheck looks for common Arabic grammatical problems, describes the problem, and offers suggestions for improvement. This program is useful in pointing to problems believed typical of native speaker writing. Thus, the learner can avoid such problems in future.

Gheith, Dawa, and Afifty (1996) developed Instructional Software for Teaching the Arabic Language (ISTAL) for grade one prep school. The system presents the curriculum as a simple concept associated with a set of generated sentences. Then, the system generates an exercise for the student and the student's answer is automatically evaluated by comparing it to the system's solution.

For example, in Egypt, where there is a growing demand in using computers for teaching and learning, some publishers of off-the-shelf school textbooks provide students with either CD's or web sites that contain vocabulary and grammar practice.

The educational units include Arabic grammar lessons for the primary level. Specifically, they cover the following:

الأسماء (nouns)؛ النعت (adjective)؛ المثنى والجمع (dual and plural)؛ الأفعال (verbs)؛ الضمائر (pronouns)؛ الجملة الإسميّة (nominal sentence)؛ المبتدأ والخبر (inchoative and enunciative) predأنواع الخبر (types of the enunciative)؛ الجملة الفعلية (verbal sentence)؛ العطف (conjunctions)؛ الظرف (adverb)؛ الحال (circumstantial accusative)؛ النداء (interjection)؛ المفعول لأجله (causative object)؛ المفعول المطلق (unrestricted object)؛ إن وأخواتها (Inna and her sisters)؛ أنواع خبر إن وأخواتها (types of predicate of Inna and her sisters)؛ كان وأخواتها (Kana and her sisters)، وأنواع خبر كان وأخواتها (types of predicate of Kana and her sister))؛ الحروف (articles).

The primary stage teacher plays a pivotal role in the development of technology-based literacy skills. Most early childhood educators see the computer center as an important activity center for learning (Haugland, 2000). In the computer center, children can have many opportunities to integrate learning across content areas (Morrow, Gambrell, & Pressley, 2003). To support children's learning in the computer center, teachers should take the time to observe each child and provide them with many opportunities for independent explorations on the computer.

As we increasingly depend on computers for learning, our expectations of language teachers will inevitably change. The aim here has been to highlight generic applications found on virtually any computer in the world so Arabic instructors will feel less inhibited about employing the basic technologies of word processing, e-mail, and the Internet in Arabic language learning (Madhany, 2005). These technologies can assist the teacher in project-based learning where the technology is adapted to the learner rather than vice versa. The best Arabic learning still occurs at the hands of brilliant teachers who use flexible, universal technologies to amplify their pedagogy, not to replace it.

Considering what we already know about teacher technology use, and in spite of the fact that technology-using teachers are seeing the impact on their students, published studies support what we suspect, that teachers are not using technology (Roblyer, 2004). Yet, the integration of technology and quality teaching are said to be inseparable. Content knowledge and pedagogical knowledge, as indicators of quality teaching, become readily evident within the process of technology integration that includes definition, planning, strategies, student management, and assessment (Pierson, 2001).

However, technological knowledge must be modeled and emphasized in teacher education programs in order to ensure its understanding and its appropriate, successful application by the teacher in the K-12 classroom (Martin, 2004; Martin & Crawford, 2004; Martin & Crawford, 2005). Special educators are more likely to use technology competently if it has been embedded in coursework and field experiences (Martin, 2004).

Based on indications reflecting a need for better training of teachers, the following issues related to technology use and teacher education programs have been identified: (a) university faculty factors such as a lack of modeling of technology in courses; (b) lack of technology implementation in activities and coursework; (c) a lack of expertise to develop complex technology mediated instruction; and (d) lack of technology integration in education field experiences (Ludlow 2001; Roblyer, 2004).

Technology integration at schools and factors affecting such integration has drawn the attention of many researchers and has been of high interest to them. A number of studies have been conducted to explore teachers' use of technology and factors hindering such use (e.g., Anderson & Maninger, 2007; Becker & Ravitz, 2001; Gulbahar, 2007; Zhao, 2007).

Parallel with the same purpose, this study aimed to investigate how a primary school teachers perceive their competence of technology integration, and their usage of these technologies in teaching Arabic language in classrooms, in addition the study explore the barriers and incentives relating to successful technology integration in the school. Therefore, the study first illustrated the

technology integration approach and the barriers that prevent teachers from using technology integration in their teaching.

2. Statement of the Problem

In the light of the information revolution and the scientific challenges of the 21st, century, there is a sweeping trend to use computers in all aspects of life and education is no exception. On the other hand, the world is heading towards knowledge economy and a lot of money will be invested in computer assisted language learning instructional software programs. Therefore, it is worth investigating the effectiveness of such CALL programs on the performance of learners.

3. Definition of Terms

Technology Use is implemented most often as an instructional tool, but it is the teacher's job to help the student to learn; computers, videos or the like. Technology Integration focuses more on supplementing what the students are already beginning to study, thus allowing for further questioning and investigation into individual subject areas and deeper understanding of topics and information.
Technology Integration thus actively engages the learner in the activity and into the learning process. Such integration technologies (web making software, wikis, etc.) "require students to think about what they know in different, meaningful ways" (Jonassen, Carr, & Yueh, 1998).

3. Aims of the Study

The current study addresses the following research questions:

1) What is the level of fifth primary grade Arabic Language teachers' perceptions of their competencies in Technology Integration in classrooms?
2) What is the level of fifth primary grade Arabic Language teachers' perceptions of their usage of Technology Integration in classrooms?
3) What is the level of fifth primary grade Arabic Language teachers' perceptions of the obstacles and incentives of Technology Integration in classrooms?
4) Is there a significant difference between teachers' perceptions of their competencies in Technology Integration in classrooms and their perceptions of their usage of it?
5) Is there a significant difference between teachers' perceptions of their competencies, of their usage of technology Integration, and obstacles and incentives related to successful Technology Integration due to gender, qualification, and years of teaching experience?

4**. Importance of Study**

The domain of CALL in Jordan is in need of more research. To the researchers' best knowledge, studies about computer – based instruction in Jordan are not so many. A few studies about the use of CALL by Arabic language teachers have been conducted. It is anticipated that this study will shed light on the competencies and the usage of Call by Arabic language teachers in Jordan.
Thereupon, the findings of this study may be functional for different categories of people; it may help EFL curricula designers and EFL methodologists develop practical ways to train and encourage teachers to use CALL in their classrooms. Finally, this study may encourage other researchers to conduct further studies on the same topic, which will enrich both the local and international literature.

5. Limitations of the Study

This study has the following primary limitations:

- This study is confined to Arabic Language teachers of fifth primary stage students in the second semester of academic year 2009/2010 in Zarqa Area schools-Jordan .

6. Review of Related Literature

Technology use in education is becoming an increasingly important part of higher and professional education (Almekhlafi, 2006a, 2006b; Wernet, Olliges, & Delicath, 2000).

Technology not only gives learners the opportunity to control their own learning process, but also provides them with ready access to a vast amount of information over which the teacher has no control (Lam & Lawrence, 2002).

According to Rowand (2000), a survey based on a National Center for Education Statistics (NCES, 2000), found that 39% of teachers indicated that they used computers or the Internet to create instructional materials, 34% for administrative record keeping, less than 10% reported to

access model lesson plans or to access research and best practices. Novice teachers were more likely to use computers or the Internet.

Similarly and according to a report released by the U. S. Department of Education, NCES (2000), novice teachers were more likely to use computers or the Internet to accomplish various teaching objectives. Teachers with at most nine years of teaching experience were more likely compared teachers with 20 or more years of experience to report using computers or the Internet to communicate with colleagues.

Bauer and Kenton (2005) found that teachers, who were highly educated and skilled with technology, were innovative and adept at overcoming obstacles, but they did not integrate technology on a consistent basis both as a teaching and learning tool. Results suggest that schools have not yet achieved true technology integration.

Gulbahar (2007) concluded that teachers and administrative staff felt themselves competent in using ICT available at the school; they reported a lack of guidelines that would lead them to successful integration. On the other hand, students reported that ICT is not utilized sufficiently in their classes

Zhao (2007) conducted a qualitative research to investigate the perspectives and experiences of 17 social studies teachers following technology integration training. The research indicated that teachers held a variety of views towards technology integration. These views influenced their use of technology in the classroom. Most teachers were willing to use technology, expressed positive experiences with technology integration training, increased their use of technology in the classroom, and used technology more creatively.

On the other hand, numerous studies have been carried out to identify factors facilitating or prohibiting technology integration in the classroom, particularly computers. Some studies focus on the availability of computers in the classroom, sharing of resources, a supportive administration, and a strong support staff as the primary influencing factors. As an example, the Becker and Ravitz (2001) study showed that computer use among teachers is related to more constructivist views and practices and to changes in practice in a more constructivist-compatible direction.

In addition, other research studies suggest that there is a relationship between a teacher's student-centered beliefs about instruction and the nature of teacher's technology-integrated experiences (Judson, 2006; Totter, Stutz, & Grote , 2006).

Similarly, ChanLin et al. (2006) conducted a study to identify the factors affecting eight teachers' use of technology in creative teaching practicies. The identified factors were classified into four categories: environmental, personal, social and curricular issues.

Besides ChanLin's study, Anderson and Maninger (2007) investigated the changes in and factors related to students' technology-related abilities, beliefs, and intentions. Statistically significant changes were found in students' perceived abilities, self-efficacy beliefs, value beliefs, and intentions to use software in their future classrooms. Students' self-efficacy, value beliefs, and intentions were moderately correlated with each other. Abilities were correlated with self-efficacy and computer access. The best predictors of intentions were self-efficacy beliefs, gender, and value beliefs.

7. Methodology and Procedures

7.1. Sample of the Study

The population of this study included teachers of Arabic Language in primary state schools in Zarka.

A convenient sample of 40 teachers from 14 schools located in Zarqa city in Jordan were voluntarily recruited to participate in the study and filled in the study questionnaire which were designed for the purposes of the current study. They declared they have technological aids in their classrooms such as internet access, computers, data shows, projectors, video, etc. 40% per cent of the participating teachers were females.

85% of participants hold bachelor degree (BA) in Arabic Language and Literature and the rest are currently enrolled in the Master (MA) different relevant programs in Jordanian universities; 40% had 3-6 years of teaching experience, 37.5% less than 3 years, and 22.5% had more than six years, with average age for the whole sample (M=36.6; SD= 4.6) with age range from 29-45 years.

Each school has two computer laboratories (with 25 computers and a projection system), one electronic classroom (with 25 computers, a projection system, overhead projector and TV-video set), and one library. School has 71 computers for administrative staff and teachers' use and 75 computers for student use (1:13 ratio at student level). In addition, there are 31 overhead projectors, 10 TV-video sets, 2 computer-projection systems and 4 VCD players at school.

7.2. Instrumentation

The researchers developed the instrument used in the current study after a thorough review of the literature worldwide, especially research related to technology integration and language construction development. The survey questionnaire consists of two sections.

A demographic section gives a description of the sample used in the study, such as gender, type of educational certification degree (bachelor-Master), and years of working experience.

The second section includes three scales; Teachers' Perceptions of their Competencies Scale (TPC Scale), which consists of 22 items using a 3-point scale of responses, with 3 indicating strongly agree and 1 indicating strongly disagree; Teachers' Perceptions of their Usage Scale (TPU Scale), which consists of 22 items used in the TPC Scale a 3-point scale of responses, but this time asking how frequently the teachers practice the behaviors described in the 22 items, with 3 indicating always and 1 indicating never; thirdly, the last part contains obstacles and incentives scale (OIS), and employing a 5-point Likert-type scale of responses, with 5 indicating strongly agree and 1 indicating strongly disagree.

7.3. Validity of the Questionnaire

The face validity of the study questionnaires was established by refereeing it by a panel of university professors with different specializations, including educational technology, Arabic language and Information Technology [IT] teaching methods, in addition , the researcher selected ten Arabic language male and female teachers who identified themselves as providers of technology integration in their teaching practice.

The team of panel professors and teachers was asked to validate the content of the questionnaires with regard to instructions, the relevance of questions to target assessed variable, its suitability to the research goals and objectives, and the number questions. The remarks of the validating team, their notes and suggestions were taken into consideration, and the researcher made the necessary modifications before implementing the instruments. The three questionnaire (TPC, TPU and OIS Scales) validity using Cronbach's Alpha was 0.94; 0.88; 0.91 respectively.

7.4. Reliability of the Questionnaire

The questionnaires reliability was obtained through a test-retest method, which was applied on a pilot group of (24) teachers who were chosen from the population of the study and excluded from the sample.

The scales were repeated on the same group to check its reliability two weeks later. The reliability correlation coefficient of the test-retest was calculated using Pearson correlation formula.

It was found to be (0.84), which is considered to be suitable from a statistical point of view for the purpose of this study.

7.5 Data Analysis

Data gathered from the questionnaire items were analyzed using SPSS 15.0. Descriptive statistics, a t-test, multivariate analysis, and analysis of variance (ANOVA) were used. In addition, the researcher analyzed these items using “Item Analysis” method in order to get a deep understanding of the results from the questionnaire.

8. Findings of the study

Question 1: “What is the level of fifth primary grade Arabic Language teachers' perceptions of their competencies in Technology Integration in classrooms?

Results indicated that teachers moderately regard their competencies in technology integration (M=*1.82*). The mean scores ranged from *1.64* to *2.09* on a 3-point scale (see Table 1).

This moderate perception by teachers might be due to the fact that technology integration in classrooms highly affected by the barriers involved in this process though it is a part of teacher evaluation particularly at public schools.

Investigating the items in details, the highest mean scores were for items that are related to teachers’ ability to use presentation and analysis, word processing applications, utilize computers to assess students learning hardware and software, using technology to locate, evaluate, and collect information from a variety of sources.

While the lowest mean scores were for items that are related to teachers’ ability to integrate language labs to enhance students" learning.

These results conform to Bauer and Kenton (2005), where they found that teachers were highly skilled with technology and had the competencies required from successful technology integration. In addition, they were also supported by Zhao (2007) who investigated the perspectives and experiences of 17 social studies teachers following technology integration training.

***Table 1**: Teachers ' Perception of their Competencies in Technology Integration*

	Items	*M*	*SD*
1.	Selecting the appropriate computer programs related to language teaching and learning	*1.8*	*.533*
2.	Engaging students in the selection of technology-based materials	*1.8*	*.648*
3.	Using computer programs related to language teaching and learning	*1.9*	*.693*
4.	Producing technology-based materials such as brochures and pamphlets	*1.8*	*.549*
5.	Employing technology to get and assess information retrieved from different resources	*1.9*	*.545*
6.	Using technology for data presentation and analysis	*2.0*	*.525*
7.	Discussion of safety and health issues related to technology use	*1.8*	*.463*
8.	Operating a computer using a variety of software packages	*1.9*	*.619*
9.	Employing terminology related to computers and employing appropriate technology for written and oral communications	*1.8*	*.549*
10.	Using devices such as scanners, digital cameras, and/or video cameras with computers and software	*1.8*	*.500*
11.	Utilizing word processing applications	*2.0*	*.597*
12.	Employing computers for creating databases	*1.9*	*.530*
13.	Using spreadsheet applications such as MS Excel	*1.9*	*.552*
14.	Creating multimedia presentations such as PowerPoint presentations	*1.9*	*.632*
15.	Employing adaptive & assistive devices for students with special needs	*1.9*	*.530*
16.	Designing web sites	*1.8*	*.533*
17.	Using distance learning hardware and software	*1.9*	*.590*
18.	Using computers to assist students with special needs	*1.8*	*.405*
19.	Utilizing computers to assess students learning	*2.0*	*.749*
20.	Integrating language labs to enhance students‟ learning	*1.7*	*.619*
21.	Integrating technology to enhance students‟ learning	*1.9*	*.729*
22.	Using computer programs that enhance students‟ reading ability	*1.8*	*.516*
	TOTAL	*1.82*	*.116*
	Range	*1.64*	*2.09*

Question 2 " **What is the level of fifth primary grade Arabic Language teachers' perceptions of their usage of Technology Integration in classrooms?**

Results showed that teachers weakly regard (M=*1.57*) their practice of technology integration. The mean scores ranged from *1.32* to *1.82* on a 3-point scale (see Table 2).

This low moderate perception by teachers might be due to the fact that technology integration in classrooms in reality faced by the many obstacles that prevent teachers from conducting it such as anxiety, lack of administrative cooperation and encouragement, lack of enough time and resources etc. particularly at public schools.

Investigating the items in details, the highest mean scores were for items that are related to teachers' use of word processing applications.

While the lowest mean scores were for items that are related to teachers' use of terminology related to computers and employing appropriate technology for written and oral communications.

These results are supported by Ertmer, Addison, Lane, Ross, and Woods (1999) who found that teachers' perceptions of the role of technology are closely linked to how technology is used. Another study confirming the results of this study was conducted by Kotrlik and Redmann (2005), where results revealed that although teachers feel some anxiety when it comes to technology integration, they perceived that they are effective in using technology.

Table 2. Teachers ' Perception of their usage of Technology Integration

	Items	*M*	*SD*
1.	Selecting the appropriate computer programs related to language teaching and learning	*1.6*	*.545*
2.	Engaging students in the selection of technology-based materials	*1.5*	*.640*
3.	Using computer programs related to language teaching and learning	*1.6*	*.627*
4.	Producing technology-based materials such as brochures and pamphlets	*1.5*	*.598*
5.	Employing technology to get and assess information retrieved from different resources	*1.5*	*.598*
6.	Using technology for data presentation and analysis	*1.7*	*.554*
7.	Discussion of safety and health issues related to technology use	*1.5*	*.506*
8.	Operating a computer using a variety of software packages	*1.7*	*.588*
9.	Employing terminology related to computers and employing appropriate technology for written and oral communications	*1.4*	*.505*
10	Using devices such as scanners, digital cameras, and/or video cameras with computers and software	*1.6*	*.585*
11	Utilizing word processing applications	*2.0*	*.599*
12	Employing computers for creating databases	*1.7*	*.588*
13	Using spreadsheet applications such as MS Excel	*1.5*	*.638*
14	Creating multimedia presentations such as PowerPoint presentations	*1.6*	*.585*
15	Employing adaptive & assistive devices for students with special needs	*1.8*	*.648*
16	Designing web sites	*1.7*	*.576*
17	Using distance learning hardware and software	*1.7*	*.697*
18	Using computers to assist students with special needs	*1.6*	*.496*
19	Utilizing computers to assess students learning	*1.7*	*.757*
20	Integrating language labs to enhance students" learning	*1.6*	*.540*
21	Integrating technology to enhance students" learning	*1.6*	*.585*
22	Using computer programs that enhance students" reading ability	*1.6*	*.590*
	TOTAL	*1.57*	*.114*
	Range	*1.32*	*1.82*

Question 3 "How do teachers perceive obstacles and incentives related to successful technology integration in the classroom?

Results indicated that teachers moderately reported existence of obstacles and incentives interfere with their using technology integration (M=3.30; 3.36) respectively. The mean scores for obstacles ranged from *2.62* to *4.04*, and for incentives from *2.42* to *3.83*, on a 5-point scale (see Table 3). Results showed that teachers perceive large number of students per class as major obstacle that hinder their technology integration in their classrooms (see Table 3). They also perceive Lack of participation in special workshops to prepare them well and availability of additional resources for classrooms as reasons that discourage them to integrate technology (see Table 3).

These results conform to Ismail, Almekhlafi and Al-Mekhlafy (2010), where they found that barriers that hinder technology integration among teachers include lack of training on how to integrate technology effectively, and that most teachers depend on self learning, and they need to be involved in subjects that enable them to learn technology integration techniques and strategies so they can use it successfully in their classes.

Table 3*. Teachers' Perceptions of Obstacles and Incentives Related to Successful Technology Integration in Classroom*

	Obstacles	M	SD
1	The teacher does not have much time to prepare and implement them	4.00	0.751
2	Curricula are not ready to use such new technologies	4.00	0.816
3	Difficulty in usage of technology in teaching due to the large number of students per class	4.37	0.627
4	Technologies are not available in schools	4.00	0.815
5	Equipped labs are not available in schools	4.10	0.810
	Incentives		
6	Not enough encouragement to use them	4.12	0.790

7	No positive evaluations	4.12	0.647
8	Lack of participation in special workshops	4.25	0.588
9	Availability of additional resources for classrooms	4.15	0.699
10	School or educational zone recognition program	4.12	0.790

Question 4 "Is there a significant difference between teachers' perceptions of their competencies in Technology Integration in classrooms and their perceptions of their usage of it?

T-tests for Paired Samples showed that there is a significant difference in all items of the scales between teachers' perceptions of their competencies in Technology Integration in classrooms and their perceptions of their usage of it, as seen from the table 4, Teachers' perceptions of their competencies were more higher than it was their using of it in every items except for three concerning utilizing word processing applications, designing web sites and using distance learning hardware and software. Figure 1 depicts differences between Teachers' Perception of their Competencies and Usage of Technology Integration.

Table 4. *Results of Paired Samples T-tests of Teachers ' Perception of their Competencies and Usage of Technology Integration*

	Items	*Competencies*		*Usage*		T-Test
		M	*SD*	*M*	*SD*	
1.	Selecting the appropriate computer programs related to language teaching and learning	*1.8*	*.533*	*1.6*	*.545*	*2.91***
2.	Engaging students in the selection of technology-based materials	*1.8*	*.648*	*1.5*	*.640*	*3.36***
3.	Using computer programs related to language teaching and learning	*1.9*	*.693*	*1.6*	*.627*	*2.76***
4.	Producing technology-based materials such as brochures and pamphlets	*1.8*	*.549*	*1.5*	*.598*	*3.67***
5.	Employing technology to get and assess information retrieved from different resources	*1.9*	*.545*	*1.5*	*.598*	*4.05***
6.	Using technology for data presentation and analysis	*2.0*	*.525*	*1.7*	*.554*	*3.34***
7.	Discussion of safety and health issues related to technology use	*1.8*	*.463*	*1.5*	*.506*	*4.05***
8.	Operating a computer using a variety of software packages	*1.9*	*.619*	*1.7*	*.588*	*2.96***
9.	Employing terminology related to computers and employing appropriate technology for written and oral communications	*1.8*	*.549*	*1.4*	*.505*	*3.81***
10.	Using devices such as scanners, digital cameras, and/or video cameras with computers and software	*1.8*	*.500*	*1.6*	*.585*	*3.12***
11.	Utilizing word processing applications	*2.0*	*.597*	*2.0*	*.599*	*1.000*
12.	Employing computers for creating databases	*1.9*	*.530*	*1.7*	*.588*	*2.68***
13.	Using spreadsheet applications such as MS Excel	*1.9*	*.552*	*1.5*	*.638*	*4.28***
14.	Creating multimedia presentations such as PowerPoint presentations	*1.9*	*.632*	*1.6*	*.585*	*3.13***
15.	Employing adaptive & assistive devices for students with special needs	*1.9*	*.530*	*1.8*	*.648*	*2.87***
16.	Designing web sites	*1.8*	*.533*	*1.7*	*.576*	*1.778*
17.	Using distance learning hardware and software	*1.9*	*.590*	*1.7*	*.697*	*1.533*
18.	Using computers to assist students with special needs	*1.8*	*.405*	*1.6*	*.496*	*3.12***
19.	Utilizing computers to assess students learning	*2.0*	*.749*	*1.7*	*.757*	*3.16***
20.	Integrating language labs to enhance students‟ learning	*1.7*	*.619*	*1.6*	*.540*	*1.96***
21.	Integrating technology to enhance students‟ learning	*1.9*	*.729*	*1.6*	*.585*	*3.12***
22.	Using computer programs that enhance students‟ reading ability	*1.8*	*.516*	*1.6*	*.590*	*3.12***

	TOTAL	*1.82*	*.116*	*1.5*	*.114*	*13.96***

**p< 0.05*

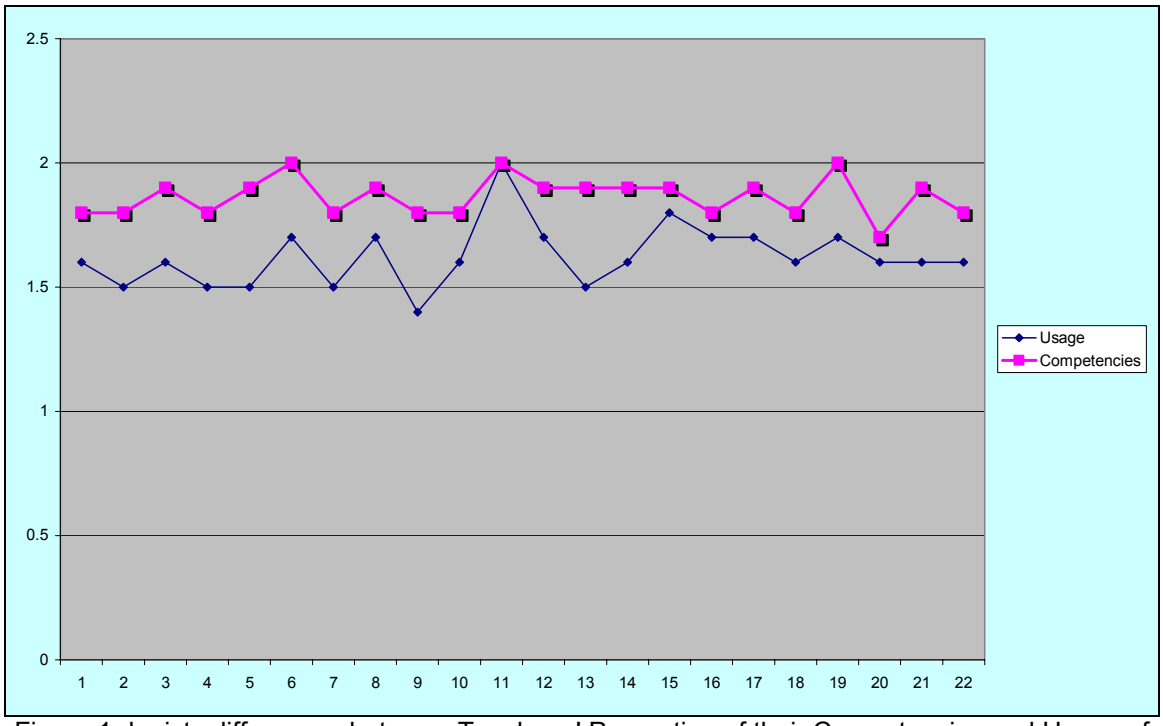

Figure 1 depicts differences between Teachers ' Perception of their Competencies and Usage of Technology Integration

To answer the first part of question 5 "What is the difference in perception of competence, usage of technology integration and obstacles and incentives among male and female teachers?" a multivariate analysis was run. Results indicated a significant difference between the two groups only on usage of technology integration with a Hotelling's trace value of 2.94 with a significant f. of 2.27.

To locate the significant differences within subscales, a one way analysis of variance (ANOVA) was run for the three scales' items. However, in order to control Type I error when conducting the analysis of Variance, the researchers adjusted α level (0.05) using Benfaroni modification method. The adjusted value of α is ≤ 0.005. Table 4 shows the items that yielded significant differences within the sub-themes.

As seen from the table 5/1, technology availability was a concern for female teachers more than it was for males. In spite of this fact, results showed that female teachers use different types of technologies more than male teachers do. The means scores for female teachers on technologies used are all above 4.4, while the mean scores for male teachers ranged from 2.5 to 3.5. This might indicate that female teachers integrate technology in their classrooms more than male teachers do.

On the other hand, Hong and Koh (2002) found that female teachers were more anxious than male teachers toward hardware. They also found that the overall computer anxiety levels of male teachers were not significantly different from the anxiety levels of female teachers. Only for the hardware anxiety domain were significant differences detected between male and female teachers.

Table 5/1. *Differences between Male and Female Arabic Language Teachers in their Perception of Technology Integration*

	Teachers Perception of their Competencies in Technology Integration	M	F	f
1	Using computer programs related to language teaching and learning	2.1	1.5	8.72**
2	Creating multimedia presentations such as PowerPoint presentations	1.7	2.2	8.55**
3	Using distance learning hardware and software	2.0	1.6	6.61**
	Teachers Usage of technology in the classroom			

1	Selecting the appropriate computer programs related to language teaching and learning	1.7	1.3	5.00*
2	Operating a computer using a variety of software packages	1.9	1.5	5.35*
3	Using distance learning hardware and software	1.9	1.5	4.51*
	Obstacles			
1	Equipped labs are not available in schools	3.9	4.7	3.24*
	Incentives			
1	Lack of additional resources for classrooms	3.9	4.3	4.30*
1	**TOT-Teachers Perception of their Competencies** in Technology Integration	1.83	1.79	1.126
2	**TOT-Teachers Usage** of technology in the classroom	1.61	1.52	6.66**
3	**TOT-Obstacles**	3.31	3.29	.018
4	**TOT-Incentives**	3.28	3.48	3.95*

**p< 0.05*

To answer part two of question 5 "**What is the difference in perception of competence, usage of technology integration and obstacles and incentives among teachers with different levels of teaching work experience?"** Significant differences **in teachers usage** of technology integration in the classroom, were found according to years of experience where teachers with more years of experience [more than 11 years], showed higher levels (M=36.91), than those with years of experience [6-10 years (M=34.64); and less than 6 years (M=33.42). also teachers with more years of experience [11 and more years] reported lower levels of lack of incentives (M=15.8), than those with years of experience [less than 6 years (M= 16.6); and 6-10 years (17.5). (table 5/2). No significant differences were found in terms of teachers' level of certification.

Table 5/2. *Differences Between Arabic Language Teachers in their Perception and Usage of Technology Integration according to years of working experience (group 1[less than 6 years]; group 2 [6-10 years]; group3 [more than 11years])*

		Years of work experience			
		1	2	3	
		M	M	M	f
1	TOT-Teachers Perception of their Competencies in Technology Integration	1.80	1.79	1.90	3.00
2	TOT-Teachers Usage of technology in the classroom	1.51	1.57	1.67	7.12**
3	**TOT-Obstacles**	3.43	3.30	3.09	2.16
4	**TOT- Incentives**	3.32	3.50	3.16	3.87**

**p< 0.05*

9. Discussion and Recommendations

This study, along with others of its kind, brings to light the reality of real issues affecting technology integration in schools versus technology use and the real dynamics that keep that vision from taking firm hold in public schools. By integrating a quantities approach in this study, the researchers were able to gather real issues and frustrations that if taken into a broader picture, apply to many schools and districts to their inability to upstart technology rich classrooms and curricula.

Additionally, there is a need for more professional development programs that help teachers learn how to use technology and to be transferred from the workshop model of "how" to use a tool to the more sophisticated professional learning group model that encourages sustainability and accountability across the curriculum (Guhlin, Omelas, & Diem, 2002; Jenson, Lewis, & Smith, 2002; Willis & Cifuentes, 2002). However, as some scholars have noted, simply becoming more comfortable with the technology and understanding a tool does not equal nor "ensure effective technologically facilitated teaching" (Harris & Hofer, 2009, p. 23).

Most researchers and teachers agree that professional development for teachers in the area of technology integration must continue to evolve from the 2 hour "this is the technology and here is how to use it" workshop to a sustainable model from which teachers can "systemically change instruction" (Brock, 2009, p. 10) and learn from other educators' failures and successes over a period of time (Jenson, Lewis, & Smith, 2002).

The integration of technology into content, as reflected by the Technological Pedagogical Content Knowledge (TPACK) model (Mishra & Koehler, 2006) should locus on the interplay of technology, pedagogy, and content knowledge.

As noted by Mishra and Koehler, "Knowledge of technology, content, and pedagogy does not exist in a vacuum; it exists and functions within specific contexts" (2009, p. 16). Peer coaching and modeling technology lessons in teaching and learning (Joyce & Showers, 2002) may help teachers contextually overcome personal and classroom barriers, to think outside the box (Wright & Wilson, 2005-2006), and to develop "creative repurposing" (Mishra & Koehler, 2009, p. 16), to use a technology that is specific to the teacher's classroom and curricular needs, and to create better in-service teacher training and learning opportunities for faculty and pre-service teachers in university teacher education program (TEP) to understand and integrate technology in elementary education classrooms.

10.CONCLUSION

Technology should be used as a tool to support instruction. Educational choices have to be made first in terms of objectives, methodologies, and roles of teachers and students before decisions on the appropriate technologies can be made. No technology can fix bad educational philosophy and practice. The challenge is to rethink learning objectives and to align the learning technologies with these objectives.

Since technology adoption and utilization are an ongoing issue, there is still need for further investigation. The successful implementation of computers in the classrooms may depend on how well the teachers are prepared to use technologies. There is a need to identify the competencies teachers must posses to use computer technology effectively in classroom.

An important question to address is-which teacher competencies are viewed as important for the development and operation of computer technology in K-12 and college school settings. Research studies should focus on various facets of technology implementation and innovation and their specific effects, as well as how students and teachers use technology, rather than simply comparing different delivery methods.

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