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### Technology usage versus technology integration in ESL classrooms: Drivers and Barriers

Ayman Serag

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The American University in Cairo  
The Graduate School of Education

Technology usage versus technology integration in ESL classrooms:  
Drivers and Barriers

The Capstone Project Submitted to  
The Graduate School of Education  
In partial fulfillment of the requirements for  
the degree of Master of Arts in International and Comparative Education

Submitted by Ayman Serag

Under the Supervision of Dr. Gihan Osman

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### Abstract

Technology integration is a significant aspect of teaching and learning in the 21st century. This study examines faculty technology integration in the Department of English Language Instruction (ELI) at the American University in Cairo (AUC). It also explores the factors that facilitate or inhibit their computer usage, and also their perceptions about the professional development opportunities in technology that are available to them. Using a case-study design, the researcher used semi-structured interviews conducted with 19 ELI instructors to understand the phenomenon at hand. Eight of the 19 instructors also served dual administrative roles as department chair, committee and program coordinators. Thematic analysis revealed that all ELI instructors are using technology in their teaching to various levels, and that quantity and quality of integration is on the rise. Seven factors emerged as drivers or challenges to technology integration at the ELI. These are: 1) policy and curriculum integration, 2) recognition and reward, 3) technology support and infrastructure, 4) value added to the classroom, 5) comfort with technology, 6) age, and 7) time. Finally, instructors at the ELI enjoy a multitude and variety in professional development opportunities. Although most of them appreciate these opportunities, there is room for growth. The capstone project ends with recommendations for future technology integration efforts and professional development.

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## **Chapter1: Introduction**

The usefulness of educational technology in enhancing instructors' practices in the classroom and potentially students' learning and knowledge building skills has been highlighted by many researchers (e.g., Gorder, 2008; Levin & Wadmany, 2008; van Braak, Tondeur, & Valcke, 2004). Moreover, the application of technology in education is growing and developing very fast and changing the learning process (Mayya, 2007). If teachers are not able to cope with these changes, they might not be able to utilize their students' knowledge of technology they use on a daily basis. In fact, technology incorporation in education is presently seen as a necessity for sustaining lifelong learning; therefore, universities that fail to integrate technology "...will be unable to meet the needs of knowledge-based societies, and as a result will not survive the change in the paradigm of education" (O'Neill, Singh, & O'Donoghue, 2004, p. 320). Many educational institutions are investing substantially in computer technologies in order to ensure the desired benefit for student learning, and to better their chances for educational advancement (Becker, 2001). However, it is faculty that decides what happens in the classroom and how the integration is carried out in daily practice. Despite the availability of educational technology tools in many institutions, most instructors only employ minimum technologies in their classroom teaching and in basic ways (Gosper, Green, McNeill, Phillips, Preston, & Woo, 2008).

In English as a Second Language (ESL) teaching and learning, technology plays a wide range of roles, from the use of media playing devices, such as CD and MP3 players, to the use of computers and tablets (Carey, 2001; Hayward & Tuzi, 2003; Claybourne, 1999;

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Hegelheimer & Fisher, 2006). Technology integration facilitates a constructive classroom environment that is conducive to language learning (Wang & Vásquez, 2012). Using instant messaging and email, for example, allows for interaction among language learners (Chapelle, 2003). The use of text technology can enhance learners' writing skills (Hayati, Jalilifar, & Mashhadi, 2013). Very important as well is how technology offers students more access to multiple authentic materials and resources that develop language skills, such as listening or reading (Zhao, 2003), and gives them a chance to communicate with foreign language native speakers.

Technology integration is a complex phenomenon that is often quite difficult to identify and achieve. The term 'integration' is often interchangeably employed with the term technology use. They are however different. Whereas the latter focused on the employment of technology per se, integration focuses on effective incorporation of technology to facilitate and enhance students learning (Bransford, Brown, & Cocking, 2000; Baylor & Ritchie, 2002; Koehler & Mishra, 2005).

Incorporating technology into classroom instruction entails various factors that interact in a very complex fashion. According to previous research, barriers to successful technology integration can be both environmental and individual characteristics of instructors (e.g., Becker & Ravitz, 2001; Cuban, Kirkpatrick, & Peck, 2001; Hayes, 2007; Mueller, Wood, & Willoughby, 2007; Rosen & Weil, 1995; Sandholtz, Ringstaff, & Dwyer, 1997; Windschitl & Sahl, 2002). Environmental barriers are those beyond the control of the instructor, usually ones related to equipment, such as limited access, technical malfunctions. Lack of computer software, lack of administrative support, lack of training, poor funding, and lack of incentives are also external factors



that negatively impact technology integration as well. Ertmer (1999) called these first-order barriers that can be more easily managed with adequate funding. She also termed individual barriers such beliefs about teaching, attitudes towards computers, self-efficacy and skills as second-order skills that are much more difficult to change.

The following subsections will present some of the more recent research on environmental (first-order) and individual (second-order barriers) as they relate to instructor technology integration. Therefore, to better integrate technology, teachers' teaching practices should be examined and we should answer the question of what makes them integrate computers effectively (Marcinkiewicz, 1993). This capstone project will focus on this goal with reference to the English Language Institute (ELI) at the American University in Cairo (AUC).

### **Statement of the Problem and Research Questions**

According to Ghazal (2001), who conducted her thesis study on ELI instructors' use of computers in their teaching practices found that instructors at AUC have positive attitudes toward technology, but that their utilization of computers in the classroom is low in frequency and basic in nature. When ELI instructors were asked why they do not use computers in their classrooms, all of them reported the lack of time. In addition to time constraints several other reasons were given, such as the inability to use computers for classroom instruction, the ineffectiveness of training workshops given, and the inappropriateness of the software available. Another reason was that the computer lab was reserved by other teachers most of the time, and it was hard to access the Internet. Teachers also had doubts concerning the abilities of students to use computers.

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Informal discussions and anecdotal incidences suggest that instructors' integration of technology in the ELI in 2016 has not advanced much since 2001. With enhanced infrastructure, support, training as well as the ubiquitous use of technology by students, many of the barriers reported by Ghazal (2001) are no longer relevant, but to what extent did that impact instructors' teaching practices? There is obviously a need for a more current evaluation faculty integration practices at the ELI

This case study aims at exploring instructors' integration of technology in 2016, as well as investigate the factors that inhibit and motivate instructors to use it in their teaching practices. The following are the study's research questions:

- 1- To what extent do ELI faculty members successfully integrate technology?
- 2- What factors impact technology integration among ELI faculty members?
- 3- What is ELI faculty's perception of technology training offered by AUC?

### **Significance of the Study**

The study's main aim is to understand instructor technology integration at the ELI with the goal of informing future decision-making at the department level regarding technology use, departmental policies, the curriculum, and instructor professional development. However, the results are also of interest to other stakeholders at AUC at different administrative levels who are concerned with the quality of education as well as technology support and professional development. Having said that, the study might also have implications for language instruction departments in the region that share similar organizational features and mandates.

**Definition of Terms**

The following entities are referred to throughout this study. As such a brief description of these is provided:

**University Academic Computing Technologies (UACT)**

A unit within AUC with the mandate to support and promote the “effective usage of computing and educational technologies on campus in order to serve our students, faculty and staff members, and to support the mission and goals of the University”. (UACT, n.d., para.1)

**Center for Learning and Teaching (CLT)**

The Center for Learning and Teaching (CLT) is a unit at AUC that “promotes excellence in teaching, including the effective application of technology to the teaching/learning process.” (CLT, n.d., para.1)

**Classroom Technologies and Media Services (CTMS)**

Classroom Technologies and Media Services is another department at AUC that “provides technology equipment, including sound, light, presentation technology and audio support.” (CTMS, n.d., para.1)

**ELI Lab Technology Support**

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The Department of English Language Instruction (ELI) employs technology support specialist to assist faculty and students in the use of technology in the CALL lab as well as maintain lab computer equipment and ensure that the CALL labs are ready for use as required and that equipment and software programs requested are provided in a timely manner.



## Chapter 2: Literature Review

### Introduction

This study was designed to explore technology integration among ESL instructors at a liberal arts institution that has made substantial investments in equipment, technology support and pedagogical support to create a technology rich and accessible environment that would allow its faculty to integrate technology in ways to encourage student learning. Specifically, the research seeks to examine the following three questions:

1. To what extent do ELI faculty members successfully integrate technology?
2. What factors impact technology integration among ELI faculty members?
3. What is ELI faculty's perception of technology training offered by AUC?

A review of the literature was conducted. It is divided into three main sections reflecting the research questions: 1) extent of technology integration, 2) factors impacting technology integration, and 3) perceptions of technology integration.

### **Extent of Technology Integration**

Technology is a broad concept that encompasses a huge variety of constituents including to name a few multimedia, the Internet, videotapes, language related software, chat-rooms, blogs, social network sites. Over the past decade, advances in technology have made it more accessible, affordable, user-friendly, and ubiquitous in people's private and professional lives. Higher education institutions have invested heavily in technology equipment, software, support and professional development. However, the return on investment seems to fall far below expectations. Although technology could in some sense be regarded as the literacy of the 21st century, many instructors do not seem enthusiastic about integrating it in their teaching (Levin & Wadmany, 2008). Moreover, teachers often use technology for non-instructional purposes such as grading and attendance (Gray, Thomas, & Lewis, 2010; Russell, Bebell, O-Dwyer & O'Connor, 2003), designing instructional materials (Hermans, Tondeur, van Braak, & Valcke, 2008) or using it as projection devices to lecture. When they do implement technology for instruction, they do not integrate it effectively (Gorder, 2008; van Braak et al., 2004).

### **Technology use versus technology integration**

The literature on integrating technology tools in education suggests that there is a distinction between the technology *use* vs. technology *integration* into instructional practice (e.g., Ertmer, 1999). "The use of technology in and of itself does not lead to

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successful integration” (Koehler & Mishra, 2005, p. 132), and the desired impact on student learning (Baylor & Ritchie, 2002). What is critical is how technology is being used in the classroom rather than if or what technologies are being used (Bransford et al., 2000). Proper integration means that technology should not be seen as separate from the learning environment or curriculum but deeply imbedded in it like pens, pencils, and paper. It needs to fit in with the unit of instruction not used as a separate activity. Hall (2010) compares a teacher who uses an interactive whiteboard for projecting materials versus one who integrates it into instruction by using its interactive affordances to encourage student inquiry and engagement with learning. The first teacher would be an example of an instructor who does not effectively implement technology for learning purposes and could be said to waste the capabilities of the technology.

### **Factors Impacting the Integration of Technology**

Incorporating technology into classroom instruction entails various factors that interact in a very complex fashion. According to previous research, barriers to successful technology integration can be both environmental and individual characteristics of instructors (e.g., Becker & Ravitz, 2001; Cuban et al., 2001; Hayes, 2007; Mueller et al., 2007; Rosen & Weil, 1995; Sandholtz et al., 1997; Windschitl & Sahl, 2002). Environmental barriers are those beyond the control of the instructor, usually ones related to equipment, such as limited access, technical malfunctions. Lack of computer software, lack of administrative support, lack of training, poor funding, and



lack of incentives are also external factors that negatively impact technology integration as well. Ertmer (1999) called these first-order barriers that can be more easily managed with adequate funding. She also termed individual barriers such beliefs about teaching, attitudes towards computers, self-efficacy and skills as second-order skills that are much more difficult to change.

The following subsections will present some of the more recent research on environmental (first-order) and individual (second-order barriers) as they relate to instructor technology integration.

### **Environmental factors**

Institutions need to facilitate some conditions in order to get the most benefit of technology use in education. These conditions include but are not limited to the availability of new technologies, such as computers and e-learning professionals, and the presence of a solid support infrastructure, and regular training for instructors (Baylor & Ritchie, 2002; O'Neill et al., 2004; Pirani, 2004). The section will present literature on the following factors: 1) infrastructure and access, 2) technical and pedagogical support, 3) time, 4) culture, and 5) technology leadership.

### ***Infrastructure and access***

The amount of technology hardware, software, and facilities should be a driver for instructors to incorporate technology into teaching and learning (Georgina & Olson, 2007; Niederhauser & Stoddart, 2001; Tasi, 2015). If teachers do not have access to the

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technologies they need, then expertise, time, and willingness, will not have an impact on technology integration (Leggett & Persichitte, 1998). Additional consideration for access would include the funding needed or the purchase and upgrade of appropriate software and hardware, networking maintenance, etc. (Leggett & Persichitte, 1998; Schrum 1995). Indeed, much of the focus within the past two decades has been on building the technology infrastructure within universities to enable and encourage the use of technology within the classroom. Although lack of equipment was a major concern for many years, that might no longer be true - at least in more privileged context. Other factors, however, continue to limit the full potential of technology implementation. Norris, Sullivan, Poirot, and Soloway (2003) underscore an important aspect of 'access'. The results of a questionnaire administered to nearly 4000 teacher suggest that technology is available in sufficient numbers so that teachers and students have the access they need to technology when it fits instruction and not vice versa. However, access also refers according to this study to reliability of the Internet.

### *Technical and pedagogical support*

Support is an umbrella term that could include a number of forms; the most prominent of these would probably be technical support and instructional support. Technical support refers to individuals that are knowledgeable of the equipment, hardware, and software, and are able to maintain it as well as provide assistance to instructors on using it. Instructional support would entail the availability of expert advice to help instructors make decisions on what technologies to use and how to use them to support their teaching and student learning. Many research studies refer to

inadequate technical support as a barrier to technology integration (e.g., Cuban, 2001; Leggett & Persichitte, 1998). Faced with technology that does not work properly, teachers are often discouraged from using technology (Leggett & Persichitte, 1998; Lim & Khine, 2006; Snoeyink & Ertmer, 2001). Norris et al. (2003) also pointed out the importance of the appropriateness of technology to their teaching context and the curriculum. In the absence of that instructors are often hesitant to use technology. Backhouse (2003) pointed out that teachers need support to the specific technologies that they are using in their teaching as they are planning to integrate it, and they also need readily available support in their classrooms.

### *Time*

Time appears to be one of the top factors that impact technology integration (Leggett & Persichitte, 1998). They outline four dimensions of time in his article: 1) time to plan and collaborate for the use of technology in the classroom, 2) time to attend technology training, 3) time to experience technology and build skills, 4) time to go online. According to them the lack of time often deters instructors with expertise and access from implementing technology. Gammill and Newman (2005) identified the absence of release time opportunities to redesign courses as an important barrier to web-based instruction in university settings, for example. Al-Senaidi, Lin, and Poirot (2009) surveyed 100 faculty members at university in Oman. The lack of time and institutional support emerged as the two most important barriers to technology implementation. Lim and Khine (2006) conducted a study in four Singaporean schools interviewing teachers, ICT directors, and principals to investigate strategies they

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employ to overcome technology implementation barriers. Giving time to teacher to prepare instruction mediated by technology was one of six strategies identified.

### *Culture*

Societal culture is rarely mentioned a barrier to technology integration in research conducted in western universities. However, in Asia and the Middle East, culture might still play an important role.

Chai, Hong, and Teo (2009) compared Singaporean and Taiwanese pre-service teacher beliefs and their attitude towards technology integration. Despite the differences between both countries, teachers in both contexts employed practices in the classroom that were misaligned with the constructivist pedagogical beliefs. The authors explain that this tension between what should be done and what actually takes place might be attributed to the high-stakes culture in both countries. Teachers seem to compromise technology integration to prepare students for tests. Similarly, Liu (2011) explains that in Taiwan, there is pressure on teachers to cover all the text-book and prepare the students to excel on final course exams. The analysis of data yielded by 1139 questionnaires administered to teachers in Taiwan revealed a discrepancy between teachers' learner centered beliefs and their technology integration practices. Constructivist teachers often adopted traditional ways of teaching to ensure high test scores. Albilirini (2006) examined the attitudes of 326 Syrian EFL teachers towards technology. Although teachers saw technology as culturally appropriate, they had

concerns about its penetration into education and its appropriateness to current curricular goals.

### *Technology leadership*

Several studies showed the importance of leadership support for effective integration of technology (e.g., Gammill & Newman, 2005). According to Baylor, and Ritchie (2002) this entails a number of behaviors as setting a vision, setting goals, shaping a new culture, modeling technology integration, and rewarding instructors who do so effectively. Topp, Mortenson & Grandgenett, 1995) suggest that leadership needs to express high expectations and support as instructors progress in their technology integration. Ritchie (1996) argued that leadership might be the most critical factor since it influences all other factors, at least the environmental ones. Based on a questionnaire administered to 975 to faculty at Mississippi State University, the absence of supportive leadership and incentives to teach online were major factors that impacted the adoption of web-based instruction. The same observation was made by Murphrey and Dooley (2000) who identified the lack of incentives, funding, and development opportunities as a top weakness in a SWOT analysis conducted at a college of agriculture in a southwestern university in the US. In a needs analysis of at the School of Education in the University of Virginia, Lan (2001) investigated the factors that predict the adoption of web-based instruction among faculty. Incentives in the form of policies for promotion, extra compensation and technology training emerged as crucial motivators for faculty. Lan's study suggested a gap in this area, but also in the support messages the administration communicated to faculty.

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### **Individual Factors**

The literature increasingly discusses individual factors that are individual to each teacher. Because of that, they are often much harder to predict or change. The following sections will deal with the following individual or second-order variables: 1) age and year of experience, 2) teacher technology-self efficacy, 3) teacher pedagogical beliefs, 4) teacher attitude towards technology; and 5) computer literacy.

#### *Age and years of experience*

Unruh and Turner (1970) defined age in terms of years of experience, and regarded teachers with over 15 of years in the teaching profession as “senior”. The common belief is that that older professors are set in their own ways and as such less likely to integrate technology. However, the research does not reflect such a clear picture. In fact, the findings are inconclusive.

There is research that suggest that age or years of instructional experience are negatively related to technology integration. Russel, Finger, & Russel (2000) for example suggest that despite their confidence, experienced teachers rarely implement technology in their classroom. In a study conducted by Inan and Lowther (2010) who collected data from 1,382 teachers in Tennessee, age did not emerge as a variable that significantly explained the variance in technology integration. Age emerged as negatively related to technology skills. The relationship between years of experience and the readiness to integrate technology was negative. Instructors with more years of experience were less likely to use technology in their classroom.

However, there is other research that shows the age is not a significant predictor of technology integration or that the relationship is actually positive. According to Chen and Jang (2014) senior teachers are interested in learning about technology but are also very concerned about the impact of using it on instruction. Tsai (2015) closely examined the technology implementation of one senior biology teacher using classroom observation and interviews. Tsai's senior teacher reported that it was not her inability to learn or implement technology that deterred her, but rather the absence of support. Her implementation of technology developed as she saw it used in her classroom. The strongest motivation was the positive impact implementing technology had on her students enthusiasm and understanding of abstract concepts. Henry (2008) conducted a study to examine the relationship between age, gender, personality style and technology integration by faculty. In her study older faculty were more likely to implement technology than younger ones. She explained that older faculty are more comfortable with the content and teaching and thus have more time considering technology in their teaching. Van Braak (2001) survey 236 secondary school teachers on a number of variables commonly related to computer use including age, gender, teaching a technology-related subject, general computer attitudes, attitudes toward computers in education, technological innovativeness, and general innovativeness. Age was not one of the variables that significantly differentiated between instructors who used computer and those who did not. Similarly, Tweed (2013) examined the combined impact of age, years of experience, quality of professional development and self-efficacy on adopting new technologies based on data generated by survey administered to 124 teachers in Tennessee. Self-efficacy emerged as the only significant factor.

*Teacher technology-self efficacy*

Self-efficacy is considered an important mediator for action, and as a such factor impacting change. According to Bandura (1997), self-efficacy is “belief in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). One of the most important sources of self-efficacy according to Bandura is mastery experiences, that is experiences that are evaluated as successful. Second in line come vicarious experiences. These entail the observation of others such as peers. The best model is one close to the person or one that has many common characteristics. The third source of self-efficacy comes from social persuasions in the form of feedback. Finally the individual’s state plays a role. Factors such as stress, anxiety, and fatigue all impact self-efficacy negatively.

Computer self-efficacy emerges as a factor that impacts integration in the literature. Compeau, Higgins, & Huff (1999) define it as a person’s evaluation of his/her knowledge and skills regarding computers. Compeau et al (1999) conducted a longitudinal study to examine the influence of computer self-efficacy beliefs, outcome expectation, and anxiety on computer use with 394 end users; computer self-efficacy emerged as a significant factor that impacted how individuals felt about and used computers. Teachers with higher self-efficacy tend to integrate technology into their classrooms more often; teachers with lower self-efficacy were more anxious about using computer and dealt with computer problems less successfully. Robb (1999) explained that while teachers might believe in the importance of technology in the classroom, they might doubt their competency and ability to integrate it. Tweed’s



(2013) previously mentioned study underscored the significance of self-efficacy compared to age, previous experience and duration of professional development.

Wang, Ertmer, and Newby, (2004) conducted an experimental study to investigate the role of vicarious experiences and goal setting on technology self-efficacy to 180 pre-service teachers at a midwestern university. Teachers were assigned to one of four conditions: 1) vicarious experience, 2) goal setting, 3) vicarious experience and goal-setting, and 4) control group. Both various proved significant. However the existence of both was more powerful than the impact of one variable individually.

Abbitt & Klett (2007) identified perceived comfort with technology rather than perceived usefulness of computers as a good predictor of teachers' self-efficacy towards technology integration. They also found that broad instruction on technology integration had a more positive influence of self-efficacy than instruction focused on technology skills.

### ***Teachers' pedagogical beliefs***

Teachers' pedagogical beliefs are increasingly regarded as factor that impact the quality of teachers' integration of technology in the classroom. Pajares (1992) emphasized the importance of beliefs as predictors of teachers' practice. Ertmer (2005) defines these as teachers' educational beliefs about teaching and learning. Accounting for a multiple of variables including attitude towards technology, technology skills, technology access, teachers implement technology differently. A teacher who believes in active learning for example will use technology very differently from one who does as indicated in Hall (2010) example about interactive whiteboards referred to earlier.

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Kim, Kim, Lee, Spector, and DeMeester (2013) examined teachers' epistemological beliefs about the nature of knowledge and learning and their beliefs about effective ways of teaching (e.g., Chan and Elliott's (2004) conceptions of student-centered versus teacher-centered instructional practices. Using interviews, observations, and surveys, their study of 22 teachers participating in a four-year professional development program showed that teachers' epistemologies were highly correlated with their beliefs about ways of teaching, and the latter significantly correlated with technology integration practices. A study by Wozney, Venkatesh, and Abrami (2006) reported that instructors who were using teacher-centered methods are less willing to incorporate computer technology than instructors who were using student-centered methods.

### *Teacher attitude towards technology*

Ajzen (1988) described an attitude as a predisposition to respond favorably or unfavorably to an object, person, or event. He suggested a relationship between attitude about specific target and an individual's behavior towards them.

Teachers' attitudes towards computers influence their their actual practices (Clark, 2001). Meyers and Halpin (2002) underscored the importance of studying teachers' attitude towards computers since it is important predictor of what happens in the classroom in terms of technology use. Van Braak (2001) survey of 236 secondary school teachers referred to earlier showed that general computer attitudes and attitudes toward computers in education significantly differentiated between instructors who used computer and those who did not. However, it did not predict the

most variance in technology integration. van Braak et al. (2004) studied the predictors of the use of computers by teachers for two purposes: supportive (administrative, grades, etc.) and class use (instructional) purposes. A survey administered to 468 teachers in Belgium identified attitudinal measures such as general computer attitudes, attitudes towards computers in education, and technological innovativeness as significant predictors of supportive uses of computers by teachers. Technological innovativeness and gender were the best predictors for class use. These results imply that technology integration might not be influenced by computer attitudes. Albilirini (2006) examined the attitudes of 326 Syrian EFL teachers towards technology in relation to perceived computer attributes, cultural perceptions, perceived computer competence, and perceived computer access. Teachers generally expressed a positive attitude about the use of computers in education, but had concerns about its alignment with their current curricular goals. Their reported computer skills did not seem to have an impact on their attitude.

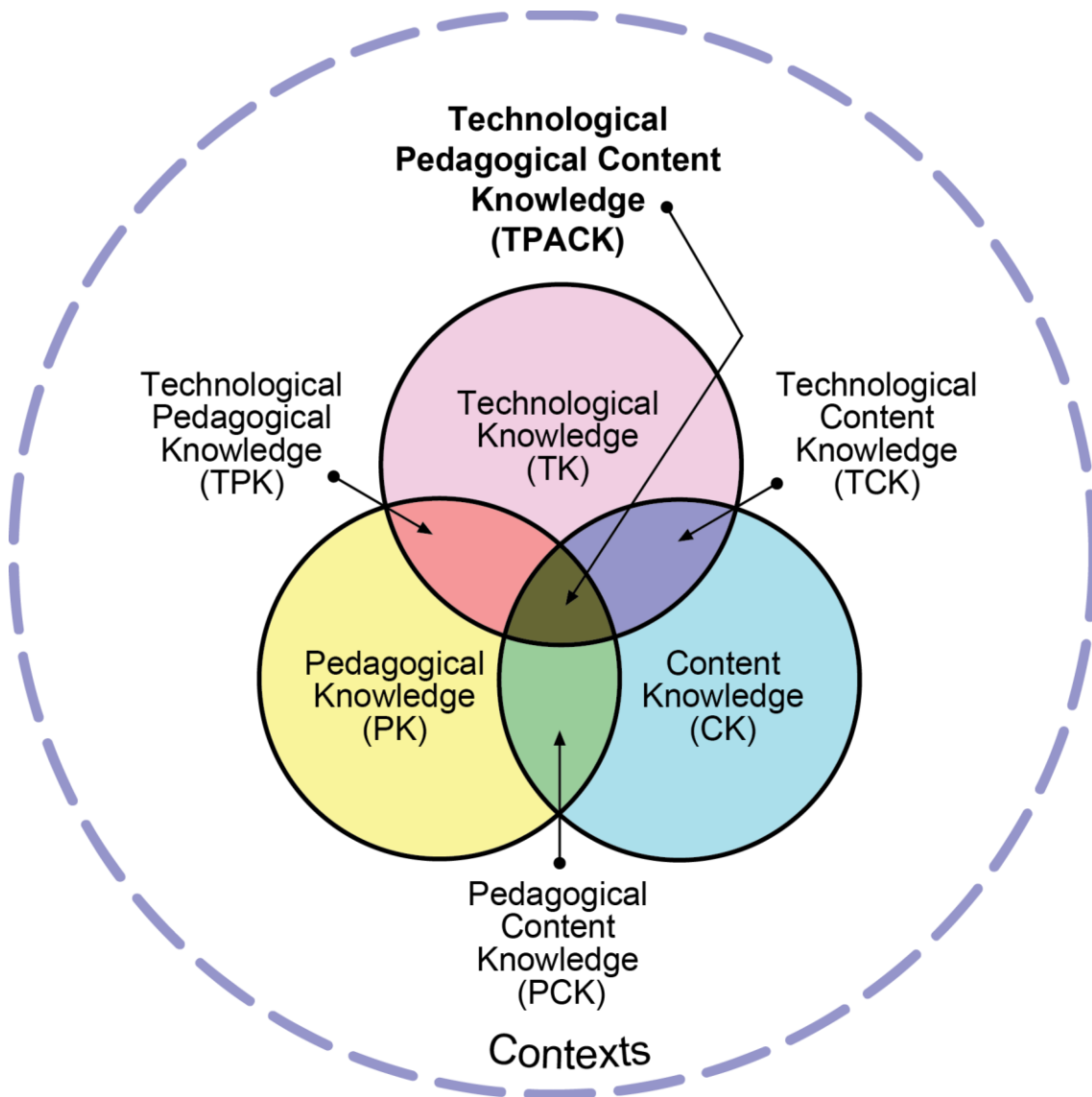
### *Computer Literacy*

The literature suggests that technology literacy is an important predictor of instructor implementation of technology. Jenkins, Mimbs, & Kitchel (2009) defined computer literacy as the teacher's ability to use various technologies to achieve his/her goals. Mason and McMorrow (2006) identified two dimensions of literacy: 1) awareness, and 2) competence. Awareness "requires an individual to have knowledge of how computers affect his/her daily life or society as a whole", and competence "requires an individual to demonstrate a hands-on proficiency with a software application" (p. 94).

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Earlier, Eisenberg and Johnson (1996) suggested that computer literacy should entail “when” and “why” to use certain application. Obviously, the skills and knowledge required to effectively integrate technology in the classroom is quite complex, and might entail more than technology specific skills per se. This complexity is captured by the famous Technological Pedagogical Content Knowledge (TPACK) framework central to k-12 teachers (Mishra & Koehler, 2006, 2009; Shulman, 1986). Central to the framework are three types of knowledge; 1) content (CK); 2) pedagogy (PK); and 3) Technology (TK). Also important are the kinds of knowledge that are at the intersections of the main 3 forms above: 4) Pedagogical Content Knowledge (PCK), 5) Technological Content Knowledge (TCK), 6) Technological Pedagogical Knowledge (TPK), and 7) Technological Pedagogical Content Knowledge (TPACK). According to Mishra and Koehler “effective technology integration for pedagogy around specific subject matter requires developing sensitivity to the dynamic, transactional relationship between these components of knowledge situated in unique contexts” (tpack.org, n.d., p.3) See Figure 1 below:

Figure 1: The components of the TPACK framework (tpack.org)



Instructors will not use technology in their teaching unless they possess the skills and knowledge to do so (Baylor & Richie, 2002). Georgina and Olson (2008) surveyed 1115 faculty members from four universities in North Dakota to examine the

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influence of technology training and technology literacy on classroom practices. The results showed a significant positive correlation between self-perceptions of technology literacy on the design and delivery of courses.

### **Professional Development**

Instructor professional development in the area of technology is very important, and highly complex. Technology training has a significant influence on instructors' technology integration and self-efficacy to use technology (Becker et al., 1999; Gobbo & Girardi, 2001; Wilson, 2001). Schrum (1999) points out several important factors about technology training. To begin with, he explains that learning about technology for classroom use takes longer than for personal use. His second point is that learning to integrate technology often entails learning new teaching methods. This definitely complicates the processes and has important implications for the nature of the training offered. This latter point is substantially underscored by some researchers (e.g., McFadzean, 2001; O'Neill et al., 2004) who explain that adopting e-learning for example often requires a change in the instructor's role and a substantial shift in how they teach, giving learners more control. Ertmer (2005) iterates this latter point in her highly cited article about the importance of pedagogical beliefs as predictor for effective technology integration. Mishra and Kohloer (2006; 2009) captured this complexity in the TPACK framework referred to earlier.

The general literature on professional development for instructors suggests four essential elements for effective training experiences: 1) extended situated professional development, 2) relevant content, 3) active participation, and 4) collaboration with peers (Leake, 2014). In addition to that the literature of technology specific training is

also replete with evidence-based recommendations. According to Leggett & Persichitte (1998) training must be, hands-on, meaningful, systematic, developmental, and on-going” (p.34). They also emphasized the value of peer training and experience exchange. The importance of collaboration was also underscored by Tondeur, Kershaw, Vanderlinde and van Braak (2013). An important factor that facilitates technology integration is the presence of a technology mentor or facilitator. This mentor will be an aid for instructors to overcome the difficulties they might meet while trying to integrate technology into their classrooms. Therefore, the availability of a technology guide or mentor offers the instructors-learner the chance for “reflection, interpersonal relationships, and feedback” which reinforce their “interest in, and ability to support, peer growth” (Glazer & Hannafin. 2008, p. 49).

Purposeful focused technology integration training should not only include use and integration topics but also technology integration activities. Technology training should include samples and activities about successful technology integration (Lightfoot, 2005). Georgina and Olson (2008) looked at the relationship between practice and five different types of training: 1) large group with trainer, 2) small group with trainer, 3) one-to-one with trainer, 4) on their own tutorials, and 5) asking colleagues. They found a significant relationship with the second and fourth format and pedagogical practice. These strategies Georgina and Olson argued might impact the influence of technology training. Several studies have pointed out such techniques as observation of successful teacher integrators (Anderson, Barksdale, & Hite, 2005; Powell & Napoliello, 2005).

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### **Perceptions of professional development**

It is important to explore instructors' perceptions of the technology training opportunities available to them. According to the U. S. Department of Education (U.S. Department of Education, 2000), instructors' technology training and belief in it is a key factor when examining instructors' use of educational technology in their classrooms (Choy, Wong, & Gao, 2009; U.S. Department of Education, 2000). Rubin (1989) suggested that teacher's participation in determining what the workshops should be provided predicts their openness to the content of these opportunities. One of the important factors related to engagement of professional development is the relevance of the training. Due to the variation in ability, knowledge and skill of faculty, it is often a good idea to offer a variety of workshops and ask instructors to attend only the ones they find as most relevant and appropriate (Picciano, 1998). Another variable impacting their perception is alignment of the training and trainer's attitude to teachers' goals and beliefs. Zhoa and Cziko (2001) explain the one popular approach to training is having experts "sell" to instructors "the might power of technology" (p.25). Using Perceptual Control Theory (PCT), Zhoa and Cziko (2001) argue that if instructors see a lack of alignment between the message trainers give and their goals of attaining the learning objectives, they lose interest in the training.

### **Summary of the Literature Review**

Despite high investments in technology infrastructure and support, the uptake and integration of technology by teachers to promote learning in the classroom seems to be below expectations. The literature emphasizes the difficulty of teachers to integrate technology,



since it is a highly complex activity that is impacted by many interrelated factors, divided into internal and external factors. External factors relate to infrastructure, technical support, technology leadership, incentives, time, and culture. Factors internal or specific to individual instructors include age, teaching experience, and attitude towards technology, technology self-efficacy, and computer competency. Also external factors can often be addressed through adequate funding and organizational policies, internal factors are often related to professional development. Professional development according to the literature should provide ample support and growth opportunities that are collaborative, situated and extended.

**Chapter 3: Methods****Introduction**

This study was carried out to explore how technology is being used by ESL instructors in the English language Instruction Department (ELI) at the American University in Cairo (AUC) in order to identify what factors act as support or hindrance to technology integration. Having an in-depth understanding of these issues outlined might inform future policies and plans at the departmental level, but might also be of relevance to university-level stakeholders interested in technology adoption, support, and professional development on campus. The case-study seeks to explore these issues through the following research question:

1. To what extent do ELI faculty members successfully integrate technology?
2. What factors impact technology integration among ELI faculty members?
3. What is ELI faculty's perception of technology professional development offered?

**Research Design**

This research uses case-study design to explore changes in the integration of technology by the ELI at the AUC. The rationale behind this research is to examine and understand the current patterns of technology adoption within this particular department and to understand the particular factors relevant to this context. According to Yin (2013) a case-study is a research approach that allows for reaching an in-depth understanding of a phenomenon or entity at a certain point in time “within its real-life context, especially when

the boundaries between phenomenon and context are not clearly evident” (Yin, 2003 p. 13). This is exactly what this study seeks to do.

The more important aim of the study, as is common with case-study research design (Yin, 2003) is not to generalize to other contexts, but to reach a deeper understanding of the current issues for the purpose of evaluating current efforts and informing future plans.

### **Data Collection Methods**

The study employed individual semi-structured interviews with 19 ELI members playing different roles within the Department to collect data. Three different sets of questions were used. Questions addressed to high-integrators and low integrators were similar, and mainly focused on their technology use, their attitudes towards technology use, the factors that impacted implementation and evaluation of technology, including perceptions of professional development (See Appendices A and B for details). The third set was directed to the unit leaders. These were the chair, coordinators, and committee chairs. These focused on the same issues addressed in the research questions, but from a managerial perspective (See Appendix C for the questions).

All academic leaders in the department, including the department chair, academic coordinators, Professional Development Committee and Computer Committee chairs as well as instructors were solicited by e-mail or in person by the researcher.

Interviews were conducted face-to-face mainly by the researcher. Due to scheduling conflicts 5 of the interviews were conducted by a colleague in the department. Interviews lasted 20-30 minutes, and were recorded and transcribed.

Consent of the Institutional Review Board was obtained (See Appendix D).

**Participants**

The Participants of this study were English language instructors from the English Language Instruction Department (ELI) at The American University in Cairo (AUC), from the three English teaching programs, two of which are for AUC undergraduate students, namely the Intensive Academic English Program (IEP) and the Academic English for the Liberal Arts (English 0210). The third is an Academic English program for AUC graduate students. Eight of the 19 instructors held dual roles within the department. In addition to teaching, they held a variety of positions such as the academic coordination of programs. Some of them were either chairs or assistant chairs for the Professional Development Committee or the Computer Committee.

All but one instructor were female. Four instructors were American, one instructor was Jordanian, and the rest were Egyptian. Eight of the instructors taught in the Intensive English Language Program, eight in English 0210, and the rest in the Academic English Program for graduate students program. Six instructors were identified by the researcher as low integrators; of these two held the rank of instructors and four were senior instructors. Among the five high integrators two were instructors and the rest were senior instructors. No information about age was elicited, yet it is estimated that most of the instructors in this sample are over 40, with some in their fifties and even sixties. No master's fellows were included in this sample.

Pseudonyms were used to replace all the instructor names. For details about instructor Characteristics see Appendix E.

**Data Analysis**

Applied Thematic Analysis (Guest, MacQueen, & Namey, 2012) was used to analyze interviews. Initially, each interview was read separately to formulate a general overview of the instructor's perceptions. After that relevant data were entered into a table that allowed comparison and contrast across interviewees with reference to the predetermined questions and themes reflected in the research questions. (For a sample snapshot of the table, see Appendix F). The researcher engaged in peer debriefing with the capstone supervisor at each stage of data analysis. This was done to enhance the credibility of the study according to Guba (1981).

**Credibility and Trustworthiness**

In addition to peer debriefing, Guba (1981) underscores the importance practicing reflexivity in qualitative research by deliberately revealing the researchers underlying assumptions that have influenced the exploration of the phenomenon in a particular way. The following account of the researchers role in the ELI and for his assumptions about technology integration within the Department is shared for the purpose of establishing reflexivity and revealing the researcher's possible bias.

The researcher has been working in ELI for 17 years since 1999. I worked as part timer 1999-2001, and fulltime since 2001. His main responsibilities are to assist ELI faculty, staff, and students in the use of technology as well as maintain ELI computer equipment and ensure that ELI CALL labs are ready for use as required and that equipment and software programs requested are provided in a timely manner. In addition, the researcher is responsible for training students on the use of software and the Internet, and provide training workshops for instructors when needed.

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Reading through the literature of Education technology, the researcher has learned to regard technological integration as an important aspect of teaching and learning in the 21<sup>st</sup> century. Moreover, while working in ELI he indirectly formed overall impressions of the instructors' technology use due to the nature of his position. However, despite the availability of technology equipment, teachers' integration seemed to be minimal in comparison to the potential and possible. This gave rise to the researcher's focus in this study. The researcher is an MA candidate in the AUC Graduate School of Education, Division of International and Comparative Education. The researcher holds a BA in educational technology, and has over 15 years of experience in informational and educational technology, and is as such aware of the potential and promise of technology integration.

## **Chapter 4: Results**

### **Introduction**

The results presented in this chapter are based on the thematic analysis of data collected from interviews with Egyptian and Non-Egyptian ELI instructors teaching in all three programs. Eight of the 19 instructors interviewed have dual responsibilities - those of teaching as well as serving as an administrator or committee head in one of the programs as indicated in Table 1 above. The latter participants were solicited for their leadership positions within ELI. The remaining instructors were asked for an interview due to their reputation as low-integrators or high-integrators of technology in the classroom. High-integrators of technology are known for using technology frequently in their teaching and using it effectively in instruction. Instructors that were identified as low-integrators have the opposite reputation. The themes in the chapter are divided to answer the three research questions identified earlier, and are such divided into three main sections: 1) extent of technology integration, 2) factors impacting technology integration, and 3) perceptions of professional development opportunities.

### **Extent of Technology Integration**

Instructors in the ELI use a wide variety of computer tools, applications, and language-learning related software. Some examples are: internet applications, webmail, Google Docs, Google Drive, DropBox, Blackboard as an online learning management system which allows faculty members to manage their classes online, YouTube videos, or audios, Ted talks, info graphics resources, applications such as PowerPoint presentations, Prezi, online exercises and tests, Projectors, document cameras.

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All participants report on using technology in their teaching. When ELI administrators were asked to comment on level of integration, there answers varied. Part of the issue of course was related to the definition of integration; all of them used the two terms interchangeably, which in a sense casts some doubt on the validity of interpretations. Their evaluation of technology integration, however, was estimated as medium high to high integration. The Computer Committee chair, Hend, for example explained is follows:

It depends on the teacher, some teachers are very tech savvy, very used to technology and some other teachers are not as strong, as they don't rely on technology very much. It differs, it depends on how many times they use it and how they use it with the students, I can say overall it is medium high.

The Professional Development Coordinator, Inas, described integration with the ELI Department as high:

I think that most of the teachers cannot work without integrating technology in the classroom. I think they use technology like 4 days a week or so. We teach 5 days a week, we use it 4 days a week. Do you thin this is high integration? I see it as high.

Others used percentages that varied between 50% to 70%. However, given the problematic nature of using the term, this evaluation should be considered tentative.

All administrators however acknowledge the existence of a majority that positively regarded technology and integrated it, and a minority of instructors who have more reservations about technology or are resistant to using it profusely. As the Technology coordinator explained:



When I think of ELI, I have to admit, there are teachers who are using a lot of technology and who believe that technology is extremely effective and supports their teaching, and there are teachers who still believe that technology is like an addition and they can do things without it and learning can still be effective, I believe this group has their reasons and the other group also has their reasons

Most of the low-integrators concentrate in usage of technology to the projector and the document camera. One of the low integrating faculty mentioned in the interview that she uses the document camera to project content, and when she writes something on a paper to project it, a lot of the students just photograph it, so instead of taking notes, they can concentrate on what she is saying. She also said that she uses email and has a class list of the students, so she can send them messages. High integrators consider these tools- projectors, documents camera, email- a must, a natural component of the class, and when they talk about technology they just do not mention them or at least refer to them as basic equipment. That shows both directions and both points of view towards technology integration.

The following section examines more deeply these varying reasons for the use or lack of use of technology by instructors at the ELI.

### **Factors Impacting Technology Integration**

Interviewees, whether administrators or instructors shared several factors that either impacted or hindered the use of technology in the classroom. Thematic Analysis revealed several major themes. These are: 1) policy and curriculum integration, 2) recognition and

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reward, 3) technology support and infrastructure, 4) value added to the classroom, 5) comfort with technology, 6) age, and 7) time.

**Policy and curriculum integration**

All the interviewees explained that the tendency to use technology is not related to policy. There is no specific policy for technology integration within the department.

However, any plans that involve technology are usually introduced through the Computer Committee. Several instructors said that integration of computers is a highly individual decision' - "No one interferes."

When asked, low-integrators did not seem to be aware of the existence or lack of existence of a policy. Ilham shared "I don't know, I don't really know, I am not involved in the Computer Committee and things like that." The high integrators were more aware of the Computer Committee. Although they agreed that a policy did not exist, one of them, Nevine, clarified that a policy or a mandate is not required to motivate teachers to use technology. She explained that most feel "that to be a good teacher you have to incorporate technology." However, there are others who disagreed. Mary, another high integrator, for example, reflected that what is needed for more integration to happen is 'force' through policy and curriculum reform. Nagwa, a low-integrator mentioned another way of compelling teachers to embrace technology. She suggested that: "it needs to be part of students' grade; if it is part of our grade, it would be more useful for technology integration."

However, several low-integrators agreed that there is a kind of pressure on the faculty for more usage and integration, as one of the low-integrators mentioned when she was asked about policy of usage in ELI:

No, it doesn't there is nothing that tells you, you must but there is pressure, it is not a must but we feel insecure, we find all these fellows giving presentations on corpus and so on we feel insecure

Some instructors and coordinators mentioned requirements related to e-mail and the use of Blackboard. Hend, the Computer Committee chair, explains it as such:

The only thing we are required to do is to check our email. We are required to check our mail at least five days. I think for a certain extent we are required to use Blackboard, but how much use we make of it is not stated.

Nevine, a high-integrator, mentioned that technology is incorporated within the curriculum in specific skills areas such as Study Skills. In this subject, teachers tend to use technology more often because there are technology-related program outcomes, such as giving oral presentations and note-taking. The department chair shared that: "reading teachers also are using technology because they have excellent software *Ultimate Speed Reader*; they can do a lot of vocabulary activities and use equipment to design quizzes for the students." The Professional Development Committee Chair, Inas, insisted on the vitality of technology to the curriculum:

Technology is very important- one of our learning outcomes is digital and media literacy. We need to teach our students how to use technology, how to do research using technology, and to use presentation tools technology to present their opinion and it is not just PowerPoint in my opinion; it is Google Sites, Google Docs, its recording software, or anything that helps them to send a message or receive

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information. It not just to open a web site and listen to a video that is not technology, not now.

Ghada, the department chair, emphasized the increasing importance and suggested that it will increasingly become part of the ELI curriculum:

Yes, the development is so fast, every day you hear about it – new programs, new software, a way of presenting, it is like so fast, and unless we change with time we will be going backward. Excuse me, everything is about technology now, how can we live without it, so there is a vision for reforming the curriculum. If you looked at the reform of our curriculum two years ago, we included the use of technology in the learning outcomes; as we move and revise and develop AEG, IEP, and ENGL 0210, the three programs are making sure that the students leaving us are extremely good with technology.

The IEP coordinator, Dina, added that technology is also being used more often due to budget cuts; instructors have been mandated to photocopy less often, and are accordingly using technology to fulfill this requirement. She describes it as an “indirect policy to encourage instructors to use more forms of technology”.

### **Recognition and reward**

When asked about recognition for technology integration, answers varied. Several high-integrators (Kathleen, Amina, & Mary) shared that there was no official recognition. These instructors were quite frustrated with what they regarded as lack of acknowledgment. Amina shared her annoyance: “No recognition whatsoever. This not considered important. This is not considered that you are serving the department.” Mary, commonly recognized as an instructor who is comfortable and proficient at using technology, explained that the only

recognition she gets is colleagues coming to her for advice or others asking her to give presentations on using technologies in the classroom. Asking these “experts” or “leaders” to give presentations was an action that was mentioned by several low-integrators – namely Salma, and Nagwa. Nevine, Heba, and Nagwa, both low- and high-integrating teachers said that technology integration is definitely valued. Nagwa, a low integrator, stated: “it is a skill that is highly appreciated, and not every teacher is good at it. “ Similarly, Dalia, a high-integrator described those instructors that use technology often and effectively as “definitely valued and they are seen as the experts, however I believe we need to make more use of them, you know like to teach us more. “

Administrators and some teachers actually disagreed that there was no recognition for technology integration. Salma and Ihlam, for example, stated that innovative practices, such as the use of new technologies, could be mentioned on the annual faculty report that is used to inform such decisions as instructor contract renewal and promotion. Sahar explained that:

There is no specific recognition other than taking students’ evaluation to account when we represent our 5 year report, or when we apply for promotion, this part of factors to decide whether you are eligible for promotion or not, but I haven’t heard any type of recognition specially for technology

Hend underscored that recognition during faculty innovation as one important driver for her technology innovation.

### **Technology infrastructure and support**

Most interviewees talked highly about the abundance of technology on campus, while others reported on the added value of having different technical support structures that can

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help out faculty with technology integration such as the CLT, CTMS, ELI-technical Assistance and UACT.

Ghada, the Chair, explained that there are computers, screens, projects, video-players and document cameras in every classroom. Dalia, a high integrator, commended the availability of computers on campus:

We have computers everywhere, we have the labs for the grads all the time, with computers we can do more integration and use them for doing many things and for the undergrads the classes contain computers; they send the students to the labs to edit something or use a software

Others see that this availability compels you to use technology. Ghada mentioned that the availability of computers and equipment is a motivator for her to use it in the classroom. Mary explained it as such: “It seems like it more about a recourse available and most people take advantage of it. I found that it is impossible to not to use technology at AUC – impossible.”

Low-integrating teachers commented both on the availability of technology support but also on the vitality of such support systems. Heba explained:

Sometimes something goes wrong with system and the electricity, so if you have a lesson plan and technology doesn't work, you are in trouble. The importance of support in such a case is to have somebody to help me all the time, since my information about technology is not that much.

Nagwa expressed the comfort she feels knowing these support systems exist: “I think UACT and CLT do the job when I need something to know or to know more about it, I ask UCAT or CLT to send me someone and they do the job.” Hend explained that she likes using technology, even when she occasionally experiences problems with it. However she explains that she limits technology use in classes that are not supported by the Department. She added that with technology you always need a plan B.

### **Value of technology in the classroom**

The value added by technology was one of the most important themes that could be considered as both an environmental and individual factor. It includes many sub-themes that revolve around the value of technology in the language classroom. Some of the factors act as motivators and others as barriers.

### ***Technology as a student expectation***

Across the different interviewees, instructors and administrators thought the integration of technology as essential because of the students being digital natives. Heba a low-integrator talked about the importance:

Definitely, it is important, you have to use technology because our students are now living in the digital era and they are used to technology so you cannot detach them from this world, you have to be part of it.

Dina explained that this is a “generation that can cope with technology.” Hend, the Computer Committee chair, clarified that it would be hard to ignore technology with the students we have today:

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I don't want to look as a dinosaur in front of the students, from another generation; the students come with their iPhone, iPad, laptop even the IEP students, as teacher you have to be one step ahead of them at least, don't be behind them.

### ***Facilitated and more effective instruction***

Many of the interviews talked about the importance of integrating technology to make teaching easier and more interesting.

Inas and Heba pointed out the technology often makes the explanation of concepts easier. Dina also mentioned that technology opens up opportunities that are not possible without technology; there are many materials and applications online that allow them to take charge of their own learning. Technology enables students to collaborate more easily. Sahar explained that "it makes the concept easier, it makes what you can explain by mouth in 30 minutes, with technology you can hit the students minds with 2 seconds". Ghada, Maysa and Inas talked about the use of technology to "remove boredom" and add variety to instruction. Hend and Heba stated that technology saves time and money. Maysa pointed out that technology allows her to expand classroom time; for graduate students who spend very little time on campus, technology integration is vital. Several teachers talked about using technology to save money on printing and photocopying due to university-wide budget cuts.

### ***Love of Innovation***

Only, Dina, the IEP coordinator said that she integrates technology because she enjoys it. She also loves learning new things and trying it out. Other instructors referred to the desire to learn, but did not clarify whether it was for the enjoyment of novelty and experimentation or whether it was for other reasons mentioned above.



### ***Reservations about Technology***

Some low integrators had more reservations about the value of technology. Heba for example explains it as such:

I think it is important, but I don't approve of the overuse of technology, I think it is very useful when it can add something to what you are teaching, but the teaching has to be done by the teacher and then it can reinforced by the technology.

Salma, another instructor challenged the added value of technology:

I asked myself what is the evidence, my students usually do very well in their exams and everything, so I feel that yes it is good to have all these technological applications, but does it bring about significant results

Others acknowledged its importance but mentioned that they can do without it. Heba, for example, pointed out that "technology is a major component but not only the major component."

### ***Teaching skills at the core***

Salma reiterated at several points in the interview the vitality of good teaching skills and genuine care towards the students:

You know we are old fashioned teachers we have a good rapport with our students, we spend a lot of time with our students, in meetings and conferences we love our students and I think the students love this, so I think the classic way of teaching which is teaching with more love and care is the most important thing and the technology is like the decoration, but it is not the main thing, and If you have a

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teacher who is very tech-savvy but she is very hard and unsympathetic and give orders and all of that.

Several of the instructors made an argument for reaching the right balance between embracing technology while focusing on good teaching. Heba explained:

Younger teachers entirely rely on technology and they think that the students are going to learn everything from the screen, but no I don't think so, you have to teach and reinforce it by technology or you can use the lessons with technology and then go on and teach

Andrew, the Study Skills coordinator and a high-integrator, shares the same concerns: I worry that in education in general we focus more on technology than we should. I think that it is important to utilize what we have. I sometimes worry about conversations that start with technology and not with what use of that would be then to learn. I worry about people being distracted by technology. ... well, first of all we need to think of what we need to teach because technically we can use a book or a piece of paper or something to teach the same thing... We can instruct students in language that is not determined by technology. Language outcomes should come first.

### ***Negative impact of technology***

Some instructors worried about the negative impact of technology in terms of distracting from good teaching and a focus on language outcomes. Others talked about the disruptive effect technology has on students. Marwa, another low-integrator stated it as such:

When the students are allowed to use computers or mobiles they start texting or looking at Facebook or doing something else but not doing what they have been asked to do, also maybe the English they use while typing is not academic, not what they are supposed to use while writing a composition

Andrew acknowledged that technology was distracting. That however for him was nothing to deter him. On the contrary, it was an opportunity for him to teach his students how to value and use technology effectively for educational purposes:

I think it is important because students are often distracted by their technology, so what we can do is to teach them to incorporate their phones, laptops, or tablets in a way that is instructive or helpful in the class. I think that something that happens if we start that process then it helps them in 0210 and RHET and stuff like that in future classes. So they start thinking if technology is useful for education.

### **Age**

Age indirectly emerged as a theme. Several of the interviewees referred to the age instructors, master's fellows, and students in two ways. The main way age was referred to was in terms of generations new to technologies, generations familiar with technology and generations born with technology. Heba said:

Unfortunately the younger teachers have been brought up with it , it is the older teachers who need to learn it, so the older teachers need more help with technology rather than the younger teachers do, the younger teachers feel normal, this the normal way

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Another way age was addressed was in terms of the stage in one's career as an instructor. Salma, for example, partially justified her lack of interest in learning about technology due to her age:

we are getting old, we are thinking of retiring, so how much time do we have here, we think that we are at the end of our career; rather if I was younger I will tell myself I have to learn. I always go to these workshops and say that they are coming too late in my life, you find the young teachers they learned from the very early age. You know I resist it, you know when I start working at AUC at 1987 there were no computers.

### **Time**

Time emerged as another important theme. It was a barrier in two ways. One related to having time enough to integrate technology into the curriculum given the many ambitious outcomes that the Department has for its students. Ilham for example thinks technology is time consuming. She explains: "It takes so much time to grade a paper, I would rather grade a paper manually rather than use Turnitin." Similarly, Kathleen explained that due to the limited contact hours with graduate students, for example, she does not see technology integration as a possibility.

The time-specific issue is related to instructors' busy schedule between teaching, student conferences, and grading. Given these demands it is often difficult to find time to go to workshops let alone practice using the technology. Due to their long working hours, there is also often a conflict in scheduled with the workshop times offered by external university structures such as the CLT. Heba complained: "I think there are very good opportunities if you have the time, we have a very heavy load, we have corrections every day and we have

classes every day.” Similar, Amira, a high integrator complained: “our problem is all the workshops are during the assembly hours, during the assembly hour I have to take a break especially if I am teaching unstopable from 8 to 5, we have to conference with the student.”

### **Comfort and confidence with technology**

Comfort with technology was rarely mentioned by any of the high-integrators or low-integrators. Salma, a senior instructor and a low integrator was one to explicitly and boldly acknowledge her own lack of comfort with technology and said the following:

You know very well that I am limited, I am not tech-savvy, so I don't know how to use Google drive and Google this and Google that, so I think what I use from technology in class is enough for my purpose

Heba, another low-integrator, also emphasized lack of efficacy using technology as a hindrance. She explained that for instructors “who are not sure how to use technology ... this is a barrier.”

Comfort was mentioned by several administrators. Ghada, the department chair, seemed to be well aware of this issue: “no teacher will try to use technology if not very sure how to use it and how to link it with the learning outcome of her class and how to integrate it in her teaching,” she explained. Dina, the IEP coordinator stated: “We do not want to push people out their comfort zone people have to be confidant when they are going to class.”

### **Professional Development**

As indicated in the previous section, lack of competence and confidence in using technology is sometimes a reason instructors decide not to use technology in their teaching. It is believed by many researchers that training elevates some of these issues. The following section provides information on the professional development opportunities available to faculty at the ELI and explores their perceptions of these experiences

#### **Abundance of opportunities**

Instructors at the ELI department seem to have many professional opportunities available to them. These are either department specific, university-level workshops or external opportunities. Mary commented: “Oh, I think there are so many opportunities, and really I am so impressed, between CLT and UACT, I feel there is everything that we need”

Internally, the ELI has two committees that offer training. These are the Professional Development Committee and the Computer Committee. These committees according to Amina, a high integrator, introduce faculty to new technologies. Dalia mentioned the “tech swap” sessions offered by the Computer Committee. Other ELI related opportunities that include Professional Development Day, Neighbors and Bridges Day, the exchange program with the British University. During professional development day instructors often give presentations on how they integrate day instructors often give presentations on how they integrate technology in their teaching. Dahlia also mentioned technology-related sessions offered by IEP such as their pre-semester workshops. There are also a wide variety of workshops offered by the CLT at the University. Amina, like several others, mentioned external opportunities to professional development such online resources and conferences,

such as EgyptTESOL and TESOL Arabia, that have both witnessed a dramatic increase in the number of technology-related presentations.

### **Varied perceptions of professional development**

Faculty vary dramatically as to how they regard the nature of these opportunities. When asked about the focus of these professional development events, there seems to be no consensus. Most administrators think that most professional development focuses on software because you can easily take it into the classroom. Several instructors pointed out that professional development generally does not focus on integration because that is up to the individual teacher. Mary reflects this variety and focuses that there needs to be more emphasis on how to use it “I think there is a wide variety of focus, but we need to increase sessions that focus on integration.”

The majority of instructors seem to be very pleased with these opportunities. Amina, a high integrator, finds them “very interesting! I would like to use all of these things, but I cannot. I have to choose from them what I can apply, because as I said there are certain restrictions to the course.” Similarly, Kathleen explains: “I think it is great, I think everybody need to get exposed to it, at least have the opportunity to see how things work and then try it.” However, there is some dissatisfaction with workshops. The department chair, Ghada, commented that low integrators attend workshops, but do not really intend to use what is presented. Some instructors think that just knowing about technologies is enough. Amira, a high integrator, shared that that some of the workshops offered introduce impractical ideas:

What I really want to see more of is workshops about software which are actually practical, not things that sound nice but practically speaking might be silly, I would do it in five minute and the class would be over

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Similarly, Kathleen explained that sometimes the topics are interesting but not implementable.

### **Summary of Results**

The results suggest that technology is being increasingly 'used' in the ELI department. However, the data was not sufficient to answer to what extent it is being 'integrated' due to the interchangeable use of terms and the lack of detailed descriptions of classroom usage that would allow for further analysis. Data analysis of the interviews yielded seven major factors that influence the use of technology either positively or negatively. The existence of reliable technology, technical assistance, and pedagogical support through different constituents definitely encourages faculty in this study to use technology. Recognition and support seems to be a more ambivalent. There are instructors in the department that complain about the lack of formal appreciation of technology; and others that talk about the informal recognition and formal acknowledgement of integration through the annual faculty report. There is not policy for the ELI as a whole for technology integration except for basic demands about e-mail communication. However, in some skill areas, there are technology-related learning outcomes; these classes witness more technology use than others where technology is not an explicit outcome. One of the major areas of contention was the value added by technology to achieving the learning outcomes. Many instructors cannot imagine teaching without technology for a number of reasons including student expectations, the facilitative affordance of technology, the time- and money- saving attributes of technology. However, there are some other instructors who are skeptical about the added-value of technology and call for a balance in using technology and emphasis the importance



of good teaching skills. Age and time also emerged as important. Some instructors are very aware of the generational differences in terms of comfort with technology. Most faculty members also point out that due to their busy schedules, they often lack the time to attend workshops, practice with technology, and ultimately using technology in the classroom. The last factor that faculty mentioned with that of competence and confidence with technology. Faculty argue that the lack of either can lead to barriers with technology. Professional development emerged as an important focus in the ELI. Instructors have an abundance of opportunities to choose from - department specific, university wide, and external events. Although most faculty value these events, there is room for improvement.



## **Chapter 5: Discussion**

This case study of the ELI sought to understand the current status of technology integration, with special emphasis on the factors that either motivate or inhibit its use. This chapter discusses the findings with reference to the particular context as well as the general literature on instructor integration of technology in the classroom. The chapter is divided according to the three main sections used to organize previous chapters: 1) extent of technology integration, 2) factors impacting technology integration, and 3) perceptions of professional development opportunities.

### **Extent of Technology Integration**

Technology usage within the ELI has obviously increased, and the causes for that could be multiple. Since 2001, when Ghazal collected the data, AUC moved to a new campus that was quite richly furnished with a variety of classroom technologies as well as computers for instructor office use. This might have to a contributing factor to the boost in technology use among ELI faculty members as several instructors have mentioned. But the role technology plays in our lives and in education has also changed. Whether in their personal or work life, most instructors use many technologies such as smartphones, tablets, and social networking applications to name a few. It is even more of a phenomenon in the case of students, who heavily interact with each other using their handheld devices. It seems normal that the use of technology should exponentially penetrate education. Also, technologies have become much more user- friendly. Web 2.0 applications, for example, have revolutionized what instructors can do with technology in the classroom. It enables anyone with no programming skills to publish online. Its affordances strongly support authorship, collaboration, and interaction. Many of these could enhance the language classroom.

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However, does that increase in use necessarily mean effective integration into the learning process?

One noticeable observation in this study was the use of the terms 'use' and 'integration' interchangeably by the instructors. It is hard to find one definition for technology integration that suites all situations or is embraced by everyone. When the literature talks about integration it really refers to technology becoming a valuable component of the learning experience – an integral element that facilitates and enhances learning. Participants in this study did not differentiate between 'use' and 'integration' of technology in their accounts – i.e. in terms of how they use the words. The interviews did not provide sufficient data to judge the quality of technology implementation. The interviews show that there is a variety in the use of technology. Instructors that were identified as low integrators mainly used technology to transmit information – a concern that is reflected in the general literature for technology implementation in education – where the complaint is that faculty mostly use technology for administrative uses and to project content rather than employ it in ways that are learning focused (Gorder, 2008; Hermans et al., 2008; van Braak et al., 2004). High-integrators were more inclined to use technology to enhance student collaboration and voice.

Almost all ELI faculty members have a positive attitude toward using technology, and they believe in the importance of using technology in teaching. They are driven by their dedication to language learning and helping their students to improve their language skills. However, it is that same dedication that makes some instructors skeptical towards embracing new technologies. As evident from the results, several of them are worried that there is more

focus on technology and wonder to what extent that comes at the expense of sacrificing student learning and the attainment of outcomes. In a sense, what low-integrators of technology were arguing against is adding technology as a ‘decoration’; they have been achieving their learning outcomes successfully for over two decades, and resist adding technology without added value. As such their ‘low-integration’ might actually be an appeal for more meaningful incorporation of technology. As Salma said if someone would show her the evidence that technology added real value to her classroom, she would use it. The researcher thinks that this is a very important point. It also poses an important question: Do we need to aim at technology integration, if learning can happen with out it in a particular area? If technology does not empower the learning situation, should we still strive for it? The chair of the department in this study argued for the inclusion of technology more and more as learning outcome in the ELI. To what extent should technology become an outcome in a language preparation department? These are all questions that are important to discuss.

The factors for that are many as is evident from the next section.

### **Factors that Impact Technology Integration**

Instructors talked about a variety of factors that they believed impacted technology use in the classroom. The reasons given by high-technology integrators and proponents of technology among ELI administrators actually hardly focused on the empowering attributes of technology in the language teaching context. They mostly focused on using technology because students, the digital natives, constantly use technology and are comfortable with it. Also several talked about using technology to add variety for the classroom. Lastly, several talked about the facilitative aspect of technology. It allowed for flexibility; it saves time and money. However, very few actually talked about incorporating technology because it allowed

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for more powerful learning to happen. To what extent this lack of focus on this element in instructors' accounts reflects low integration remains to be explored. Although the arguments for flexibility and variation are definitely worth considering and even embracing, the data seems to suggest that there is room to consider technology integration at a deeper level. Some questions for the ELI department to consider are: To what extent does technology have the potential of enhancing the language learning experience? Are we using it in that way?

Faculty acknowledged the solid technology infrastructure at AUC as encouraging for technology use, and underscored the importance of technical assistance – reflecting what other research has emphasized as factors impacting the adoption of technology (e.g., Baylor & Ritchie, 2002; Georgina & Olson, 2007; Leggett & Persichitte, 1998; O'Neill et al., 2004; Pirani, 2004). This was especially prominent with the low-technology integrators who valued having constant assistance through ELI departmental personnel in the labs. This is a far shot from the 2001 research conducted by Ghazal. In that study instructors expressed concerns about the availability and quality of hardware and software. Although they did not have grumbles about the existence of equipment, they commented that it was often out of order, and that the software was not found on all computers. All these concerns are similar to factors identified in the general literature (Leggett & Persichitte, 1998; Norris et al, 2003; Schrum 1995). However, the reliability of support outside ELI classrooms still seems to be a concern. One high-integrator talked about her concerns about the reliability of technology and tech assistance with classrooms outside the ELI department. More effective technology use would be an area to enhance at the university-level.

There is literature that suggests that institutions' approach to technology integration has been forced on teachers, without consideration to their needs and beliefs about the

possibility to integrate technology into their teaching. In the ELI this does not seem to be the case, except in certain skill areas. Accordingly instructors believe that it is a highly individualized decision. All interviewees, except one, seem to honor faculty autonomy, a privilege commonly enjoyed by instructors at American universities. This seems partially the case because instructors who use less technology seem to receive high evaluations from students and achieve the learning outcomes for the program.

Incentives are generally considered as one of the motivators for technology integration. However, extrinsic motivation to faculty for teaching effectiveness and innovation is often limited in scope and scale. In the literature instructors express concern about lack of institutional incentives that reflect the support of the administrative leadership (Lan, 2001; Murphrey & Dooley, 2000). Faculty at the ELI had varying perceptions about recognition and rewards for technology integration within the Department. Administrators talked about the presence of formal reward structures through the annual faculty reports that has a section on teaching innovation. This report is used to make a number of decisions including salary raises, renewal of contracts, and promotion cases. About half of the faculty did not mention this reward mechanism. However, the data does not show whether this is a matter of awareness or acceptance. It could be that some faculty do not know about that eligibility of technology use as an item within the innovation section. However, it could also be that instructors do not value that mechanism. Many instructors talked about informal recognition through workshops for example. To many this was a motivator; to others it was not a sufficient form of recognition. It might be important for ELI administrators to further explore what faculty regard as desirable incentives, since this emerges as one of that factors that push technology consideration.

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One of the themes that emerged very strongly was time constraints. This manifested itself in a number of dimensions. The first of these is the protection of instructional time in class. Due to the importance of students' time and experience in the ELI, since it acts like a gatekeeper to students' pursuit of their studies, instructors in the Department take their work very seriously, and are accordingly very busy. Passing the end-of-semester ELI exam is a serious issue, and as such the instructors to some extent are very much exam-oriented. This reflects that literature coming from Asian countries that suggests that instructors often switch to teacher-centered techniques in the classroom due to the expectations of covering content and obtaining high grades (Albilirini , 2006; Chai et al, 2009; Liu, 2011).

The other dimension of time is related to finding little opportunity to pursue professional development opportunities. Instructors at the ELI teach students in class from 8:30am to 1:00pm; from 1:00pm to 2:00pm they meet with students individually then they go back to teach from 2:00pm till 3:30 and do office hours with students from 3:30 to 5:00 or 6:00pm. Therefore, it is often hard for them to find time for technology professional development. However, they are trying very hard to cope with the new technology inventions. Some of them attend conferences and workshops they share their findings with other instructors for the benefit of the department and the students. Findings regarding time seems to echo the findings of Ghazal (2001). Teachers in that earlier study revealed that they lacked time to practice computer skills and time to integrate technology in classroom teaching. They also reflect the general literature on teacher technology integration. However, teachers in this study did not focus on time taken in the preparation of learner-centered technology integration as suggested by other studies (Al-Senaidi et al., 2009; Lim & Khine, 2006). This could be a reflection of superficial technology use, since incorporating



technology often requires substantial redesign of a unit. However, that would be an issue to explore in the light of limited evidence.

The literature seems to be inconclusive regarding the relationship between age or years of experience on the one hand and technology integration. Some research implies a negative relationship (e.g., Russel et al, 2000), other a positive one (e.g., Cheng & Jang, 2014), and yet a third body of literature that suggests no relationship (e.g., Inan & Lowther, 2010). Based on the definition of Unruh and Turner (1970), the participants in this study would be classified as senior, since they all have more than 15 years of experience. This applied to all profiles; the enthusiasts, the skeptics, the low-integrators, and the high integrators. However, a couple of instructors referred to age indirectly in terms of the age as corresponding to the career stage they are in – mostly approaching retirement. For these few instructors adopting technology seemed to serve no personal or instructional purpose. However, for the majority, even those who are at the same career stage, technology was regarded with much enthusiasm and readiness to engage in the needed professional development required to learn it. In that sense, this latter majority does not support literature that as instructors have more experience, they tend to feel less positive about technology use in the classroom.

Comfort or confidence with technology was rarely mentioned by the high-integrators or low-integrators. Only a couple of instructors mentioned their lack of efficacy concerning their skill level with technology and implied the importance of abundant technical support and the need for personalized technology training to overcome this barrier. However, these were the same instructors that talked about them being near retirement. Administration seemed to be aware of lack of comfort and confidence experienced by some instructors. They

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did not however talk about tailored solutions. General professional development was available; their reaction to specific concerns was letting those people be and not pushing them “out of their comfort zone”. It seems that more tailored professional development might be an important factor to consider. Analysis of the data implies that these factors are relatively unimportant relative to such barriers as time. This is counter to the literature that suggests technology self-efficacy (Campeau et al., 1999; Tweed, 2013; Wang et al, 2004), computer literacy (Jenkin et al, 2009; Mason & McMorrow, 2006). It could be that all the professional development opportunities available to teachers have increased the competence with technology and accordingly their self-efficacy towards using technology in the classroom.

Teachers’ pedagogical beliefs, a factor that is increasingly emphasized in the literature (Chan & Elliot, 2004; Ertmer, 2005; Hall, 2010; Kim et al, 2013) was not alluded to whatsoever in teachers’ accounts about technology integration. Research strongly suggests that instructors that are more learner-centered and constructivist in their notions about teaching and learning tend to integrate technology more effectively. This is probably partially due to that lack of an explicit question about their pedagogical beliefs or it could also be a by-product of the fact that teachers at the ELI are mostly graduates of AUC masters’ program in TEFL which emphasizes learner-centered approaches to language teaching.

This seems to be a relative low importance to instructor-specific factors such as teacher technology selfthat emerge strongly in research as predictors

### **Professional Development**

Instructors at the ELI seem to have a huge variety of professional development at their disposal. In addition to Center For Learning and Teaching (CLT) who are providing technology training for all AUC faculty members, ELI instructors have a great training opportunity that is provided by the ELI Computer Committee. The committee organizes technology training workshops that are specially designed to suite ELI instructors needs. These workshops are an opportunity for ELI instructors to share their experiences with technology use with their peers, an approach suggested by research (Georgina & Olson, 2008; Leake, 2014; Tondeur et al., 2013).

However, these workshops need to be amended. Some instructors seemed to regard some of the opportunities as irrelevant or inappropriate to their level of technology competence. For example they should survey instructors about the training needed. They can also send a list of the workshops to the instructors and they can attend according to their needs. The literature underscores the importance of providing professional development opportunities that match instructor needs (Picciano, 1998; Rubin, 1989). Some of them have basic skills, some might need more advanced skills, and others might need high tech skills. So training should address all needs like basic, intermediate, and advanced skills. These workshops should be changed to last for a longer time, this will give the presenter better chance to share his/her experience with other instructors not only telling them about the software or the application and the features in it. They should also include one to one training sessions, for people how do not have time to attend training workshops or do not want to anted for any reason.

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Moreover, it is recommended that instructors how attend conferences such as IATEFL, NILETESOL, or else, share what they got in these conferences or write a report and send it to other instructors. Instructor

Technology often facilitates certain aspects of instruction and empowers others. It takes time and effort for an instructor to use and utilize new technology. However, once he/she utilized it, technology saves efforts and time. Low-integrators tended to adhere to technologies and software that they were comfortable with. This at times hinders them from embracing technologies that were newer and possibly more effective in reaching the same goals, and would encourage teaching approaches that are more student-centered and facilitate interaction. Instructors who are more skeptical and reserved about the value of using technology seem to limit their engagement with technology, going to workshops, but not really with the intention of using what they hear about. As the literature suggests, practicing with new technologies helps teachers evaluate the technology and enhance comfort and confidence in using it. Some instructors are working on technology enhancing projects while the others are not involved. They might not be willing to use technology, but they should be involved in these projects in order to help them to overcome their obstacles in using technology.

### **Limitations of this Study & Suggestions for Future Research**

The study has several limitations that inhibit a comprehensive evaluation of this phenomenon under study. To begin with, it would have been better for the study to include all the instructors in the Department. Also, it might have caused a biased analysis of the data to pre-determine which teachers are low integrators and which are high. It would have been more sound to collect detailed accounts of teacher practices using technology through self-

reports or classroom observations that extend throughout the semester to get a more accurate picture. It would also be beneficial to follow-up with a survey that would provide another modality to check, validate, and evaluate the representativeness of emerging themes.

### **Recommendations for Departmental Plans and Practices**

The findings of this study suggest several ways to go forward. To begin with, it is easy to dismiss low-integrators as resistant due to computer competence, career stage, and computer-confidence along other factors. However, the caution raises the important concern about usage versus integration. The latter is learning and outcome oriented. As such as new technologies are introduced they need to be evaluated in terms of their pedagogical value and not simply introduced for variety. With the abundance of tools and applications available nowadays, there is ample to choose from. It might also be important to focus on integration issues and not simply *telling* instructors about the features of the technology. Also, it seems to be important, as the literature suggests, to engage instructors in hands-on practice that would not only help them feel more comfortable with the technology but also enable to evaluate it better. It might also be beneficial for teachers to reflect collectively on the technologies they are exposed to. ELI instructors obviously are provided many opportunities to engage in professional development. However, it seems that these workshops are presented as ‘one size fits all’. It might be helpful to determine the appropriate levels and knowledge pre-requisites for each workshop. It is important for technology to address a real need or problem that teachers have. For less computer-comfortable teachers it might be important to have more personalized support and mentorship as suggested by one of the participants in this study. Currently, teachers that are regarded as resistant to technology seem to be excluded from technology oriented projects and committees. However, it might

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be important to actually do the exact opposite. Not only will these teachers encourage more deliberate decisions due to their skepticism, but it might also help them engage more highly with technology.

The presence of a policy or regulations for technology use is a great factor that helps instructors to shift from. Since the year 2000, the ELI department has converted all teaching materials and paper exams into digital forms. However, since then until recently ELI instructors have not used these digital materials as they are meant to be. Recently, they shifted to using these digital materials and other digital sources because of the paper cut policy. They had to find alternatives, so policies and plans are very important for pushing people toward change. Moreover, most of the instructor's see that there is a chance for technology integration or curriculum reform; some other instructors say that there is no vision for curriculum reform in ELI, and this is because there is no clear plan for technology integration. This seems to be an area that requires discussion and further deliberation.



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**Appendix A: Interview Questions for High Low Technology-Integrating  
Instructors**

1. Do you currently use technology in your classroom?
2. What technologies do you use? For what purposes?
3. What has been your experience using them? How do students respond to these technologies?
4. In your opinion, is the use of technology in the ELI important? Please explain.
5. What, in your view, are the three most important motivators for integrating computer-based technology in instruction in your classroom?
6. Does your curriculum or ELI policy require faculty to use technology in instruction?



7. What technology-specific professional development opportunities are available to ELI faculty members? (other than CLT)
8. What do these opportunities focus on? Hardware? Software? Pedagogy? Usage? Integration?
9. How do you perceive these opportunities?
10. What do you think are ELI faculty members' perceptions of these opportunities?
11. What kind of professional development do you think is needed?
12. Do you envisage major curriculum reforms for the technology integration/innovation?
13. To what extent were ELI faculty members involved in your ICT policy design? What is the extent of faculty support for the ICT plan?
14. How does the ELI recognize technology innovators who are leaders in the use IT for teaching and learning?

**Appendix B: Interview Questions for ELI Low Technology-Integrating  
Instructors**

1. Do you currently use technology in your classroom?
2. What technologies do you use? For what purposes?
3. What has been your experience using them? How do students respond to these technologies?
4. In your opinion, is the use of technology in the ELI important? Please explain.
5. What, in your view, are the three most important barriers preventing you from integrating computer-based technology in instruction in your classroom?
6. Does your curriculum or ELI policy require faculty to use technology in instruction?
7. What technology-specific professional development opportunities are available to ELI faculty members (other than CLT)?
8. What do these opportunities focus on? Hardware? Software? Pedagogy? Usage? Integration?
9. How do you perceive these opportunities?
10. What do you think are ELI faculty members' perceptions of these opportunities?
11. What kind of professional development do you think is needed?
12. Do you envisage major curriculum reforms for the technology integration/innovation?
13. To what extent were ELI faculty members involved in your ICT policy design? What is the extent of faculty support for the ICT plan?
14. How does the ELI recognize technology innovators who are leaders in the use IT for teaching and learning?



**Appendix C: Interview Questions for ELI administrators**

1. What would you say is the average level of technology integration for teaching and learning among faculty members?
2. Is technology integration important for ELI? Are there any goals specific to technology integration?
3. Does your curriculum or ELI policy require faculty to use technology in instruction?
4. What technology-specific professional development opportunities are available to ELI faculty members (other than CLT)?
5. What do these opportunities focus on: Hardware, Software, Pedagogy, Usage, and Integration?
6. What do you think are ELI faculty members' perceptions of these opportunities?
7. To what extent are they engaged in these opportunities? What are the factors that enhance/deter their engagement with these PD opportunities?
8. To what extent have these opportunities impacted their practices in the classroom?
9. How do you determine whether the use and integration of technology is having the intended/desired effects?
10. In your view, what are the three most important reasons that motivate the ELI faculty members to integrate technology into teaching and learning?
11. Do you envisage major curriculum reforms for the technology integration/innovation?
12. Does ELI have a consistent ongoing faculty technology professional development plan? To what extent does such a plan factor in faculty technology needs and concerns?

13. To what extent were ELI faculty members involved in your ICT policy design? What is the extent of faculty support for the ICT plan?
14. How does the ELI recognize technology innovators who are leaders in the use IT for teaching and learning?

**Appendix D: IRB Approval**

CASE #2015-2016-125

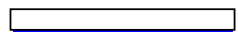
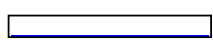


This is to inform you that I reviewed your revised research proposal entitled "  
" a . As you are aware,  
the members of the IRB suggested certain revisions to the original proposal, but your new  
version addresses these concerns successfully. The revised proposal used appropriate  
procedures to minimize risks to human subjects and that adequate provision was made for  
confidentiality and data anonymity of participants in any published record. I believe you will  
also make adequate provision for obtaining informed consent of the participants.

Please note that IRB approval does not automatically ensure approval by CAPMAS, an  
Egyptian government agency responsible for approving some types of off-campus research.  
CAPMAS issues are handled at AUC by the office of the University Counsellor, Dr. Amr  
Salama. The IRB is not in a position to offer any opinion on CAPMAS issues, and takes no  
responsibility for obtaining CAPMAS approval.

This approval is valid for only one year. In case you have not finished data collection within a  
year, you need to apply for an extension.

*ATHA Ezzamel*





**Appendix E: Characteristics of Participating Instructors**

Pseudonym	Status	Subjects taught at the ELI	Program (which of the three programs are they working in)	Nationality
Ghada	Department Chair	Academic English, writing, Reading.	All Three programs, teaches in IEP	Egyptian
Dina	IEP Coordinator	Academic English, writing, Reading.	IEP	Egyptian
Sherine	0210 Coordinator	Academic English, writing, Reading.	0210	Egyptian
Maysa	Grads Coordinator	Academic English, writing, Reading.	Grads	Egyptian
Andrew	Study Skills Coordinator	Academic English, listening, Reading.	IEP, Grads	American
Inas	Professional Development Committee Chair	Academic English, writing, Reading, and listening	All three programs. Teaches in 0210	Egyptian
Hend	Computer Committee Chair	Academic English, writing, Reading.	All three programs teaches, in IEP	Jordanian
Karen	Technology Professional Development subcommittee Chair	Academic English, writing, Reading.	All three programs. Teaches in Grads.	American
Salma	Instructor	Academic English, writing, Reading.	IEP	Egyptian
Nagwa	Senior	Academic English, writing,	0210	Egyptian



	Instructor	Reading.		
Heba	Instructor	Academic English, writing, Reading.	IEP	Egyptian
Sahar	Senior Instructor	Academic English, writing, Reading.	0210	Egyptian
Ilham	Senior Instructor	Academic English, writing, Reading.	0210	Egyptian
Marwa	Senior Instructor	Academic English, writing, Reading, and listening.	0210	Egyptian
Nevine	Senior Instructor	Academic English, writing, Reading.	IEP	Egyptian
Dalia	Instructor	Academic English, writing, Reading.	IEP	Egyptian
Amina	Senior Instructor	Academic English, writing, Reading.	0210	Egyptian
Mary	Senior Instructor	Academic English, writing, Reading, and listening.	0210	American
Kathleen	Instructor	Academic English, writing, Reading, and listening.	Grads	American

### Appendix F: Sample Data Tabulation

Question	Azza	Maha	Rasha	Dina
1. What would you say is the average level of technology integration for teaching and learning among faculty members?	I think integrating technology in our teaching is extremely important, the world exchanging, technology developing very fast. .... including in the area of teaching and I believe that we have to change with the time the students expected, it is extremely useful ..... and when I think of ELI, I have to admit, there are teacher who are using a lot of technology and who believe that technology is extremely effective and support their teaching, and there are teachers who still believe that technology is like an	It depend on the teacher, some teachers are very tech savvy, very used to technology and some other teachers are not as strong, as they don't rely on technology very much. it differ, it depends on how many times they use it and how they use it with the students, I can say over all it is medium high.	I think that most of the teachers cannot work without integrating technology in the classroom. I think they use technology like 4 days a week or so. We teach 5 days a week, we use it 4 days a week. Do you think this is high integration? I see it is high integration.	This is a judgment, I do not want to judge people. I think some people use it some people do not. I think I general it is good, the majority of people I think use it to a reasonable level.