# The effects of ICT on affective factors and teaching practices in the EFL and ESL classroom

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# Abstract

The 21st century EFL/ESL teachers have the possibility of using information and communication technologies in their teaching. Increased accessibility to online tools for students' and better equipped facilities makes it possible for teachers to fully integrate ICT as a part of their practice making it a great aid to learning and teaching. Technology is already a part of students' everyday life and using it in teaching has proven to have positive effects on language acquisition. These positive effects are proven to be partly from the possibilities provided when ICT is successfully integrated into teaching and partly because of the effects it has on students' affective factors, such as motivation, engagement and attitude towards the subject. The development of technology such as Web 2.0 has made it possible for students and teachers to not only search for information but also create an online environment to support the particular needs of students and teachers. This paper will explore the effects ICT has on teaching as well as what factors are necessary for ICT so be successfully integrated based on previous research.

# Contents

# 1  Introduction

Technology and computerization have changed our way of making a living (Keefe, 2007, p. 217). However, schools are falling behind on using technology in teaching (Salomon et al., 2007). In fact, Salomon et al. (2007, p. 17) argue that learners need to be proficient in using technology in order be able to adapt to an ever changing society and work market. Schools should promote lifelong learning and, therefore, integration of technology should receive more attention. Curricula of both Sweden and England support the claim that ICT should be used in education to prepare students for future employment.

Information and Communication Technologies (ICT) cover a wider range of technologies such as radio, television, computers, the Internet, social networks and

many other variations of technology (Yunus et al., 2013). Technology in teaching has developed quickly the past 25 years. From the more simple initial uses, such as gap-filling exercises, to the vast possibilities of the Internet and social media (Dudeney & Hockly, 2012). Moreover, the Internet and social media open up endless options for teachers to successfully integrate technology in practice.

ICT, such as the Internet, offers a great deal of opportunities for language teachers. Language learning has to do with interaction and communication with other cultures, which is central in modern language teaching. Moreover, it has to do with accessibility and being engaged in international class projects, using video chats and making video calls with, for example, Skype and other software which are increasing extensively (Dudeney & Hockly, 2014).

Internationalisation, communication with other cultures, is important in modern society language teaching. Based on a study in a high school in Taiwan, Young (2003) states that the use of Internet had a positive effect in the sense that learners were able to communicate with other countries making connections with other learners. Furthermore, he states that one of the reasons why Internet is to be used in education is because it puts English in an international context (Young, 2003). According to Fitzpatrick (2004), using ICT resources effectively is one of the greatest challenges teachers face. Moreover, further stated by Fitzpatrick (2004) is that "facilitating access to other cultures and languages is the chief goal of the language teaching profession".

Based on a study conducted in Sweden by Alexanderson and Davidsson (2014) the Internet usage among teachers in Sweden has increased, all of the teachers involved in the study were currently implementing technology into their teaching. Furthermore, the study showed that learners are primarily using the Internet for searching information, which is considered to be one of the simple ways of using ICT in teaching.

Not long ago language teaching was considered to be a face to face process. However, recently the e-learning and teaching through ICT has developed immensely (Hubackova, Ruzickova, 2010) and Mullamaa (2010) states that the role of teachers in the 21st century is different. The role of a teacher now is more that of a guide to knowledge and a mentor instead of the traditional teacher. Fitzpatrick (2004) writes about teachers as "facilitators" (p.20) of knowledge and that teachers need to be aware of the different ways of using ICT in order to improve learners' language skills (2004, p.20).

Many researchers (eg. Mwalongo, 2011; Garrett, 2009) support the importance of integrating ICT into teaching claiming that it increases learner autonomy. Furthermore,

research also shows that learners are able to use ICT to customize their learning, such as the different ways of giving instruction, to their individual needs. A connection between learners' inner motivation and ICT is also made. Several researchers, (e.g. Young, 2003; Mullamaa, 2010; Chen et al, 2014; Gleason, 2013; Yunus, 2013) state that using technology in teaching enhances student motivation and will to be engaged in language learning.

The aim with this paper is to show how ICT has developed to become a useful tool in language teaching. Furthermore, it will discuss some of the practical implementations of ICT and the importance of integrating it in a correct manner. Moreover, it will bring up several factors which are necessary for ICT to work in the language classroom as well as present recent research on how ICT affects both students and teachers. Under the ICT umbrella I have decided to incorporate E-learning, Computer Assisted Language Learning (CALL) and Communicative Language Teaching (CLT). The reason being, that all these approaches are closely connected and often used in the same context.

# 2  ICT in Teaching

Teachers are faced with the challenge of education through technology. Keefe (2007) states that schools must produce "adaptable individuals" who will keep up with the rapidly moving development of society. Furthermore, he argues that one of the most basic challenges of teaching is now to create, maintain and improve conditions for learning (2007). Garrett (2009) states, that when using technologies teachers can approach language teaching more holistically. Furthermore, she mentions that before technology was integrated into teaching, the four language skills required four different lesson plans. Something teachers now can bridge over "by integrating textual, aural, and visual input" (Garrett, 2009). Moreover, Yunus and Suliman (2014) present a study conducted in Asia, which showed that 89,6% of the 58 students involved in the study agreed that using ICT had improved their overall language skills.

Teaching through ICT has its advantages. However, psychological factors, such as motivation and learner engagement has a role in learners' language acquisition (Young, 2003) and to be able to effectively use technologies in education a level of motivation and autonomy among EFL learners is required. Autonomy is further brought up by Jacobs and Farrell (2003) who state that education and teaching have gone through a paradigm shift, related to language teaching, where one of the primary changes has been the focus on learner autonomy. Furthermore, they claim that learners need to be able to influence what is in their curriculum.

The different ways of presenting subject matter, which the learners can choose from, are also related to the idea of learner autonomy (Jacob & Farrell, 2003) and correct use of ICT could provide options for personalized instruction.

A study conducted by Yunus et al. (2013) was aimed to find the advantages and disadvantages of using ICT in ESL teaching, specifically reading and writing skills. One of the secondary school teachers involved in the study explicitly points out the strengths of ICT when it comes to attracting attention and customizing tasks. However, mentioned in another study by Yunus et al. (2013), a teacher who was in the study commented that the use of ICT in teaching could be a distraction which causes the teachers to lose control of the classroom.

The classroom is complex and instruction given by teachers is not always good for all learners. However, ICT, mainly through Internet, provides the opportunity for learners to access various types of instruction at any time customized for their particular needs (Davies et al. 2013). This is further supported by several researchers such as Yunus et al. (2013) who states that it is a great possibility for teachers to be able to present subject matter in different ways depending on the individual student's learning style. The idea of customizing instruction is further supported by Davies et al. (2010), Mullamaa (2010) and Garrett (2009) in relation to his research on CALL (see section 3).

ICT in teaching affects both students and teachers. It offers great opportunities for communicative language learning using computers and online software. In addition to the teachers' classroom practice, it also has an effect on students' attitude towards language learning and motivation.

## 2.1 ICT and Motivation

Many researchers (eg. Yunus et al., 2013; Wang and Liao, 2011; Mullamaa, 2010) are of the opinion that ICT in teaching increases motivation in language learners, in this case EFL learners, and by doing that also raise the level of how receptive learners are to the subject matter. Efficiency and autonomy are two of the leading words when researching ICT and researchers claim that the latter concerns teachers as well as learners. Yunus et al. (2013) state that technology in teaching gives the teacher autonomy to develop their own curriculum and "tailor instructions to sustain a positive interaction to increase learners' interest and motivation". Wang and Liao (2011) further state that acquiring a new language has not only to do with the linguistic factors but other personal factors as well, such as motivation and personality of the learners. Mullamaa (2010) states that, by adapting and personalizing

education teachers enhance motivation and involvement, which makes learners more responsible for their own learning as well as ensure better quality in their learning.

A study presented by Young (2003) shows that ESL learners were intimidated by composing texts. However, when implementing ICT in teaching, more specifically the Internet, learners took a greater interest. In the sense that implementing ICT, Internet in this specific case, in teaching meant that the learners were implicitly motivated by the use of the Internet thereby increasing their performance rate.

Further discussed by Chen et al. (2014), motivation plays a major part in language acquisition when it comes to listening. Furthermore, the study showed that learners with low motivation used less effective listening strategies than motivated learners (Chen et.al, 2014). The study was based on data gathered from 82 students who, on average, had studied EFL for a total of 7 years.

## 2.2 Role of the Teacher

The role of teachers is changing in the sense that for teachers to become guides, or facilitators of knowledge, they must also constantly be up to date on the latest research. The idea of language teachers as researchers is not new. However, Fitzpatrick makes a valid point when stating that teachers nowadays are in need of a *reflective practice* and *action research* (Fitzpatrick, 2004, p.20). "Action research involves a self-reflective, systematic, and critical approach to enquiry by teachers in order to identify areas of difficulty, to embark on a period of study, possibly in collaboration with others, and to bring about informed changes in practice as a result" (Fitzpatrick, 2004, p.20). Being self-reflective and critical is important for the professional development of teachers as well as students. The ability to reflect and be creative is further discussed by Yunus et al. (2010) who claim that teachers have to be reflective in their practice as well as "encourage creativity" among the learners.

## 2.3 Communicative Language Teaching

Communicative language teaching in itself does not explicitly imply the use of technology. However, since it is mentioned in the context of ICT and that studies on communication in the classroom are related to ICT it is relevant. CLT is included, as an approach to teaching, in the whole concept of Information and Communications Technologies. Stated in the article, they support the importance of using technology in the language classroom because "it becomes easier for teachers to design listening passages, reading texts, pronunciation activities, and writing tasks" (Maryam et al., 2013). In other words, it implicitly refers to the customization

and adaptation of language teaching, which is mentioned earlier by researchers such as Davies et al. (2013), Yunus et al. (2013), Maryam et al. (2013), and Mullamaa (2010).

# 3  CALL

Computer Assisted Language Learning (CALL) "refers to a variety of technology uses for language learning including CD-ROMs containing interactive multimedia and other language exercises, electronic reference materials such as online dictionaries and grammar checkers, and electronic communication in the target language through email, blogs, and wikis" (Chapelle, 2010). However, studies on language teaching with relation to CALL did not pick up until the 80s, most notably by Warshauer and Bax (Dudeney & Hockly, 2012).

Findings on language teaching through ICT states that integrating computers in education enhances students' understanding of what is taught as well as the rate at which the students can reach the necessary information they need (Yunus et al., 2010).

CALL today consists of three categories according to Garrett (2009, p. 722): "tutorial, engagement with authentic materials, and communication". These three categories are reoccurring when talking about ICT. *Tutorial*, which is included in instruction, *authentic materials* which are one of the prerequisities mentioned by Fitzpatrick (2004), stating that learners have to use the language in meaningful ways, as well as being one of Maryam et al.'s (2013) fundamental standards when using ICT, and *communication* which is one of the most important objectives with language teaching.

## 3.1  Development of CALL in Teaching

Warschauer has been one of the most prominent researchers of this field. Cited by Dudeney and Hockly (2012) there are 3 stages of which technology, more specifically CALL, has developed in teaching. Stage 1 is what is referred to as the *behaviouristic CALL* (Dudeney & Hockly, 2012). Also brought up by Dettori and Lupi (2010), this is where answers are given direct feedback and focus is given on exercises without any thought on the context. An example of behaviouristic uses of CALL would be simple exercises such as learning vocabulary by having the English words on one side and the translation on the other. Stage 2 is the *communicative CALL* (Dudeney & Hockly, 2012). The focus was now more on communicating through ICT and computers. Due to more advanced technology, such as Web 2.0, the computer now became a more integrated part and focus was given to language production (Dudeney & Hockly, 2012). Communication is stated to be one of the important areas of today's teaching. Stage 3 is referred to as *integrative/integrated CALL* (Dudeney &

Hockly, 2012). The increased access to internet is mentioned as one of the key factors to being able to integrate CALL, and thereby ICT, into teaching.

Researchers claim (eg. Garrett, 2009; Mwalongo, 2011; Hismanoglu, 2012; Townsend and Bates, 2007; Yunus, 2013) that ICT and computer assisted language learning has to be integrated into teaching practice to become a successful pedagogical tool. Looking at the stages of which CALL has developed, it can be concluded that even though Stage 3 is the most integrative stage of CALL, it clearly shows that Stage 1 and 2 also are included as part of the full integration in the classroom, as stated by Yunus et al. (2013).

### 3.1.1 E-Learning

Soliman (2014) claims that the face-to-face teaching hours are too few and therefore not enough to develop students' language skills. He further concludes that E-learning is "an essential tool that should be used to supplement the EFL face-to-face class" (Soliman, 2014). This is also claimed by Fitzpatrick (2004) who state that ICT, in this case online implementations, is to serve as a complement in teaching as a means to facilitate students' learning. Based on a study on teachers in Sweden, the use of technology in education has increased over the last couple of years. Furthermore, Alexanderssom and Davidsson (2014) states that the teachers of their study primarily used technology as a complement to traditional teaching and textbooks (p. 53). Sangrà et al. (2010) point out that it is hard to comprehend that teachers have not yet "discovered or understood the possibilities that ICT offers to students as a means of complementing their traditional receiver role […]". He further states that ICT, in this case networking online, is creating great opportunities for communication. Yunus et al. (2013) investigated the benefits of using visual aids in teaching English literature. By visual aids they refer to pictures, videos and projectors. By using visual aids, which is indeed included in the concept of ICT, they state that it increases the understanding of abstract ideas that are found within literary texts (Yunus et al., 2013). Furthermore, they also point out that the use of ICT, visual aids in this case, will motivate learners to be engaged in literature, claiming it will help to bridge over the difficulties in reading literature. In other words, the "literary concepts" of texts are more easily understood when illustrated in pictures, graphics, illustrations, audio and video. They also state by teaching literature through film helps the learners that are not keen on reading or have reading disabilities. However, teachers have to consider the purpose of reading since it is not always about understanding the content. Reading and learning through written text has also to do with understanding, for example, different styles and grammar.

Mullamaa (2010) claims that e-learning has a direct link to students' inner motivation and individualisation. Young (2003) acknowledges Internet to be a "key factor" to raise motivation of students when teaching languages. Teachers now are more defined as advisors which are there to guide students' development and offer assistance. The traditional teaching of the 20th century is therefore in need of revision. Teachers cannot assume that using ICT with traditional "techniques, approaches and strategies" in a traditional learning environment will work in an environment where ICT is used (Yunus, 2010).

In the beginning of the use of ICT and the Internet, the primary objective was to provide language learners with immediate feedback on grammatical and lexical exercises, also referred to as the simple uses, constructed through simple applications (Dettori & Lupi, 2010). However, Fitzpatrick (2004, p.13) gives further note to the importance of not only using computers in the simple way of right or wrong feedback but instead as a "platform for communication and interaction within a virtual, tele-cooperative classroom". E-learning is therefore moving from being used in a more behaviouristic way where the correct answer is given right away to being used as a completely integrated part in teaching. However, Yunus et al. (2013) mention the simple use of ICT when it comes to vocabulary learning as one of the advantages confirming that integration of ICT in teaching can also incorporate the simple uses as a part.

## 3.2 Web 2.0

In the context of ICT used in education it is important to bring up the beginning of modern Internet use and the beginning of communicative and integrative computer based learning; Web 2.0. With Web 2.0 emerging in the yearly 21st century Internet users could not only find and read information but create and share information (Salomon et al., 2007, p. 13). This major shift in technology from Web 1.0, where everything was created and pre-set by experts, to the more "creative, consumer driven" Web 2.0 gave teachers the opportunity to be more creative with the use of technology in the classroom (Dudeney & Hockly, 2012). Stevenson et al. (2010) state that Web 2.0 tools provide students with a greater control of their learning, an active construction of knowledge as well as access to collaborative learning environments. Moreover, it gives the students learner autonomy as well as the possibility of personalized education and communication. Furthermore, students' control of their own learning, according to previously stated research, leads to greater confidence and motivation to language learning.

Stated by Wang and Vásquez (2012), the environment created by using Internet, Web 2.0, has helped research of language acquisition in the sense that it has "broadened the scope" from the four language skills to actually focusing on the identity of learners and different learner styles as well as collaboration online and learning communities.

# 4  Blended Learning

Blended learning "concentrates on perfectly realizing learning objectives by utilizing the suitable personal learning method to watch the best learning style to transfer the appropriate learning skills to the potential student at the correct time" (Wu & Liu, 2013). This concept is basically a blend between traditional teaching and e-teaching. Wu and Liu (2013) claim that it is the integration of traditional teaching and e-learning, taking the advantages from both into a single approach to teaching. However, Pape (2010) claims that teachers will need support, namely time and resources, to be able to use this way of teaching well. Kale (2012) states in his article that teachers are not getting enough time and support for professional development. Furthermore, he states that these are factors that influence the use of ICT in teaching since teachers need it to be able to properly utilize the tools available to be successful in ICT implementation.

Teachers are not alone when it comes to the need of support in using ICT. Learners are equally in need of support in using technology. Fitzpatrick (2004) mentions training and support for learners as one of the prerequisites for integration of technology in the classroom. Stockwell (2009) states that teachers need to make themselves aware of the limitations of learners' knowledge when it comes to information and communication technologies. Furthermore, Young (2003) states that teachers need to consider which tools and resources are most important for teachers in order to transfer relevant and useful knowledge about ICT to students. However, Maryam et al. (2013) claim that gaps are created by using ICT in teaching. These gaps occur when a few individuals of the target group, learners or teachers, are more or less resistant to adopting ICT into teaching/learning, thus highlighting the importance of proper support.

A study conducted on 267 Thai EFL students around the ages of 19-21 investigated the connection between intrinsic motivation and EFL learning. In the study the population was divided so that one group was taught through traditional teaching and the other with blended teaching. The results of the study showed that the group taught through blended teaching had higher intrinsic motivation as well as a better attitude towards English as a subject (Sucaromana, 2013).

Gleason (2013) further states that blended learning positively affects students' autonomy, attitudes and motivation when it comes to language learning, as well as giving a more flexible range of resources. The effect of ICT, in this case blended learning, on motivation and autonomy is widely supported by the research community (Wang and Liao, 2011; Mullamaa, 2010). Furthermore, Pape (2010) backs the use of blended learning by stating that if students are given the power to choose the tools, which could benefit their individual learning, then will be more engaged in their learning. Pedra et al. (2007) further encourages the use of blended learning when stating that it gives students time to access learning materials at their own pace, and when needed, as well as being able to reflect over the material to a greater extent.

## 4.1 Education outside the language classroom

Teaching in the 21<sup>st</sup> century means facing language on many different levels. Students nowadays are constantly exposed to computer networks (Yunus et al., 2010) and, more often than not, occupied by the many distractions that come with using cell phones, internet and social media, which teachers could use to their advantage. The access to Internet has also put more pressure on students where they are expected to be able to work everywhere, complete their homework and other school related tasks (Horizon Report, 2012, p.4), which is also mentioned as one of the key trends of education according to the Horizon Report (2012). Mentioned in a study conducted by Alexandersson and Davidsson (2014, p. 11) in Sweden, 94% of Swedish students in Upper Secondary school have their own computer arguing that access to computers, at least in Swedish schools, is not an issue. The study implicates that teachers, at least in Sweden, have the resources to use technology such as the Internet for teaching. In other words, teachers should be able to use the concept of blended learning.

Mullamaa (2010) points out that by web-basing the teaching students are given an opportunity to revisit their previous work online. Moreover, students can access learning material all the time and from remote locations. Mullamaa (2010) especially mention the advantage of web-basing group work and being able to save discussions and peer work online instead of it being just a memory. Lund (2004) also mentions in his article that the use of ICT as a means to "carry dimensions that are both traditional and future-oriented" and serve as a "cultural, collective memory as well as new opportunities for communication". Furthermore, Fitzpatrick (2004) gives further note to communication as a prerequisite for successful language teaching through ICT.

On a related note, Blachowicz et al. (cited by Yunus et al., 2013) discusses ICT in literary tasks. Findings of the study show that teachers were relieved in their teaching when using ICT in this area. Furthermore, based on the study presented by Young (2003), 94,2% of the students in the study agreed that they felt less pressured when interacting with the teacher through the Internet (Young, 2003). Based on the two studies it shows that both teachers and students are relieved by the use of ICT and Internet. However, even though 92,4% of the students in the same study were positive to anonymous communication, face to face communication is still to be regarded as vital in language teaching. The study presented by Young (2003) was conducted on 29 third-year high school students. Even though the scale of the study is not large enough for a general statement we can clearly see an indication of the students' perception of the use of ICT in the language classroom. Furthermore, it shows that use of the Internet, in this case, had a positive effect on pedagogy in terms of students' attitude towards learning.

### 4.1.1 Flipping the Classroom

Flipping the classroom is a concept which is highly related to blended learning and might be considered an example of how blended learning can be put in to practice. Emergence of computers, the Internet, mobile phones, and other technology has brought up the idea of *Flipping the Classroom* (Davies et al., 2013). The concept revolves around the autonomous learner and that the students themselves are more in charge, autonomous, of their own education. Moreover, instead of giving out homework after the lesson the students are now supposed to learn concepts and complete tasks using videos and other materials, provided by the teacher, before the lesson (Davies et al. 2013). Giving the teacher more time to focus on the various problem areas rather than explaining the content during the face-to-face classroom teaching.

## 5 Effective implementation and integration

> *ICT alone cannot provide a comprehensive basis for language learning. ICT must be integrated into present, proven, and successful practice if the full benefits of their advantages are to be reaped. Their adoption should represent a complement and addition to present models, contributing to an evolution towards the concept of a new culture of learning (Fitzpatrick, 2004, p. 18).*

Bearing in mind what Fitzpatrick states in his article, the importance of the suitable implementation is paramount for teachers when using ICT in the language classroom. Townsend and Bates (2007, p. 635) agree with many other researchers (e.g. Yunus et al.,

2014; Mwalongo, 2011), that if ICT is to be successful in teaching it has to be effectively used. It is stated by Fitzpatrick (2002) that an on-going and integrated ICT practice is one of the primary goals for teachers if ICT is to be applied into education. Furthermore, the learning environment has to be adapted to this type of teaching and "characterized by powerful, research-based, strategies that effectively use technologies" (Townsend & Bates, 2007, p.635).

One of the chief questions to consider for teachers, according to Young (2003) is whether there is valid reason for using technology in every aspect of teaching. The use of technologies are limited to when teachers deem it to be necessary, for example spelling support etc. Young (2003) further points out that language teachers need to consider what the aim is with the specific learning section before choosing what type of technology, if any, to use. Furthermore, the curriculum in England for key stages 1-4 explicitly points out that teachers need to assess which areas ICT should be integrated (National Curriculum in England, 2014, p. 104).

A problem that is brought to light by Mwalongo (2011) is that even if teachers are trying to implement ICT in their teaching it is only to prepare tasks, making notes or searching for teaching materials. Furthermore, Mwalongo (2011) states that "in order to transform students' learning", teachers need to do more than this simple use of ICT. Yunus et al. (2014) support this idea by stating that the whole teaching process, of the targeted subject matter, should be ICT oriented.  The use of ICT must therefore be planned carefully and integrated as a natural part of language teaching, also mentioned as a prerequisite to successful ICT integration, by Fitzpatrick (2004, p. 14). Hubackova and Ruzickova (2010) conducted a study on on-line learning and found that ICT provides excellent support for the teacher in the preparatory stages of the class giving face-to-face classes a more effective pedagogy. However, a question raised by Townsend and Bates (2007, p. 627) is whether effective integration of ICT in teaching is taking place at all. Implicating that, despite the provision and access to the Internet and technology, teachers are not using it to its full potential. Another concern related to this is brought up by Kale and Goh (2012) when stating that teachers of today might not yet be ready to use Internet, Web 2.0, in their teaching because they only see the use of ICT through the eyes of traditional teaching. Furthermore, they state that the tools provided by the Internet are developing too fast for teachers to properly choose which are suitable for the classroom (Kale & Goh, 2012).

However, in a study by Yunus and Suliman (2014), over half of the students (51,7%) involved strongly disagreed when asked if their English teacher used ICT when teaching, in

this case, literature. This figure raises the question of whether ICT is widely integrated in other aspects of English teaching.

Yunus and Suliman (2014) further support the importance of using ICT in an effective way for learning. Their article is angled towards the teaching of literature, an important aspect of the English curriculum. Yunus and Suliman (2014) bring up three characteristics which could contribute to ICT being used to ensure quality in teaching; autonomy, capability and creativity. The idea of autonomy, and individualization, is reoccurring in research in the use of ICT in education. It means that it puts more focus and responsibility on the learners to find information themselves and find what information they need. This is supported by Young (2003) who states that using computers for learning gives the learner a chance to be in control of their own learning thus enhancing engagement and confidence. Yunus et al. (2013) cited a study conducted by Blachowicz meaning that both students and teachers of the study were positive to the effects of independent work when it came to building confidence, focus and attention in class. Engagement and confidence are related to motivation, which is referred to in the context of ICT by several researchers such Davies et al. (2011), Yunus et al. (2014), Mullamaa (2010). Furthermore, stated by Jacobs and Farrell (2003), motivation has a central role in learner autonomy and since using ICT is widely stated to be focusing on learner autonomy, motivation should be a key factor in education. Sangrà et al. (2010) further conclude, based on a study in Spain, that the general opinion of using ICT in teaching has a favourable effect on students' attention, perception and responding mechanisms to learning and understanding. However, Jacobs and Farrell (2003) state that learner autonomy, thus individualisation, has nothing to do with students working alone. Instead, it has to do with the students' ability to engage in peer work with fellow students as well.

If ICT is to work, it is important that students and teachers possess the necessary capability to use the tools and possibilities available through ICT and creativity to find which instruments to use. Stockwell (2008) states a number of key factors to effective use of ICT in teaching. He claims that teachers need a "solid knowledge of base functions […], confidence to attempt to use new technologies and an awareness of available resources to assist with understanding technologies". However, Garrett (2009) claims that being familiar with the different tools of ICT is not enough. Students need to be given guidelines on how to use them "specifically for the purpose of acquiring greater language proficiency (Garrett, 2009). As an example she brings up the case of students searching for words in online dictionaries, where the problem is that they use the first word they find without consideration of the context in

which the chosen word is used. Furthermore, students generally forget the word they used shortly after (Garrett, 2009).

Further supporting the effective use of technology, Yunus and Suliman (2009) state that for ICT to work efficiently, also mentioned by Stockwell (2008), the teachers have to be proficient enough to utilize the required programs. The importance of effective use of technology is also discussed by Maryam et al. (2013) who state that for technology to be effectively used there are some fundamental standards that have to be considered by teachers; "Basic computer technology operations and concepts", "Personal and professional use of technology" and "Application of technology in instructions" (Maryam et al., 2013). These fundamental standards are also brought up in other words by Fitzpatrick (2004) as prerequisites for successful ICT practice.

Teaching nowadays revolves around the concept of efficiency and ICT could be of importance to teachers in their teaching in the sense that, if applied properly, it makes the managerial and administrative tasks easier and more effective (Yunus & Suliman, 2014). Further, on the issue regarding the administrative tasks teachers are faced with today, teachers who took part in a study in Sweden claim that ICT is vital as a tool to effectively being able to do their job (Alexandersson & Davidsson, 2014, p. 57). However, Mwalongo (2011) raises another concern regarding the administrative uses of ICT when questioning whether the various computer applications are used for the tasks they were designed to be used for. However, concerns around ICT have not only to do with software. It also has to do with the classroom set-up and how the teacher deals with technical issues, and software issues, when teaching.

## 5.1 Infrastructure

Simmons and Hawkings (2009, p. 117) warn about one aspect of the use of ICT which might present a problem when it comes to classroom management. They state that ICT also can be distracting for students and teachers causing the teacher to lose control over the classroom when dealing with technical glitches for example. Yunus et al. (2013) further point out that bad connection to the Internet was also a disadvantage when using ICT in teaching.

Hawkings and Simmons (2009, p.117) mention the classroom layout as a key factor when using ICT in the classroom. The "physical infrastructure", mentioned by Garrett (2009), is one of the components to making the relationship between pedagogy, theory, and technology to work in a language classroom. Furthermore, she identifies three levels; First, the physical set-up in the classroom where the computers are set up. Secondly, the

"institutional professional development support structure" for the use of technologies. Lastly, "the national support structure for technology", which refers to technology supporting education.

## 5.2 EFL Teacher Training

Teaching using ICT puts demands on teachers as well as students. To effectively implement information and communication technologies (ICT) into the classroom it means that not only students need to be proficient in the various programs and software but also teachers. Yunus et al. (2010) discuss, with regards to the demands of teachers nowadays, that the use of simple traditional classroom pedagogy cannot be used in the same way when ICT is integrated. Post-graduate education, university education of new teachers, is equally important as the education of the young students of today's upper secondary schools. Teacher education is facing immense tension at the moment with focus on teacher quality (Townsend & Bates, 2007, p.3). Furthermore, if ICT and computer assisted language learning is to be a tool for teachers, the education of new teachers is a major factor (Garrett, 2009). Yunus and Suliman (2014) state that teachers need to synchronize themselves with technology and take advantage of the possibilities provided as our world progresses. This aspect is further noted by Stockwell (2009) when stating that "keeping up with technological developments", and finding out the different areas of functionality of the technology available, are strategies teachers can use to successfully use technology in language teaching.

Application of technology in instruction, mentioned earlier by Maryam et al. (2013), is further discussed by Hismanoglu (2012) as a point of investigation of how future generations of EFL teachers will integrate ICT into their teaching. Furthermore, he states that pre-service teachers with a negative perception towards ICT cannot stimulate and transfer their ICT teaching experience to students (Hismanoglu, 2012).

Another concern pointed out by Garrett (2009) is that the teachers at universities are not proficient enough in using ICT, more specifically computer assisted language learning, to transfer skills to undergraduate teachers. Although, she states that ICT probably is integrated in most teacher training programmes to some extent (Garrett, 2009).

# 6 Discussion

Research, brought up by this review, shows that there is a clear connection between successful integration of ICT and the affective factors, such as motivation, engagement and general attitude towards the subject, which are stated to influence learners' language

acquisition. Successful integration, although not defined, is connected to the proficiency level, in using ICT, of both teachers and learners which in turn connects to the teachers' level of creativity as well as their aptitude as *researchers* when it comes to adopting new pedagogical tools and approaches in the language classroom.

A general consensus among the researchers, whose research is reviewed, is that successful integration of ICT has a positive effect on these affective factors and that it contributes to learners' autonomy as well as making learners take responsibility for their own learning. However, even though there is a clear message that ICT is beneficial for language teaching, there is no clear consensus on which aspects of ICT that enhances language acquisition. A question that comes to mind is whether it is the software and tools provided by ICT or simply the fact that it is a different approach to teaching in itself that has this effect on learners.

Information and communication technologies, especially e-learning, were greatly limited until the emergence of Web 2.0. It is a fair assumption that if it was not for this shift in Internet usage, teaching through online ICT to a larger extent would not have been possible.

There is a clear shift when it comes to the role of the teacher. Classroom teaching has gone from a more traditional teacher-centered approach to teachers attaining the role of guides, or facilitators, of knowledge putting more focus on the resources around the classroom, such as information and communication technologies. Furthermore, teachers are now more aware of the different ways learners are acquiring languages using different styles in their learning. Moreover, the affective factors are now taken into larger consideration since motivated students have a better attitude towards language learning.

The research reviewed shows that teachers and learners need to be proficient enough on the uses of computers and ICT. However, there is neither a clear statement to what extent nor a clear definition of how proficiency in ICT can be measured. Furthermore, Young (2003) poses an interesting question when stating that teachers should consider which technological resources and tools teachers should learn about. In addition, Kale & Goh (2012) open up a discussion when stating that the tools provided by ICT is developing too fast for teachers to keep up and properly assess which tools use. Moreover, it brings us back to the education of future teachers, raising the question if ICT should be more extensively integrated into teacher training.

There have been many studies conducted on the uses of technology in teaching. However, the studies are often limited by demographic factors where the study took place thus not giving a larger perspective. Regarding these limited studies, if the same studies were

to be conducted in different demographical settings the result would provide a more general, and perhaps even global, understanding of information and communication technologies in teaching.

In conclusion, I would state that there are several factors in this field that are in need of further research. First, which aspects of ICT that seem       to be appealing to learners, if it is the use of a different pedagogy in itself or the software. Secondly, how proficient teachers and students need to be to use ICT to its full potential and how the proficiency level is to be measured. Lastly, research over demographical borders is needed to provide a larger, global idea of ICT in teaching in order to help teachers assess which technology is to be used.

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