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Common problems of the integration of technology into the English language classroom in secondary school

A digitális technológia felhasználásának gyakori nehézségei a középiskolai angoltanításban

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Abstract

The age of modern technology has transformed the world of secondary education to a great extent. Every component of the teaching-learning paradigm is affected and consequently change regarding all of them is inevitable to follow. However, there are difficulties which already exist prior to educational technology integration. First of all, digital technology use has moved out of the language laboratories into regular classrooms giving way to (potentially) individual mobile learning. Secondly, the concept of functional fixedness is becoming less and less applicable. Thirdly, there is no established theoretical background worked out in the relevant literature. Last but not least, the digital divide separates the generation of teachers born before the technological revolution (around the 1970s and 1980s) and the generation of students and endows them with different expectations toward education. Problems can also stem from the future effects of technology application: the curriculum, the methodology, teacher training and the roles of teachers and students are all altered. The purpose of this thesis is to map – based on the relevant literature – how much each of these changes are considered obstacles in education by teachers. At the end, a few ideas are proposed which could possibly help in dealing with the above mentioned problems.

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1. Introduction

In the period leading up to the recent few decades – when teachers’ authority, power (and most importantly) competency could not be questioned at all – it was irrelevant whether students cared about what happened in the classroom. They did not dare to express their opinion; they were told to sit in class quietly and they did most of the time. Today, however, activities outside school (which also include informal learning opportunities) have become much more interactive. This is mirrored by the altered expectations of the youth towards education. Consequently, teaching needs to follow these trends while teachers’ competencies are subject to more scrutiny than ever. Indeed more teachers care about whether their pupils are active in class and they should too, because students of the digital age are not afraid to voice their discontentment. A distracted student can easily divert the attention of their peers and, as an obvious result, the whole class structure falls apart which naturally leads to little effective work. This is especially true in the English classroom where exclusive theory recital by teachers have never been enough and will certainly not do today, because students’ involvement and practice are crucial to successful class work.

Reading from textbooks or acting out prewritten conversations (which more often than not lack lifelikeness due to their static nature) are the usual tasks in many English classes even today. However, these kinds of activities are no longer sufficient. Students’ needs have changed and this brings up many problems. How can an English teacher follow the fast moving trends in education and can they at all without the proper theoretical background? How is it possible to offer tasks in the language classroom that are interesting, relevant and catch the children’s attention when the digital divide between the two ends of the classroom seems often unbridgeable? Can the two types of mindsets in general and education concepts in particular be synthesized or at least brought to a compromise? Are teachers simply going to be eliminated from the classroom at some point because they can not keep up with their

audience? They may know a few things about the Internet and be able to print out relevant articles and bring them to class, but this old approach to the new medium is not going to get them far. Some teachers lack any kind of access to modern technology while others may be fortunate enough to have a computer lab with Internet access at their disposal. There everything seems given for a most engaging and effective English class – however, could it suffice to have all the latest equipment but not the proper context specific knowledge? In fact, is a room full of the most up-to-date technological devices a prerequisite for the proper integration of technology into the language classroom?

1.1. Research design

The present research concentrates mainly on electronic sources, since the topic is so closely tied to technology that such an approach is especially justified. Many acclaimed experts of the field use the Internet to share their views and ideas, so much of the relevant literature is available in this way. It is a further advantage of electronic sources that they provide a channel for the freshest and newest relevant theories; thus, more up-to-date data can be collected this way. However, there are a number of printed materials that offer great insight into the issue, so the research draws from these as well. Even less current printed works contain several observations and predictions that are valid today.

There are various participants of the educational scene whose perspective could shed light on many different types of difficulties within technology integration. However, the current thesis concentrates only on the point of view of one group of participants: the teachers. The primary reason behind this choice is that – in the majority of cases – it is the teachers who are the decision makers in terms of the media of information broadcast. Furthermore, their personal attitudes and competencies determine and shape immensely the kinds of educational opportunities students are provided with in the classroom. Consequently,

teachers are key figures in the implementation of future change in second language education, so it is essential that they are convinced of the potential of educationally advantageous tools such as the various technological devices and the Internet.

1.2. Hypothesis

A considerable amount of obstacles could be expected since including technology in the class curriculum is in its relatively early stages in public education – even in more progressive countries. Financial problems are almost constantly present in public education and, thus, this can be considered a stable factor when it comes to integration related difficulties. As a consequence, technological devices are often outdated or too few. This might account for some delay in the adoption of an approach towards teaching and learning that relies more heavily on technological tools.

However, it would be a mistake to underestimate the creativity and inventiveness of educators by proposing that just because they lack some of the tools or knowledge related to a new technology, they reject it altogether. Solving some of the problems certainly has to do with time and money, which are factors mostly out of the direct influence of public school teachers. Apart from these, difficulties that are of a completely different nature need to be pointed out. These are often a matter of the educators' personal attitude, the different needs of teachers and students and their changing roles in relation to each other in the classroom.

2. The possible problems preceding technology integration

The examination of some of the common problems that teachers have to face when using technology in the English language classroom is important because the various forms of technology offer great opportunities to enhance the quality of teaching and learning (Tapscott, 1998, p. 26). Thus, the identification of the difficulties in this field is the starting point of finding a solution to insufficient or ineffective technology use in education. It has become very clear by now that the various technological devices and the Internet are natural parts of everyday life, so it is essential that teachers, schools, students and even parents educate themselves about the implications this might have for them in the school setting. It is undeniable that on-line activities take up more and more of our time. Therefore, it seems logical to try and learn effective ways to make use of such technology in education and make the learning process more engaging for a student generation who are no longer satisfied by methods that were designed for a much slower paced era.

Lee (2000) proposed a four element division of technology related problems in education: “(a) financial barriers, (b) availability of computer hardware and software, (c) technical and theoretical knowledge, and (d) acceptance of the technology.” While the former two are less directly connected to the educators’ circle of influence, the latter two are very much within this circle. It might be beneficial to touch very lightly upon the aspects of finances and the accessibility of tools where absolutely necessary, but more attention is going to be given to knowledge and acceptance because these are the parts teachers can actively and effectively work on.

2.1. The traditional and new scenes of technology based learning

Computer laboratories have been in use for half a century and they had been the novelty of their age, but where finances have not been a greatly restrictive factor they exist in

more or less elaborated designs today. Their establishment and upgrading is crucial to keeping the language learners' attention alive and focused, because most contemporary young learners are used to interactive entertainment and, consequently, require interactive education. However, computer labs need to be reevaluated due to changing trends.

In the 1950s language laboratories (today also known as multimedia labs or interactive media centres) started to become known, but their use at the time was very limited with the possibility of listening to audio tapes making up most of the activities. About twenty years later video tapes and other types of visual material started to become prevalent in language labs. From the 1980s events followed one another at an accelerated rate. With the emergence of CD-ROMs, data and computer applications became highly mobilized and accessible to a wide audience (Alexander, 2007). The possibilities of mobile digital data storage improved considerably making it very easy to bring bigger pieces of material to class. At first, optical discs (e.g. floppy discs and writable CD discs) were the standard tools to move digital information from one computer to the other, but today such fast and relatively secure devices are available as memory cards, USB flash drives or slim and small flash memory hard disk drives.

These above mentioned portable devices revolutionized the application of technology in the educational scene among others, but such everyday appliances also shape the teaching-learning environment that have not been thought of as educational tools until recently. The use of technology in class is no longer exclusively tied to the elaborate scene of the language lab. The various mobile devices (having data storage capacity is already a very minor feature among the hundreds of possibilities in these) undoubtedly have largely unexploited educational potential. With the appearance and spread of portable appliances there emerged the concept of mobile learning. Mobile learning is “[a]ny sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner

takes advantage of the learning opportunities offered by mobile technologies” (Hockly, 2010). A possible initial concern that this new educational form might pose is the difficulty to monitor what students are doing while practicing mobile learning in class. Acknowledging in the first place, however, that it indeed offers versatile opportunities is important so that an optimal integration of this method can begin at all. Nevertheless, even if widely accepted, it is hard to imagine that much of public English language education could be built on mobile learning due to the financial implications. Handheld digital devices (e.g. smartphones, tablet PCs, or e-readers, but also digital and video cameras or laptops are a few listed by Hockly (2010)) tend yet to be in a higher price range than traditional digital devices. However, as suggested by Lee (2000), it is only the initial cost of technological development that is alarming, and expenses are recovered in the long run. In any case, mobile learning can serve as an engaging complementary method for other forms of technology based or technology free education. Similarly to any other educational method, teachers need to have a clear idea of why they choose mobile learning and what benefits and possible drawbacks it could have on the learning environment. Based on all these considerations educators can decide for or against mobile learning for a particular class, course, age group, topic, etc.

2.2. The decline of functional fixedness and its implications

The core of the problems that stem from the use of technology in school can be explained on a most basic level by a distinction brought up by Koehler and Mishra (2009). They drew a distinction between traditional and digital forms of technology. The characteristics of traditional technologies, in their view, include specificity, stability and transparency. Digital technologies, on the other hand, are protean, unstable and opaque. It is inherent, then, that teachers will gain knowledge more easily about traditional methods and, consequently, they will utilize them more often. The use of digital tools is much harder to

master. It will inevitably cause more hardships (both on the part of the teacher and the students) and will potentially lead to the rejection of the method altogether. Deduced from the properties of digital technologies, it is easy to see how it is impossible to gain absolute knowledge about them. Instead of pressuring teachers to get familiar with all possible new forms of technology – or let them frustrate themselves too extensively about it –, it seems sensible to propose and encourage the development of a new, more flexible mindset. The realization that it is first and foremost adaptability that is required of teachers is crucial, because it is transformation that has become a constant factor in the modern society.

It is not only the technological devices themselves that change. That might be considered the easier alternative by some, because then teachers could drop the old tools and start fresh with the new ones. However, it is rather the innumerable extra functions of the same device that are debuted every year. It is advantageous in so much that there is already some kind of knowledge to build on, but for many rewriting and updating techniques that one is used to can be a challenge. As Koehler and Mishra (2009) found, teachers of English have to discard the traditional view of functional fixedness. They have to embrace the new ways of use, but only those ways which are pedagogically relevant and enhance the quality of their work so that they do not become overwhelmed.

It is important to note here the disadvantages of promoting the assumption that full knowledge about the various technologies should be an aim for teachers. Keeping up with the rapidly growing body of information about the latest tools and machines would be a full time job on its own; therefore, it would be futile to pose such a burden on already busy educators. Such a requirement would only create anxiety. Teachers would most probably feel lost without proper assistance in the jungle of new methods and technologies. What is worse, they would probably feel forced to incorporate some form of technology into all classes with the risk of overusing it. Students would also lose the comforting sense of security, since it would

seem that their teacher is not fully aware of what to do. Even though the students are born into all the new technology that most teachers must learn to use on their own, they are no doubt less knowledgeable about its specifically educational aspects and, most importantly, the content itself that they are being taught. It is crucial to remember that technology use is only a teaching medium of this content; teachers, therefore, should not let the message be lost or too heavily suppressed by the means.

2.3. Literature related problems of technology integration

Thousands – if not tens of thousands – of academic journals are at the disposal of English teachers on the Internet twenty four hours a day. Knowledge has never been as easily accessible before as it is today. However, educators have a difficult job learning systematically about the new advances of technology. Mishra and Koehler (2006) argued that the reason for this is that it is mainly case studies that have been done so far. According to them, these „are just the first steps toward the development of unified theoretical and conceptual frameworks that would allow us to develop and identify themes and constructs that would apply across diverse cases and examples of practice” (p. 1018). While technology and Internet-supported learning in particular are essentially learning-by-doing type of educational tools, it is undeniable that without a comprehensive theoretical background the educational application of such techniques is problematic. Those could feel especially challenged who are generally uneasy about an in medias res or a trial-error approach towards learning. These fears and anxieties should by no means be underestimated, because they weigh heavy when the decision is made by a teacher about what methods to invest time and energy in. Sufficient amount of research that examines the various components of the issue in each other’s context would most definitely help dissolve some of these problems. A possible theoretical frame worked out by Mishra and Koehler is suggested below in the section dealing with solutions.

2.4. Digital literacy and the digital divide

“A common scenario today is a classroom filled with digitally literate students being led by linear-thinking, technologically stymied instructors” (Jones-Kavalier & Flannigan, 2006). This is due predominantly to the so-called digital divide between the (technologically) more adaptable younger generation and the older generation whose ability to adjust has solidified to such an extent that they are no longer ready and willing to take chances with new techniques. This is, of course, a description lacking nuances, but we can think about such an illustration as presenting the two extremes of a scale (i.e. technologically challenged versus technologically savvy). Many people belonging to either group do not fit either of the ends, but, for the sake of demonstration, it is a good place to start. However, research data by Jones-Kavalier and Flannigan (2006) seem to support the fact that teachers tend to be situated at the less technologically literate tip of the scale while students seem to be not only much more interested but also more knowledgeable about the technology-based novelties of their age.

The definition of digital literacy – just like the technology it is so fundamentally connected to – is rather dynamic, since it is often debated which skills it encompasses. A working definition, however, might be the following: “a person’s ability to perform tasks effectively in a digital environment ... Literacy includes the ability to read and interpret media, to reproduce data and images through digital manipulation, and to evaluate and apply new knowledge gained from digital environments” (Jones-Kavalier & Flannigan, 2006).

Prensky (2001a) described the twentieth century emergence of the various forms of modern technology as “an event which chang[ed] things so fundamentally that there is absolutely no going back” (p. 1). He even went as far as to suggest that the brain of the N-generation (net generation, also know as D- (digital), Y- (YouTube) or E- (electronic) generation) might have gone through structural changes which could account for the provable shifts in thinking patterns. He argued that this is due to the fact the neuroplasticity is not only

a property of the brain of children under the age of three (as it was proposed before), but changing brain structure is a reality even in adulthood. Therefore, using technology can “rewire” our brain (Prensky, 2001b).

Jones-Kavalier and Flannigan (2006), as well as Prensky (2001a), established a detailed analogy between the adaptation to technology and the learning of a language. In this correlation, the members of the N-generation grow up learning technology as their mother tongue while to the previous generation the same language is only a foreign one. There is no doubt that even members of the latter group can learn how to use the language of technology fairly well. However, non-nativeness is always going to remain as a determining factor: namely, in the different way of responding to the same problem. It is very similar to how our knowledge of languages learnt later in life is always going to lack a certain quality of confidence and perfectness which distinguishes us from native speakers. The ways in which the two generations see learning differently due to their different exposure to technology is detailed in the table below.

Immigrant generation methods (how teachers see learning)	Native generation methods (how students see learning)
Learning is not fun, it requires seriousness	Learning should be fun and engaging, learning through games
One task at a time, step-by-step approach	Multi-tasking
Slow-paced environment with few stimuli	Fast-paced learning environment with numerous and frequent stimuli
Sequential information acquisition	Random access to information
Few rewards, usually after the completion of the task	Instant and frequent rewards
Individual, but uniform learning	Collaborative, yet personalized learning
Motivation coming mainly from the outside world	Inner motivation
Slow access, mainly printed materials (text)	Fast access, use of various media (image, audio, video)

Table based on Lukács (2005), Prensky (2001a), Tapscott (1998)

2.5. The changing concept and purpose of education

What it means to be educated and why it is important cannot be answered the same way as before technology put everything into a different perspective. The goal of pre-technology education was essentially this: a teacher broadcast theoretical knowledge to a group of students who, then, profited in a way that they were prepared for tests and exams. Consequently, a good and educated student was one that was able to pass these exams and live up to the educators' expectations. The ultimate tests of education were the school leaving exams and later the graduation from college and university. However, once out in the work force, the knowledge accumulated over the high school years meant little and what was learnt during the higher education years meant enough.

The way today's youth sees this approach is being boring, meaningless and irrelevant. "To them, education is getting prepared for the future – their future" (Prensky, 2007, p. 1). They want to know why they are required to learn a particular piece of information and how they are going to be able to use it in real life. They want to learn how to learn, because they know that it is not fact retention but rather contextualization that is profitable. This is also an often heard slogan from many teachers who are willing to admit that parts of the high school curriculum are lacking real relevance. However, while both sides seem to grasp the problem, meaningful negotiation is difficult. Preparing for the future with teachers still using past methods and being motivated by past goals is hard and creates student resentment towards school. Yet, it is more important than ever to make students accept, like, but most preferably enjoy learning, because adulthood no longer means growing out of the role of the student. The fast adaptability that the modern world demands is only feasible through lifelong learning which entails the constant awareness of new trends and methods. The instillation of the need for continuous self-development can only be successful if the individual is able to experience

learning as a highly personalized process. The student needs to see education as a tool that is truly able to help fulfill real life ambitions, not just a permanent phase with indirect purposes.

3. The implications of technology based learning on the teaching-learning paradigm

The introduction of technology into the educational setting can greatly alter (and already has in many instances) the teaching-learning paradigm. All the elements that make up the educational scene are affected and, thus, are subject to potential re-evaluation. The areas of major alteration proposed by Phillips (1985) are curriculum, methodology, and teacher training.

3.1. Curriculum and methodology

The curriculum needs to change because of the changing understanding of the purpose of education and proper content in particular. Prensky (2008) pressed the “need to delete things from the curriculum in order to make room for topics about the future” (p. 1). His argument was that past curricula have been compiled to satisfy the requirements of a different reality. The challenges today’s youth will have to face once out of secondary education are nothing like that of those born before the technological revolution. They need content that is going to endow them with practical knowledge that they can profit from in the real world. They see no need to follow a teaching material letter to letter and cover every single topic just because it is what comes next in the course book. This approach is often applied even though some topics have become irrelevant from a contemporary point of view. Such a one-size-fits-all method is no longer suited to provide applicable knowledge and skills: “[r]ather than being empowered to choose what they want ... and to see what interests them ... and to create their own personalized identity ...—as they are [used to] in the rest of their lives—in school, they must eat what they are served” (Prensky, 2005a, p. 62). On the contrary, rich and interactive

content is called for which enables students to be in an organic dialog with the material they are working with. Students strive to be agents in their own learning pulling various pieces of information from innumerable sources at the same time as they progress in their activities. This individual content search not only makes the curriculum much more relevant and personalized to a particular group of learners; it also develops critical thinking and investigative abilities which are invaluable modern age skills (Hockly, 2010; Tapscott, 1998).

In addition, methodology needs to follow the shifts in content supporting interactivity, autonomy and creativity. Even if teachers might feel uncomfortable using methods which are less conventional to them because they have been taught that theory always precedes practice, they should encourage their students to experiment. Active learners crave learning by instantly putting everything into practice and progression on a trial-error basis, so teaching methods should be carefully picked not to put students in a passive position for too long.

Prensky (2005b) established four stages in the process of updating content and methodology: dabbling, doing old things in old ways, doing old things in new ways, and doing new things in new ways. The dabbling stage is probably behind us as technology is gaining wider and wider ground in education; however, it is still very likely that there are such schools where technology integration is in its very early stages. That is, even earlier stages than bringing printed Internet material to class or sending around class information and school work online which Prensky classified as second stage activities. These activities were technically possible before the technological revolution (thus referred to as old ways), it only took longer to complete them. The teachers would either have to copy by hand or, even if photocopying was available, not all students appeared in class so they could not get the material right away. Old things done in new ways include making use of multimedia demonstrations, research and experimenting, but these still do not revolutionize education because they only partially make use of what technology has to offer. What exploiting the full

educational potential of technology means is applying on it the same interactivity and innovative spirit that it provides us with. This is what new things in new ways really is: “not just adopt technology into our schools [but] adapt it, push it, pull it, iterate with it, experiment with it, test it, and redo it” (Prensky, 2005b) until it fits the educational purposes of the twenty first century.

3.2. Teacher training

One area that could be especially transformed by the new trend is teacher training and research into how teachers should be prepared to meet the new needs of a changed working environment. Dooly and Masats (2011) argued that a significant challenge in this area is “to get ... teachers to adopt teaching approaches that they themselves have perhaps not experienced as learners” (p. 44). To achieve this end teacher training needs to reflect on the new conditions in the classroom and let teachers learn and, most importantly, practice the new competencies required by twenty first century education. Mishra & Koehler (2006) found, however, that most courses that get users (teachers) acquainted with technology disregard the particular circumstances of the individual participants. The knowledge that such general courses provide is not very effective in a school environment: “[t]his content-neutral emphasis on generic software tools assumes that knowing a technology automatically leads to good teaching with technology” (p. 1031). It seems, then, that teacher training courses that deal with technology should not only teach how to use specific devices or software. They should be designed bearing in mind that the teaching methods and the content covered are bound together and restricted by the fact that the course participants have a specific purpose (application of IT in teaching) with the knowledge they acquire during the course. It is the ability to apply knowledge that should be the main result of the course completion and not an isolated set of skills targeted at an isolated set of exercises with hardware and software.

3.3. The autonomous learner

Refusing to utilize technology in the English language classroom does not simply depend on the lack of equipment, insufficient technical knowledge or too little time. A fear from a changed status quo and the need to deviate from well known practices can also be unsettling for some teachers (Timuç in, 2006; Dooly and Masats, 2011). Technology and web-based learning most certainly will change the dynamics of the pupil-teacher relationship and give way to a kind of two-way education (Tapscott, 1998). However, thus far there is little in the literature on the potential impact technology is going to make on relationships in the classroom as schools develop e-capability and use IT to support the learning process more widely.

With the emergence of the Web 2.0, the so-called read and write Web, trends are headed towards autonomous learning being the everyday accepted form of knowledge accumulation. Alexander (2007) defined autonomous learning as a process “in which the learners themselves determine the objectives, progress and evaluation of learning” (p. 3). Setting goals for oneself and finding the means to achieve them individually functions much better in a personalized learning environment where learners are exposed to material that is in close connection with their particular needs and interests. The Internet provides just that: in the course of wandering around the millions of pages that are connected via hyperlinks, the learner can proceed step by step through many closely related documents from one piece of information to the next. One can imagine the path that a consistent learner follows like a three dimensional model. First, the user explores the closer environment of a particular topic by visiting the links pointing to various directions directly from a source document (i.e. a webpage where the search starts) and then venture further away through links on the consecutive webpages. This process helps contextualize and gain a better understanding of the

small pieces of knowledge the learner finds at each step of the process and eventually leads to a structured system of information in which to think about these pieces.

Apart from the implication discussed above, the Internet together with many forms of modern technology also create a so-called real time interactive learning opportunity. In Lukács's words "the passive reader becomes a teacher and the generator of new content through spontaneous discussions and knowledge gets re-organized in a most affective manner" (Kulcsár, 2005, *my translation*). This option – namely that students gain a status almost equal to the educator's in the decision making about their own learning experience –, however, might sound frightening to many teachers because it seemingly entails the possibility that their knowledge and competencies become obsolete and their job unwanted. Even though such fears are not to be undervalued, this understanding of the new educational paradigm is false and comes from insufficient information or inadequate interpretation. The new roles the teacher plays under the changed circumstances are discussed below.

3.4. The new role of the teacher

Up to the recent decades in the history of education teachers have had a central role in the creation and the control of the teaching-learning environment. Due to their expertise they were considered to be the obvious choice for the compilation of the class curriculum and they set the goals students had to aspire to as well. Learning was rather teacher centered and it was mainly characterized by what Tapscott (1998) calls broadcast learning which more often than not resulted in active class participation on the teacher's part and, conversely, passive student attitude. With the emergence of mainstream technology use, however, the informal (i.e. outside school) learning experience of students has become highly interactive and personalized focusing on the individual learner's interests. There is no doubt which method is more engaging; one only has to take a look at the number of hours average students spend

studying for school and the time and enthusiasm they devote to the Internet research on whatever specifically interests them. The need for individual knowledge construction surfaces in the classroom as well and the advantages of this method have to be acknowledged through the respective alteration of the teacher's role in the teaching-learning process.

As proposed by both Tapscott (1998) and Fox (1985), it is highly unlikely that the job of teachers is going to be eliminated altogether. What is going to happen (or more precisely, should happen) instead is that educators shed the role of "fact repeaters" (Tapscott, 1998, p. 155) and "transmitters" (p. 143). Their new role (in which teachers embrace and facilitate contemporary technological innovations) is often referred to as "facilitator" (Tapscott, 1998, p. 143), "planner", or "mentor" (p. 137). It entails the teacher guiding rather than instructing students through their discoveries in an individual learning experience which creates new dynamics within the teacher-student hierarchy as well. On the one hand, education becomes a two-way process in which teachers not only plan and lead the discoveries students make, but they are also open to be taught when it is necessary (e.g. in questions of technology). Thus, they become participants in a team effort whose goal is not to satisfy some arbitrary standard set by the teacher, but to gain relevant knowledge based on individual curiosity. In other words, the emphasis shifts from teaching to learning (Tapscott, 1998). On the other hand, students start relying not only on the teacher and themselves for information but also on each other. One student knows nothing about a topic on which the other is a relative expert and vice versa, not to mention that students often have the freedom (with regards to time) to dig into particular subtopics much more deeply gaining more up-to-date information than teachers. Consequently, it might be beneficial to let students help design the class curriculum in partnership with the teacher in order to achieve more intensive student involvement and better information retention.

4. Overcoming the difficulties of technology integration

4.1. Humanistic CALL

Fox (1985) argued that it is possible to put CALL, Internet- or technology based teaching into a positive perspective where “the needs of both teachers and learners are taken into account” (p. 91). The resulting approach is referred to as humanistic CALL which is made up, on the one hand, of considerations for the fears and insecurities of educators and, on the other hand, of a constructive attitude towards aversions students might have. Fox advocated that it is important to clarify the shifting role of teachers from authoritative figures in the classroom scene to guides who plan the learning process and find possible ways for CALL to complement this role by making it easier, faster or less stressful. This way, CALL hopefully ceases to be a threat and becomes able to fulfill its potential as a versatile educational tool.

Both Fox (1985) and Phillips (1985) cautioned, however, that CALL does not provide a solution for bad teaching methods or performance. As mentioned above, it can be of help in a complementary quality, but – being methodologically neutral – it cannot make up for the faults and failures of the educator. In any case, it would be a risky choice to reject the new technology which is at the disposal of every educator in varying degrees. Phillips argued that a main reason for regularly updating ones knowledge about new educational trends is that this way their absorption and digestion might be possible in smaller portions and, thus, be less problematic. Only in the light of up-to-date information are teachers “able to make intelligent use of new educational technologies and be capable of taking informed decisions about their desirability” (p. 100). However, Fox pointed out the disadvantageous effect of pressure from the school administration to use technology by all means. It must be the teachers’ individual choice what degree of integration they see fit and which tools they find to strengthen their individual teaching style (Timuç in, 2006).

4.2. TPACK – technology, pedagogy, and content knowledge

Mishra & Koehler’s model called TPACK (technology, pedagogy, and content knowledge) is an ideal illustration of the theoretical background that technology integration could be based on. The authors referred back to the previous stage of their model established by Shulman. While Shulman’s model – called PCK or pedagogical content knowledge) understandably lacks the examination of the technological aspect of education due to that particular field’s small relevance at the time, it already points out the desirable interconnectedness of the various elements of the teaching situation. According to Mishra and Koehler (2006), “[a]t the heart of PCK is the manner in which subject matter is transformed for teaching” (p. 1021). PCK is recognized as an interdisciplinary section within teaching. It challenges the traditional approach which conceived of the teacher’s job as something stable and isolated. However, it has proven to be a highly dynamic task at the intersection of the various components that interplay at any given moment of teaching.

Mishra and Koehler expanded the Shulman model by adding a third element, technology. Being one of the most dynamic and multifunctional aspects of twenty-first-century education, technology needed for long to become equally valued with the importance of pedagogy and content, and thus emerged TPACK. TPACK is a set of relationships between three main elements (technology, pedagogy, content): pedagogical content knowledge, technological pedagogical knowledge, technological content knowledge and technological pedagogical content knowledge. Since the problem at hand has not yet been explored in detail by researchers it is easy to imagine that a teacher who potentially lacks the knowledge of the interconnectedness of the modern teaching experience could feel lost. The knowledge of these relations could also prevent technology overuse which is often brought up as a counterargument when technology is considered in an educational context. As Mishra and Koehler (2006) said, the three components exist with each other in “a state of dynamic

equilibrium” (p. 1029). This means that whenever educators make a decision about using technology in the class, they have to consider the aspect of content and pedagogy at the same time. They would have to consider, for example, if the technology based method is more suitable to the content of the particular class, or if technology is the suitable solution in a particular situation from a pedagogical point of view. If the answer to any or both of the above questions is no then the teacher would have to reassess the decision and maybe discard the idea of technology based learning in that given case. How one looks at these questions is entirely arbitrary and teacher dependent but ideally the three-component system, when in equilibrium, keeps a balance in what is taught and how (both from a pedagogical and a technological point of view).

4.3. The acceptance of the nature of inventions

The examination of the problems digital technology might cause in the process of teaching is not a unique enterprise. The various educational novelties have always caused confusion and unease in a yet unknowledgeable teaching force. However, it is logical that people are only afraid of a type of technology so long as they are not familiarized with it. Many inventions of the past times were considered frightening and/or useless when they first gained popular attention, but looking at them now, it is hard to imagine how this could have been so. Tapscott (1998) pointed out this attitude by drawing attention to initial reactions towards television, which, by today, has not only become a tool in everyday life, but also in education. Digital technology and the Internet are just the same. A considerable percentage of English teachers teaching in secondary schools all over the world were not born into and grew up using the technology that is a triviality for today’s youth. However much we would want them to be fully equipped with the latest methods and tools and take advantage of all the modernest trends we cannot eliminate the personal factors that often play a role in technology

related reluctance. Openness toward new ideas and mechanisms takes time to develop. However, the change and adjustment is unable to happen on its own. Without systematic help for those who are yet unwilling or feel themselves unable to cope, there is little possibility of progress (Timuç in, 2006).

5. Conclusion

It seems that for teachers trying to completely catch up with their students in terms of the newest trends in technology – concerning hardware, software and their use – promises little success. Schools often lack the budget to equip the different study groups with the latest tools and so do teachers, should they wish to take the initiative. Even if finances and the time for educators to constantly update their knowledge meant no obstacle, by the time they mastered the application of a particular tool or method, it would already have been upgraded to a newer and more complex level. What can be concluded, then, is that it is not technological expert teachers that are needed. It is rather enthusiastic beginners who are able to sensibly integrate as much of the novelties as they see fit but enough so that their classes do not become boring and unchallenging.

By improving their adaptability teachers can start to bridge the gap between themselves and their students and also improve their own chances at professional success. Educators cannot afford to disregard the fact that their students will always want something new, something engaging, something to spark up their creativity since this is the environment they meet and get used to outside the classroom. Maintaining a stimulating academic atmosphere should be the ultimate goal of all educators, even if it means that they have to step out of their comfort zones and jump into the relatively unknown. In other words, teachers have to challenge themselves in order to be able to challenge their own students.

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