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Unchain Your Traditions in Teaching with the Power of Technology

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1. Introduction

World is changing and technology has entered into our lives with dizzying speed. There is now an increasing tendency towards integrating technology into the classical teaching techniques. We have to catch up with this recent change and trend and use technology in our classes.

In the past, when somebody referred to the term 'technology' in a classroom, we understood audio and visuals attained through a 'Radio' or a 'TV set'. These have enabled us to get access to a huge amount of knowledge and information which was being concealed behind writing, in books. Then came the 'Videos' and 'Digital Videodiscs (DVDs)'. These two media tools, along with the TV, have brought films and movies and documentaries into our homes. Thus, they brought the possibility of getting education outside ordinary classrooms, in our comfortable homes through TV sets, which was in fact the beginning of distance learning.

Further technological innovations, like the Internet, provide a more flexible learning environment for the learners. There, the learners can be given the autonomy to control their own learning cycle. For example, an individual can learn a subject or improve his/her use of a language him/herself via different multi-medias. S/he can even be involved in setting up a syllabus s/he will follow instead of following a set syllabus in a traditional classroom with the guidance of a teacher using traditional or contemporary techniques while teaching.

Psychological impact of technology appears right at this point, for there are always some groups of students who cannot work in groups and/or be successful in front of an authority figure. Individuals do have unique personalities and mental abilities which direct their own learning. There is a need for flexibility. Technology presents a variety of different choices to fulfil this need. What is more, we can never deny the fact that student success is directly related with student involvement; and today, this can be attained with the use of technology in our classes. Having it work as an integral part of how classroom functions – as accessible as all the other classroom tools – we can promote more student involvement and have more learner-centred classes. This greatly enhances learners to gain their self-esteem as it allows them to have more responsibility and control over their own learning.

In this context, this chapter will discuss the power of technology in enhancing student learning by looking at its impacts at different angles. Within this framework, not only the success of using technology in education will be illustrated and explored, but also the possible deficiencies which would be observed during its use and application will be considered and analyzed.

2. Learning Theories, Approaches and the Changing Role of the Teacher

Before discussing technology as a tool in learning, we must have a clear understanding of what learning is. There can be a lot of definitions that we can put here, but the best one would be: "Learning is the development of new knowledge, skills, or attitudes as an individual interacts with information and the environment" (Smaldino et al., 2005). This interaction and the consequent outcome as well as the process of development referred had been in fact the focus of many experts both in the field of psychology and education.

2.1 The Learning Theory of Behaviourism

Pavlov and Skinner were the two key figures for this type of learning theory. They both worked around the stimulus-response relationship in learning.

Pavlov worked with dogs and found that when "a bell was sounded a few seconds before a hungry dog was presented with food, after several trials the dog would salivate simply at the sound of the bell" (Dembo, 1981). So the dog associated some meaning to the bell, and this meaning was that very soon, food was going to be presented. From that moment, the bell was not a meaningless object for the dog. It meant food. The dog was conditioned that when it saw the bell, food would follow. Thus, the bell turned into a "conditioned stimulus" and the saliva it produced was the "conditioned response" (Dembo, 1981).

Skinner, on the other hand, elaborated this stimulus-response relationship and brought up the idea that there are two types of responses: "Respondents" which are observed after a stimulus is presented and "Operants" which an individual gives with "no known stimulus". He also emphasized the importance of "reward" or "reinforcement" in a learning environment since this increases the probability or frequency of a (desired) response. He referred this as "operant conditioning" (Dembo, 1981).

This theory is then mainly about the interaction of the learner with knowledge (stimulus) and the consequent outcome of embedding this knowledge into their beings which we call learning (response). The only way to check learning is by observing the learners' behaviours. The praise of a teacher after a correct response or high marks or grades are then the reinforcements. Once this behaviour of embedding knowledge becomes automatic, that is it is still present when there is no explicit exposure to knowledge, then operant conditioning is in practise. With this statement, I am referring to Widdowson and Ellis who both believe that learning a language is in one sense habit formation. "Habits are formed when learners respond to stimuli in the environment and subsequently have their responses reinforced so that they are remembered" (Ellis, 2003). This seems to enhance acquisition and provide effective communication since having an "immediate and automatic access to

linguistic forms" can only be achieved when these forms are "internalized as habitual mental patterns independent of thought" (Widdowson, 1991).

No matter how firmly this theory embraces our vision of learning, there is a black hole which lies within it. It does not consider the processing of knowledge within the minds of a learner. It just considers what is offered to the learner (stimulus) and what the learner offers as output (response).

2.2 The Learning Theory of Cognitivism

This is the theory which deals with processing of knowledge within the minds of a learner. It deals with the issue of "how learners receive, process and manipulate information" (Smaldino et al., 2005). Therefore, all focus is on what is going on inside the organism than what is going on outside. In other words, instead of paying attention on the environmental factors, the cognitivists work on internal cognitive factors during the learning process. Some of these factors can be the mental abilities like mental representations of reality through images and words, and reasoning (Dembo, 1981).

Considering the process of the mind, there are two parts which store the information received. These parts are the short-term and long-term memories. "New information is stored in short-term memory, where it is 'rehearsed' until ready to be stored in long-term memory. If the information is not rehearsed, it fades from short-term memory" (Smaldino et al., 2005). Thus, practising new information is crucial for knowledge to be permanent. Here we can argue that the idea of rehearsal resembles the idea of habit formation (in behaviourism) in the sense that repetitive action is at the centre in both. Yet, there is an important difference. While the former concentrates on the mental process of receiving information, storing it in short-term memory, calling it back for a couple of times and then when it is ripened, storing it in long-term memory, the latter only concentrates on the product which is the stored information in the long-term memory (which in fact can be observed if retrieved from the long-term memory).

Within this context, the effectiveness of a learning process depends on how much data is stored in the long-term memory. Great deal of practise is required, and this practise can bring habitual behaviours from the learners, but this is not the interest of cognitivists. What they value is how the information given to the learners is processed in their minds so that it ripens and is transferred to long-term memory.

2.3 The Learning Theory of Constructivism

Constructivism, as the word itself refers to, deals with the construction of knowledge. An individual, in our case a learner, constructs his/her understanding of reality through his/her own experiences. These experiences, either retrieved from short-term or long-term memories, are used by the learner to give meaning to the newly exposed knowledge. Hence, "learners create their own interpretations of the world of information" (Smaldino et al., 2005). They are the active participants in this process of learning new information. This is in fact what differs constructivism from cognitivism and behaviourism, for it is not solely about the workings of the mind, nor is it about the external factors, but it is about the active involvement of the learner during his/her learning process. There is the activation of

previous experiences on behalf of the learner in constructing a net of knowledge or information just like the work done by an artist when creating a patchwork.

Constructivists, then, would argue that effective learning can be achieved through exposing learners to real world experiences. In this way, they can build up meanings to the new situations and the knowledge that follows by retrieving their prior experiences.

2.4 The Learning Theory of Social Psychology

This is the theory which considers the learning process as a social embodiment of sharing information. The proponents of this theory claim that learning takes place more effectively when people work together. One of the proponents is Robert Slavin who believes that "cooperative learning is both more effective and more socially beneficial than competitive and individualistic learning" (Smaldino et al., 2005). Thus, the concepts of 'collaboration', 'team work', 'group-work', 'pair-work' and 'team or group success' appear to gain great value.

2.5 The Approaches of Student-Centred Learning and Teacher-Centred Learning

In the approach of student-centred learning, learning process revolves around the learner. If we look at Figure 1 below, we are more on the left side of 'The Arrow of Learning Control' (the two way arrow) than the right. In such a learning environment, the learner participates and takes active role in every stage of his/her learning. This means s/he is actively participating in the learning activities, joining in group-works and pair-works, presenting his/her views in discussions, and to the extreme point, s/he can decide on what to study and learn, when and how.
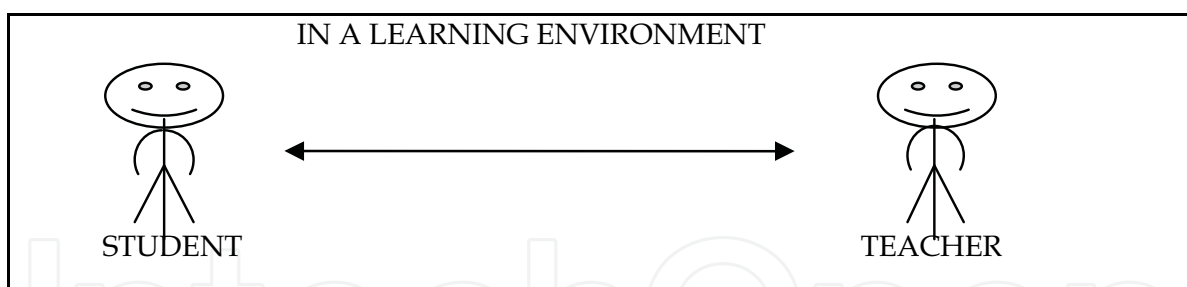

Fig. 1. The Arrow of Learning Control

This type of participative, self-managed and even independent learning bears in itself some of the learning theories described above. Among all, we can easily observe the impact of constructivist theory since the learner can be given the opportunity to construct his/her own learning cycle with this approach of learning. Cognitivism appears when the learner decides on how to study and learn a subject since his/her mental abilities which shape up his/her learning styles are in practice. We can also see traces of socialization when the learner chooses to work in teams.

If we look at Figure 1 again, the right side of 'The Arrow of Learning Control' points the teacher. Here the learning process revolves more around the teacher. In such a learning environment, teacher is the one who decides what to be learnt, when and how. S/he has the

absolute power in his/her classroom. This is teacher-centred approach, and the level of the strict control of the teacher diminishes as we move towards the left side of the arrow.

Some learning theories can also be traced within this approach, for the rigid control of the teacher on what is given to the student and what is received recalls behaviourists' stimulus-response attitude towards learning. There is also the working of cognitive abilities whether or not these are recognized or considered by the teacher. As the teacher adopts a more lenient approach (though preserving his/her control) and includes activities which require student involvement and cooperation, s/he applies the learning theories of constructivism and social psychology.

2.6 The Changing Role of the Teacher

As the previous section clearly identifies, there are two participants present in a learning environment. Each has a distinctive role. These roles change as we move along 'The Arrow of Learning Control' shown in Figure 1.

Traditionally, teachers are given the roles of authorities in their classrooms due to the norms and expectations attributed to them by the society they live in. The exercise of authority can be "authoritarian" where "a superior or dominant position by virtue of a role … ascribed to him or her" or "authoritative" where "authority is based on professional qualification" and the dominant position is driven "from the claim to be able to teach …" (Widdowson, 1991). Within this framework, power, dominance and control overwhelm learning in the class of an authoritarian teacher whereas they work hand in hand with learning in the class of an authoritative teacher. The rigid control and dominance in class of the authoritarian teacher can even hamper learning since s/he does not allow much involvement on behalf of the students, and if there is any, this is rigidly controlled by the teacher. Students become passive recipients of information in his/her class. On the other hand, there is more freedom of involvement in an authoritative teacher. This freedom is of course limited since there is still the dominance of the teacher due to his/her professional qualification and the fact that student participation is guided by the teacher. Thus, learner autonomy is still limited with the authoritative teacher though it is present in some ways when compared with the authoritarian teacher.

Today, there is a movement of change in the role of the teacher which goes beyond the limits of an authoritative teacher. Teachers of today are more of facilitators of knowledge and information than of dominant figures in class when professional qualification is considered. Students' autonomy in their learning tends to increase, and there is a movement towards a complete student-centred learning approach. For this we owe to the rapidly increasing and improving technologies. However, I believe a total dominance of students in their learning cycle can never be possible nor is it an effective way in learning, for the students always need some type of professional guidance during their quest of knowledge. "The increase in learner-centred activity and collaborative work in the classroom does not mean that the teacher becomes less authoritative. He or she still has to contrive the required enabling conditions for learning, still has to monitor and guide progress" (Widdowson, 1991). Thus, neither two extreme points on 'The Arrow of Learning Control' shown in Figure 1 is the best position that a teacher or a student adopts. All participants in a learning

environment should have an active role, but the amount of this activity can change according to the specific situations and conditions at hand. Yet, it is still the best to try to provide the students with the environment where they can have more autonomy, independence and control in and over their own learning cycle. This is the change observed in the role of the teacher towards being a facilitator.

3. Integrating Technology into Language Classes

With all these theories and approaches in mind, I've been trying to integrate the use of technology into my own teaching for 4 years with my first year students at the Faculty of Law in Eastern Mediterranean University. According to my observation with my target students, I can say that students are really interested in different things and methods only if they receive enough input and guidance. They do not like to work in an absolutely free environment due to the fear of getting lost. I also observe that we teachers are not used to the new role that is offered to us when technology is in use. Being a facilitator instead of an 'authority' figure in front of a classroom brings with it the fear of losing control over students' learning. Apparently, this role of an 'authority' figure as a teacher is fading even in a classical classroom environment in our century. Aren't we trying to increase students' active participation into their own learning by helping them to improve their study skills? Aren't we trying to involve more group-work or pair-work activities in our classes to let students express themselves more? And aren't we trying to change the picture of a teacher with absolute knowledge in our students' minds? Within this context, I see technology as a 'Devoted Helping Partner' for every teacher in attaining their goal to increase student involvement and motivation as well as helping them to learn how to become a facilitator instead of being the Commanders of their classes. "This is not to say, of course, that instructional technology can or should replace the teacher, but rather that media can help teachers become creative managers of the learning experience instead of merely dispensers of information" (Smaldino et al., 2005). However, this approach requires competency in technological skills as well as pedagogic flexibility. It can also be expensive and time consuming.
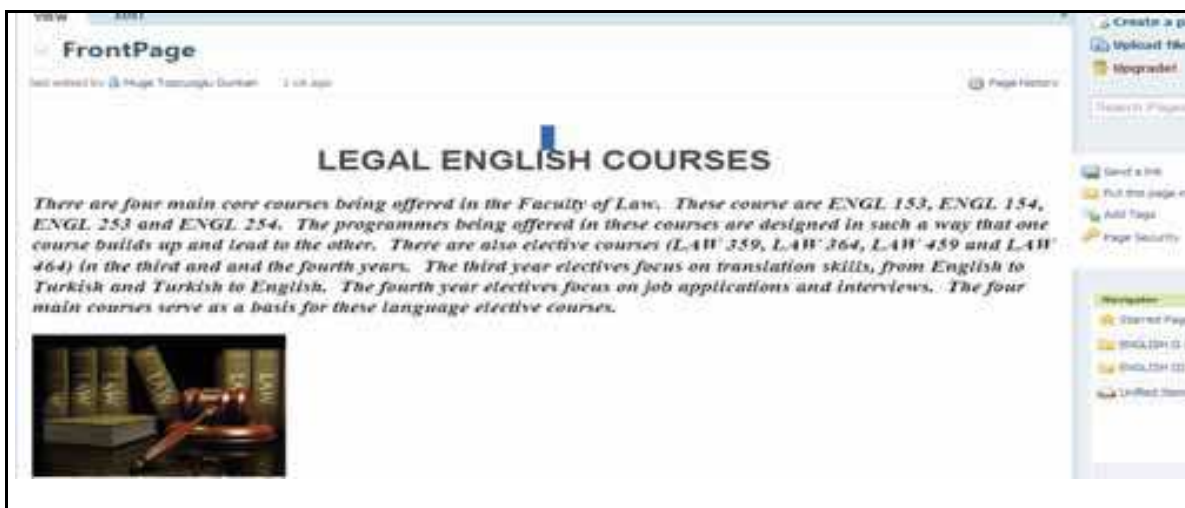

Fig. 2. Legal English Courses Webpage

With the awareness of all these drawbacks of the use of technology, I design my first year courses and course packs and materials accordingly. Within this framework, I use it as a complement to in-class teaching. Considering the 'Presentation', 'Practice' and 'Product' phases of language teaching, multimedia is engaged in at the stages of either 'Presentation' and/or 'Product' most of the time. For example, games are used to introduce new vocabulary items, or students are given the opportunity to practice what they are exposed recently through various tasks posted on the webpage of the course (Figure 2 illustrates a sample webpage). They can also be asked to do a research for their writing or on a topic being read. Here, I must admit that the integration of technology into my classes is rather a controlled one than a free one where there is full student autonomy. Yet, this is due to the requirements of the target students as mentioned above and their level of competency in computing skills.

I am planning to engage in a more flexible use of technology in teaching with the second year students at the Faculty of Law since they are experienced in computer literacy and skills and have gained self-esteem in their first year through direct experience. So at this stage, they themselves appreciate the benefit of this integration of technology into their learning cycle. They see that it enhances their learning by allowing them to be involved in this process. Hence, they feel more responsible. What is more important is that they have already experienced freedom, though a limited one, during learning.

In short, we can give individual tasks to our students in class if we know that they prefer to work individually, but even at this situation, they are in the society of the classroom while working. With the computer, however, they can be alone in their rooms, just with this media, and only if they wish, they can contact with a friend and work cooperatively. They do not feel the pressure (even a slight one) of being in a classroom. Above all, even though the teacher adopts an authoritative role or even a more lenient role considering who is at the centre of the learning environment, s/he is physically there, and this presence represents the professional figure who knows the best for them. Thus, the autonomy of the students is limited. They tend to depend on the teacher. With a partial-integration of technology in my classes, I manage to diminish this tendency and increase students' self-control and involvement into their learning to a certain extent. Next stage would be the provision of a more flexible learning environment through a fuller integration of technology which would provide students with different ways of handling a subject within more flexible time periods. Yet, all these have to be considered within the framework of the drawbacks of technology stated above.

At this point, let us turn our focus on certain specific language skills and how technology can work as an aid in such situations.

3.1 Focusing on Grammar Skills

As a start, it would be useful to remember that 'teaching grammar' and 'how to teach it' are debatable issues and that there are many approaches to grammar teaching. Some people believe that they can communicate in a foreign language without knowing the grammar. Vocabulary knowledge would be enough for them to comprehend or to compose a message. This can be true to a certain extent, for not all communication is at a basic level. How can a

student in an academic environment understand what is being instructed in class in a sophisticated way with the use of complex sentences? How can s/he express his/her thoughts in the same manner?

Some applied linguists do not believe in the efficacy of grammar teaching, and "argued that formal instruction in grammar will not contribute to the development of 'acquired' knowledge – the knowledge needed to participate in authentic communication"; instead, "classroom learners can acquire [a second language] grammar naturalistically by participating in meaning-focused tasks" (Ellis, 2002). This is quite reasonable if what they mean is to expose our students to such tasks that they would become ready to confront with real life communication. Unfortunately, this seems to be hard to attain in a traditional classroom.

Right at this point, the use of digital technologies become an aid. Instead of getting students sit in a classroom and listen to the presentation of the teacher on a grammar point, and then practise it with various paper-based exercises and tests, they can be exposed to the specific grammatical structure while watching a video displaying an authentic event. This would not only help the students to raise their awareness on the specific language structure, but also help them to observe the specific situation in which it is used. Considering practise, the students can be asked to work on the structure observed with the tasks created through a movie maker programme or comics. Although such an activity leads to a more teacher-centred learning environment, it presents practise in a real life situation that is set. By letting students create their own settings and therefore their movies or comics by using the same structure, we can design a fully student-centred activity. However, we must not forget that the success of such an activity greatly depends on students' competence on computing skills. Still, there is this fact that a simulation of reality is presented to the students in both types of activities, and this enhances learning since it increases their involvement with their active participation in the construction of knowledge.

Another concern about the integration of digital technologies during the presentation phase suggested above might be worthy to consider. Teachers might be reluctant to use authentic videos and materials due to the level of difficulty of the language presented in there. However, technology also provides the teachers with some programs with which they can produce their own authentic videos or digital materials right at the level they would like to practise with their students.

Considering traditional formal grammar teaching, the focus is on particular grammatical forms and their associated meanings, and the job of the teacher is to "help the learners to develop their knowledge of the grammatical system, and the meanings which it helps to signal" (Batstone, 1994). In fact, "[t]raditionally, the language classroom [is] a place where learners [receive] systematic instruction in the grammar, vocabulary and pronunciation of the language, and [are] provided with opportunities for practising the new features of the language as these [are] introduced" (Nunan, 1991). This technique of formal grammar teaching would be useful since it provides the students with the implicit knowledge of the language by familiarizing them with the mechanics of the system of the target language through input and practice. This correlates with the approach of teaching grammar as

product, and this approach can promote the two main stages of the learning process which are 'noticing' new language input and 'structuring' one's knowledge of the language (Batstone, 1994). However, there is also a third process in the acquisition of implicit knowledge. It is the "integration' of the learners' mental grammar with the new linguistic feature they are presented" (Ellis, 2002). Cognitivists would refer to this as the transfer of knowledge from short-term to long-term memory. This last phase of language learning is in fact the most difficult one to observe as a language teacher, for it is greatly concerned with the mental abilities of the learners. Even the learners themselves are hardly aware of it. Thus, it is important to consider this 'intake phase' (Batstone, 1994), as well as input and practice.

Teachers who pay special attention on 'intake phase' try to provide their students with the appropriate environment and tasks along with appropriate time periods to absorb the knowledge taken. However, what kind of an environment, what type of task and how much time is appropriate for every single student? Is there one and only suitable environment and task for all the students in a classroom? The answer is, of course, 'NO'. No matter how hard a teacher tries to be fair to each and every one of his/her students, what a classroom can offer is limited. This problem can be resolved through integrating technology into classrooms. Weblogs, Wikis and Moodle can provide a flexible learning environment both for the learners and the teachers to work on for the process of the intake of knowledge.

At this point, it would be useful to turn our attention to 'consciousness-raising' approach. "Unlike traditional approaches to teaching grammar, . . . grammatical [consciousness-raising] fulfils a process rather than product role: it is a facilitator, a means to an end rather than an end in itself" (Nunan, 1991). On the contrary, the traditional formal grammar teaching largely depends on practice activities where the learners are expected to achieve an end product which is the correct answer, no matter whether they are doing these tasks consciously or just automatically without being aware of its use, like a habitual behaviour. Here, the risk is that, if latter is the case, the learners would most likely have difficulty in communicating in a real life environment. Thus, 'consciousness-raising' activities have a crucial role in "the acquisition of the grammatical knowledge needed for communication" (Ellis, 2002). This approach appears to be embedded inside the approach of process teaching for "[it] engages learners in language use, formulating their own meanings in contexts over which they have considerable control, and in so doing, drawing on grammar as an ongoing resource" (Batstone, 1994). Portfolio system can be adapted here since it provides "a collection of student work that illustrate growth over a period of time" and "portray both the process and products of student works" (Smaldino et al., 2005). Engaging in electronic portfolios, at this point, would also increase the efficiency of this process since it allows more audience and storage space (Smaldino et al., 2005).

To sum up, I believe traditional teaching is as valuable as communicative teaching in second language learning. Input and practice, especially at the preliminary stages of learning are crucial since it would be really hard to communicate without any knowledge of grammar. At this stage, the teacher can first teach the rules and the grammatical structures and then expect the students to apply these rules when they use the language (Deductive learning, Teacher-centred) or s/he can let his/her students discover the rules themselves by

providing them with the opportunities to experience using the language (Inductive learning, Student-centred) (Nunan, 1991). Integration of technology into classes is possible during the application of both of these teaching methods. Also, there will always be an intake process during which the learner will absorb the new data just like a computer and then integrate it with the data that is already processed. Digital technologies would be an aid right at this point and bring efficacy in grammar teaching.

3.2 Focusing on Lexis

Language teachers tend to treat grammar as an indispensable part of teaching a second language, which is then followed by special attention paid to reading and writing skills. In an academic environment, this is not a surprising tendency since the students are required to be aware of 'academic style' which requires them to be competent in certain grammatical structures like the passive forms of the verbs, impersonal pronouns and phrases, complex sentence structures, and lexical verbs like 'seem, appear and suggest' (Jordan, 1997). As a result, the priority of the language teachers in an academic environment appears to be teaching 'academic style' to their students and exposing them with this formal tone via reading and writing practices. Within this framework, vocabulary teaching seems to be put aside. We might even argue that it seems to be neglected. However, the truth is that 'lexis' is at the centre of all these practices. When the teacher guides the learners in their use of formal language, they in fact deal with lexis. For instance, when the learners practise 'passive voice', they play with the words in order to work on this grammatical structure. In addition, in reading and writing, lexis is again at the centre since the students' understanding of a reading text and their productivity in writing depend on their command of lexis.

After underlining the importance of teaching and learning vocabulary in an academic environment, the issue of how to teach it appears. Yet, before turning our attention to this issue, it is crucial for all language teachers to be clear about the distinction between learning and acquisition. The acquisition of a new vocabulary item is gained "when the learner can identify its meaning in and out of context and when s/he can use it naturally and appropriately"; thus, acquisition is the stage when the learner not only gains the ability to recognize and understand the new vocabulary item ('receptive control'), but also uses it in a meaningful way in appropriate contexts ('productive control'); on the other hand, learning is the process until the learner reaches that last stage, acquisition which is "the end result of vocabulary development" (Nunan, 1991).

Having this knowledge in mind, the job of the language teacher is to guide the learners on this rough journey to the acquisition of the target language in the most effective and useful way, and along this journey, learning vocabulary should not be incidental. Specific focus should be chosen and with adequate input and practice, the students must be guided to build up the specified vocabulary. Still, "there is a tendency for [vocabulary] to become incidental to reading comprehension. The result is that it may be left to students' indirect learning, which may be inefficient" (Jordan, 1997). This would be observed in free learning environments with reading activities on the internet where the students do not receive enough guidance on which vocabulary to focus, learn and acquire. This inefficiency may appear firstly because this kind of treatment degrades vocabulary and gives a false message

to the students about the importance of vocabulary knowledge and learning. Secondly, not enough time may be spent on the input, practice and production of the vocabulary in question when it is learnt incidentally, and this would prevent the learners from storing the vocabulary for future use. The fact is that without adequate vocabulary knowledge, delivering any kind of a message would be impossible no matter how competent a learner would be in grammatical rules and structures. Lexis and grammar should work hand in hand for this purpose.

While guiding learners along the journey of vocabulary acquisition, the use of 'Semantic Networks and Fields' is greatly useful. This is because the mind tends to store information in an organized manner. This ability of the mind appears to be the starting point of the semantic field theory which considers that languages have semantic networks or fields which consist of words sharing the same semantic features or components. As an example, the words 'tourist,' 'visitor' and 'traveller' can be grouped together since all are related to 'travelling' (Nunan, 1991). Consequently, language teachers can group the words that share some aspect of meaning or are part of a systematic structure and teach them together. Diagrams or grids can be useful tools for the teachers and the learners to categorize words (Jordan, 1997). Table 1 is an example which shows how a list of vocabulary related to Legal English can be categorized under certain headings. A language teacher would prefer to use such a grid while teaching those words instead of giving the learners a long list of them and then expecting them to memorize them. This kind of categorization practices enhances students' learning of specified vocabulary. Especially, their active involvement in the formation of such grids can help learning and enable them to activate the vocabulary much more easily than learning vocabulary from long lists. Engaging technology, namely wikis, in this process would foster cooperation and enable collaborative work by providing the students with the opportunity to add, edit or delete words in the grids they themselves constructed as a group. They may be given the prompt, that is the columns with the headings, or they may even be free to classify words themselves. In either case, they work individually in front of a computer, but at the same time, they work with their team members collaboratively to attain the same goal. This type of collaborative activity helps the learners feel more as a part of the group, team or class that they are in. It also increases their involvement in their own learning cycle; thus, it increases their own control in this process. Consequently, being centrally involved in the learning process can help students to increase their active vocabulary store (Jordan, 1997).

CRIME	PEOPLE	ACTIONS	PUNISHMENT
Murder	Murderer	To kill/murder	Life sentence
Robbery	Robber	To rob	Death penalty
Burglary	Burglar	To burgle	Imprisonment
etc.	etc.	etc.	etc.

Table 1. Vocabulary related to Crime

On the other hand, emphasizing lexical chunks, especially collocations while teaching vocabulary is also vital in language classes since selecting the appropriate word to be used with other words in the appropriate context is the major problem of a second-language learner. Hence, language teachers have to raise their students' awareness of words that collocate with each other as soon as they teach them individual words. As an example, when teaching 'colours,' it would be useful to the learners to gain awareness of the adjective 'blond' being a very strong collocation of the noun 'hair' and that it cannot be used with another noun, such as 'car,' 'pen' or 'house' even though their aim here would be to describe their colour. At this point, the students may have the tendency to use the adjective 'yellow' with the noun 'hair' just like they do when they say 'yellow car' or 'yellow pen' before they gained this awareness. Even after this, they may have the difficulty of understanding why they cannot say 'yellow hair,' for this would exactly what they wanted to mean. But, "collocability is language specific and does not seem solely determined by universal semantic constraints (such that 'green blood' would be odd in any human culture). Even very advanced learners often make inappropriate or unacceptable collocations" (McCarthy, 1990).

The grid shown above in Table 1 can be a good source for a collocation exercise. The teacher can involve the learners first to identify 'life sentence' and 'death penalty' as collocations, and then by providing alternative combinations like 'life punishment' or 'death punishment,' which are not appropriate, s/he can try to give their learners a clear idea about collocations. After this, the teacher can let them form others with the words in the 'Actions' column where s/he may intend to raise their awareness of the collocations like 'burgle a house' and 'rob a bank.' Also, the learners can try to write sentences with the use of the words in the table, or the teacher can present new vocabulary there with sample sentences. With this, the learners can recognize the need for or the existence of more than two word combinations, like 'give a life sentence' or 'impose death penalty' in order to express their ideas. At this point, the teacher can guide the learners in how to form and expand chunks by forming collocations and then by building it up into larger chunks, and finally, s/he can get them learn the words in chunks.

To admit, this approach of teaching vocabulary in chunks would increase the learners' fluency because instead of focusing on individual words, 'life,' 'sentence,' 'death,' 'penalty,' 'give' and 'impose,' the learners see, learn and acquire them in chunks as they are used in context. At this point, a wiki page would again be a useful tool to create a collaborative environment for the learners to work together in constructing lexical chunks. Weblogs or Moodle can also be used to post rather a mechanical, but also an enjoyable, task for the learners in which they are asked to move the words given with the click of a mouse to form collocations and/or chunks. Sound effects can be added to turn the task into a game in which the 'bip' sound can be heard whenever an inappropriate pair of words or a chunk is formed. Such active involvement of the students enhances learning because the more the learners are involved in this process of construction, the more they become aware of the concept of collocations. The more they are given the chance to try and form collocations, the more effectively they learn and use them.

Another approach of vocabulary teaching which is greatly valuable in an academic environment is teaching learners vocabulary in context. Here, the teacher guides the learners to decipher meaning from the context in which the word in question is used instead of providing the meaning of a word by presenting it in sample sentences or in grids and tables. This guidance includes "encouraging learners to develop strategies for inferring the meaning of new words from the context in which they occur, and teaching them to use a range of clues, both verbal and non-verbal (e.g. pictures and diagrams in the written texts) to determine meaning" (Nunan, 1991). Thus, in this approach, the learners are required to develop guessing vocabulary skills which include gaining the ability to recognize certain contextual clues that can help them to guess word meanings. Some of these contextual clues are parentheses and footnotes, examples and summaries that are inference clues, synonyms and antonyms and word elements such as prefixes, suffixes and roots (Nunan, 1991). As a result, learners are not just storing the vocabulary they are being presented by categorizing it or by learning it with the word or words that it can be used with, but they are actively involved in the process of determining the meaning of the word in a specific context. What they do is to dig up the text to notice the clues which would then lead them up to the meaning. However, it is important to remember right at this point that words are the symbolic representations of reality and guessing their meanings within other symbolic representations is very difficult (though vital in academic settings). Having students guess the meaning of a word or a phrase with the use of a picture would ease their job greatly sometimes, but it can still be difficult if the word or the phrase refers to an event, or the meaning can only be grasped if and only a real life situation is provided. Then, videos or movies can be the helpful tools to aid classroom instruction. Through these audio and visual aids, students can easily draw a picture (or a moving picture) of reality in their minds to decipher the meaning of the unknown word or phrase in question.

In short, vocabulary knowledge has utmost importance in an academic environment. Therefore, language teachers must pay enough attention to vocabulary teaching and consider carefully how to do it. Regarding the teaching techniques, teaching vocabulary in chunks and teaching by considering semantic similarities among words appear to be the most effective ones since the former enhances learners' fluency by enabling learning through teaching words as they are used with other words and the latter enhances learning by classifying words sharing the same semantic field. Teaching learners guessing vocabulary skills are as important as teaching the specified vocabulary in an academic environment because the learners need guidance in how to deal with 'technical' vocabulary. Therefore, this systematic strategy for learning vocabulary development skills (Jordan, 1997) is greatly valuable in an academic environment since with such strategy and skills, they would be able to decipher the meanings of 'technical' words that they can encounter in their subject matter readings. Integration of multimedia and technology into classroom practices would bring successful results and increase efficacy in vocabulary teaching.

3.3 Focusing on Reading Skills

Granted that the learners are quite competent in lexis and grammar, they are now ready for reading practise. Naturally, there are certain methodologies or techniques that can be followed when reading skills are considered. First of all, we can divide the practice into three main stages as the pre-reading, while reading and post-reading stages.

During the pre-reading stage, the aim is to prepare the students to the actual reading of a text and the reading tasks. One technique is elicitation. Eliciting some ideas or vocabulary from the students about a context or a reading text is a useful activity, for it encourages the students to get involved in the activity and talk as well as giving the teacher the chance to see how much his/her students know about the topic (Gower & Walters, 1983). The students can be asked to make predictions about the text which they will read by looking at its title, or the teacher can open a discussion about the topic of the text and can invite the students to participate by asking them certain questions related to it. In this way, the students' interests would be increased since they put their share at the very beginning of the reading activity.

This stage can be designed in a more playful way with the use of digital technologies. For example, a video displaying a similar or the same topic with the reading text can take the interest of the students more due to its audio and visual feature. It also helps the students to make more successful predictions about the topic of the text since it simulates a real life situation which enhances their understanding of the topic. In addition, this activity can be followed with a discussion about their predictions through forums or discussion boards created on the Moodle designed for this purpose. Each student can then post their comments on the forum and can also read the comments of the others, which is in fact another reading activity in itself (though incidental). Using forums on digital learning environments brings more positive results in the sense that it promotes student involvement by enabling students put their ideas without feeling any pressure on them. The number of audience as well as the number of participants tends to be more than the one in the discussions held in a traditional classroom since this kind of activity allows students join the forum whenever they feel themselves ready.

During the while-reading stage, the aim is to have students practise the reading skills which they in fact practise in their every day lives. Don't they ever take a newspaper and run their eyes through the sports columns to see whether there is any news about their favourite footballer? Don't they just read the headings or some parts of the articles until they find something interesting to read in detail? The reading skills which they are expected to use in their second language classes are actually what every one of them have already acquired unconsciously in their mother tongue. The problem is that most of the second language learners cannot succeed in implementing these skills that they already have into their readings in that second language classes. Accordingly, placing students in such situations which would remind them these skills they already acquire is crucial. Computers and internet can be useful tools to attain this goal, for most people read newspaper, articles and even books on the internet nowadays. Thus, when they are exposed to a reading text in front of a computer in a language class or at home when a flexible learning environment is provided, this would simulate their real life reading environments and help them to activate their present reading skills by remembering the way they read on the internet. Then, with these skills, they can easily comprehend the main idea of the text and the details and even the information given between the lines. Within this context, the instructions of the reading activity can be narrowed, and the students can be asked to read the first and the last paragraphs of the text to get the main idea as the first step, and then they can be asked to read the first and the last sentences of each paragraph to find out the main issues discussed

in each. With such a controlled activity, the risk of students getting lost within supporting details would be prevented. Detailed reading can then follow which aims to improve students' understanding of a text in detail and their ability to read between the lines. As an example, the students can be asked to comment on a sentence and argue what the writer of the text would mean with that specific sentence. Again, forums in Moodle can be used as a tool to increase the effectiveness of this last activity.

The last face of a reading practice is the post-reading stage. The best post-reading activity is the one which shortly but effectively sums up and puts an end to the reading practice just like a short but striking concluding paragraph in an essay. A speaking activity where the students can use the ideas and the vocabulary they learnt from the reading or writing a summary of the text can be done as post-reading activities. Students can also be asked to do a search on the internet about similar or relevant topics and post their findings on the forum page in Moodle. This becomes a further reading practice for the other participants in the forum.

At this point, it would be valuable to point out the opportunities technology offers considering practice in reading skills. Hypermedia is an important innovation, which "enable[s] the user to move about within a particular set of information without necessarily using a predetermined structure or sequence" (Smaldino et al., 2005). This provides the learner with an enormous amount of resource within the realm of the 'hypertext' which "immerse users in a richly textured information environment, one in which words, sounds, and still and motion images can be connected in diverse ways" (Smaldino et al., 2005). Here the learners are not only exposed to reading texts related to each other, but also free to construct the information that flows lavishly since "[t]here is no continuous flow of text, as in a textbook or novel" (Smaldino et al., 2005). Thus, the learners who practise reading in such environments are actively participating in the construction of information driven from the text or texts. Their personal mental abilities are in practise during this construction phase which offers a unique learning practice and, as a result, can enhance learning. Yet, getting lost in this vast amount of information networks can be a drawback and needs to be handled carefully with the managerial role of the teacher during this process of reading via multimedia and with guided reading activities.

In short, all the methodologies and the techniques that are used in classes are to improve students' reading skills whether it is reading for pleasure or for information. It is true that reading practice mostly work in stages, and in every stage, the students are expected to accomplish a task for a specific purpose. Yet, it is hard to separate the skills of predicting, getting the main ideas and details and reading between the lines in a reading practice. All are present throughout the reading process. Besides, granted that the students practise active reading skills in their daily lives in one way or the other, the second language teacher's duty is to refresh those skills with the use of an appropriate method or technique and to guide students to apply them in second language reading. Here, the use of technology brings successful results once again and increases efficacy in reading comprehension practices (when the possible drawback of hypermedia is considered with care).

3.4 Focusing on Writing Skills

Writing is another important skill on which language teachers pay special attention in an academic environment. Students need to write reports, essays, summaries or narrations. Language teachers, then, help the students to practise these writing skills by engaging them in various writing activities. These activities can be some follow-up activities after a grammar or a vocabulary practice or after a reading. As an example, students can be given a writing task where they either listen to or read a past narration before they try to produce their own narrations. In this specific task, the students have a model writing in front of them. Here, the students write without any planning beforehand, so what they are doing in practise is a kind of free writing. This is in fact an effective writing strategy if we accept writing as a discovery of the mind. Students write according to the model to get a similar product. This kind of "[p]roduct-oriented [approach] to writing focuses on tasks in which the learner imitates, copies, and transforms models provided by the teacher and/or the textbook" (Nunan, 1999). However, in an academic environment, this approach can be placed at the very preliminary stages of writing. This is because, academic writing requires more than just putting ones' thought into words. Correct grammar, lexis, coherence, unity and many other issues turn out to be as important as ideas and thoughts. This requires a longer process in writing than producing a replication of a model given. Thus, process approach appears to be more effective than product approach in an academic environment. There needs to be a "focus on the steps involved drafting and redrafting a piece of work" (Nunan, 1999). In this context, the model writings that are given to the students as examples can be the products of other people after a certain period of processing stage. Therefore, it is crucial to clarify this idea of 'process to product' in students' minds and guide them along their way to the product.

The first step in the process of academic writing is 'Pre-writing.' This includes discussion and brainstorming (Nunan, 1999). This introductory phase is necessary for the unity of the writing because without specifying the topic, it would be really hard to concentrate on an idea and discuss about it. Brainstorming before actual writing also helps the students to generate ideas and put them down without worrying about language. This recalls free writing.

The next step is 'Structuring' (Nunan, 1999), which is in fact about preparing a plan for writing. This helps students to clarify the main idea of their writing and to determine those ideas which support it. The same procedure applies on paragraph level. At the end of this stage, the students have a plan of their writing which shows them all the points that they want to talk about in their writing in an organized way. It also shows them whether their writing focuses on an idea or not. Therefore, structuring is necessary in order to have unity and coherence in writing which are in fact the key issues in academic writing.

After planning, the actual writing starts. Here, the students write their essays or compositions with the help of their outlines. In other words, they turn their ideas that are listed in an organized manner in their plans into coherent sentences. What is more, they also add relevant ideas that are not in their outlines. At the end of this step, the students have a product, but this is not an end product. Instead, what they produce is the first draft of their essays. "Proponents of process writing recognize and accept the reality that there will never

be the perfect text, but that one can get closer to perfection through producing, reflecting on, discussing, and reworking successive drafts of a text" (Nunan, 1999). Hence, several drafting occurs, and during this process, students consider the correct use of grammar and lexis, sentence structure, spelling and punctuation as well as content and organization in their writing. Eventually, the students reach their final products. These are their end products (though there is never an end in revising and rewriting).

In this context, how can technology be used as a tool to foster process writing? The opportunity of forums which enable students discuss their ideas together as a group, and the collaborative learning environment that wikis offer, promotes process writing by allowing students to add, edit and/or delete what is written beforehand. Here, there is not only the possibility of the author to revise and re-write his/her own draft, but also the possibility of the other students to join in this drafting process of that specific writing. So the process can be undertaken collaboratively as a group, and the end product can be the property of the whole group. Some writing tasks which would serve for this purpose can be a "story telling" activity where the students can edit what is already written or add something else to continue the story, and a "role play" activity where the students are supposed to write the dialogues of a play, such as a scene of a courtroom drama. This can be initiated by the teacher or a leading student who starts the dialogue, and then the others will carry on. "Input and Discussion" type of activities, such as reading a text and then having a discussion, or watching a video or a movie and then having a discussion, can be designed as pre-writing activities. With these tasks, the students read a text or watch a video or movie first, and then answer a couple of opinion questions without repeating what is already said. One student naturally is expected to start the ball rolling and then the others will follow either by changing what s/he has said or by adding something else. At the end, the students have a list of ideas to work with during their actual writing stage.

4. Some Studies and Researches on Technology and Education

Many educators apply the use of technology in their classes and conduct researches to verify the benefits of its use. There are also researches on the drawbacks of technology and how to minimize them. Some of these studies are taken into consideration in this section.

One study which verifies that the use of technology increases the efficacy of reading skills reveals that "web-assisted English language instruction is a more effective and successful way than that of the traditional teaching of English reading skills" (Zeki, 2009). The study was conducted at the Faculty of Law, in the Eastern Mediterranean University, with the second year students. "Experimental study model" was used, so while one group of students (experiment group) worked on the reading skills activities that were on the web, the other group (control group) did the same activities with the teacher in a traditional classroom with the use of traditional methods. A questionnaire, interviews and observations were the sources of the data collected, and the findings showed that "web-assisted learning provides students with a higher-level learning" and "the students who are involved in online reading activities have positive feelings and attitudes towards the reading activities online" (Zeki, 2009). Low level of computer skills and computer literacy are considered as drawbacks of online reading in this study and giving training on these as well as on

"computer-assisted strategies" is offered as a solution for this problem (Zeki, 2009). Here, this study seems to focus on guided reading activities where the students were not exposed to free reading activities on the web. However, if they were exposed to these kinds of free reading activities which would introduce them with 'hypertext', they would confront with the problem of getting lost in the vast amount of information networks. With relevant training on how to work around hypertext environments and with the managerial role of the teacher during this process of reading via multimedia (as I also stated in the 'Focusing on Reading Skills' part before), this drawback of the web can be overcome.

Another survey was conducted in the Eastern Mediterranean University with the aim of "develop[ing] a comprehensive insight into two hundred freshman students' perceptions regarding the use of an interactive web environment [Wiki or Moodle] in English Communication Courses offered by the department of General Education" in the 2006-2007 academic year (Küfi & Özgür, 2009). Through a "mixed method approach", the data was collected "through the use of questionnaire which included open-ended questions . . . and structured questions" (Küfi & Özgür, 2009). Findings revealed that "the majority of the students is positive about the use of interactive web environment and find its use beneficial for their learning" though some reported negative feelings, like feeling passive in such environments and that they prefer traditional classroom instruction to interactive web-based learning (Küfi & Özgür, 2009). The report of this small group of students is explained and considered in the survey by highlighting the drawbacks of technology that are identified as "not having a computer or access to the internet", and the differences among learners considering their "learning styles, computer skills or their learning habits [which] may affect their perceptions regarding the use of an interactive web environment while learning English" (Küfi & Özgür, 2009). Thus, the survey reveals positive results from the students with the warning that special attention is required from some groups of learners during the integration of technology into classes. Student-centred learning approach and student autonomy turn out to be the most important elements which should be considered with care so that they do not hamper learning, for there will always be some students who are not used to this approach of learning, or have difficulty in adapting in environments which are overwhelmed by this.

Web 2.0 can be a useful tool in enhancing learning if it is used in the most appropriate ways. Besides Wikis and Moodle, Weblogs, its use and its efficacy in teaching are also under the consideration of some educators. A research was conducted in the University of Alicante in Spain "to obtain information regarding the usefulness of weblogs for Higher Education students, in their everyday life, as well as in their teaching-learning dynamics" (Lujan-Mora & Espinosa, 2008). Qualitative and quantitative approaches were both used in this research to assess the influence of weblogs in classes; "a qualitative assessment was conducted to evaluate the perceived satisfaction and usefulness of the students when faced with blogs, both as writers and readers" and "a quantitative survey was passed to the same students in order to estimate their level of participation and to refine the qualitative perceptions aforementioned" (Lujan-Mora & Espinosa, 2008). According to the findings, students liked the communicative environment blogs offered to them and this motivated them and enhanced their learning "even though most students had not used a blog before this experience" (Lujan-Mora & Espinosa, 2008). Thus, the students appear to be successful in

this "social web" environment as another educator would say it (Gill, 2008). Similar positive results obtained with the integration of technology into classroom instruction through 'blogs' are also available in other cases to "[demonstrate] the impact of digital media – specifically, blogging – on a students' life" (Gill, 2008).

Among all these benefits of the use of technology as a tool in and an aid for classroom teaching, its high costs and the "unavailability of e-learning software contribute to inefficiency" of web-based learning (Hidayat & Prabantoro, 2008). However, designing a webpage which serves for specific purposes for the use of specific group of learners by using "free softwares and search engines", free programs and "free Internet facilities provided by many companies" can be a good and an effective solution for this problem (Hidayat & Prabantoro, 2008). This is in fact what a group of educators practiced in Indonesia when they designed "an Internet-based Learning Media (IBLM) [that functions] as complementary E-learning for [their] Management information System (MIS) class at Indonesia College of Economics (STIE Indonesia)" (Hidayat & Prabantoro, 2008).

5. Conclusion

In conclusion, technology becomes an inevitable part of our lives in our century. Its impacts in every field of life increase every day. Naturally, it enters into the field of education, and granted that it is goodly managed, it brings positive results. Integration of technology into classroom instruction appears to enhance learning by providing a student-centred learning environment where the students are actively involved in their learning cycle. Considering the flexible learning environment that it offers, students can even be involved in the construction of knowledge and information. Besides, it fosters and increases student interaction since it allows more students to participate in the discussions. Collaborative work which is in fact a catalyst for learning is also promoted with the use of technology. Within this framework, the role of the teacher has to be clarified very carefully, for s/he appears to vanish in the scene which may cause a misunderstanding of a new learning environment with no teacher. However, the important role of the teacher in the learning cycle of a learner is still present though it has turned into a different mode. Instead of being an authority figure, teachers are now facilitators of knowledge.

Within this context, it is not wrong to say that learning is a discovery, a discovery into the enormous knowledge and information floating around the boundless space around human beings. In this quest of knowledge, roles can change, different approaches of teaching and learning appear and vanish; thus, we move back and forth along the line of control regarding who the authority is in a learning environment. And now is the time to move back as educators and leave the ground to the learners to see their actions; still maintaining a movement of slight control and a managerial role to guide them along their autonomous journey in learning. Technology is an aid, a medium in this play where the silent, invisible posture of the teacher is a requirement, still and ever. It allows the learners' autonomous practice and offers them the possibility to control their own learning cycle, but it still provides a space for the teachers to give guidance when requested, and manage or monitor their learners' actions.

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Technology Education and Development

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The widespread deployment and use of Information Technologies (IT) has paved the way for change in many fields of our societies. The Internet, mobile computing, social networks and many other advances in human communications have become essential to promote and boost education, technology and industry. On the education side, the new challenges related with the integration of IT technologies into all aspects of learning require revising the traditional educational paradigms that have prevailed for the last centuries. Additionally, the globalization of education and student mobility requirements are favoring a fluid interchange of tools, methodologies and evaluation strategies, which promote innovation at an accelerated pace. Curricular revisions are also taking place to achieved a more specialized education that is able to responds to the society's requirements in terms of professional training. In this process, guaranteeing quality has also become a critical issue. On the industrial and technological side, the focus on ecological developments is essential to achieve a sustainable degree of prosperity, and all efforts to promote greener societies are welcome. In this book we gather knowledge and experiences of different authors on all these topics, hoping to offer the reader a wider view of the revolution taking place within and without our educational centers. In summary, we believe that this book makes an important contribution to the fields of education and technology in these times of great change, offering a mean for experts in the different areas to share valuable experiences and points of view that we hope are enriching to the reader. Enjoy the book!

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