

Integrating Technology into a Freshman English Curriculum: A Detailed Analysis of the Issues Involved

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Abstract

The study looks at the different factors that need to be taken into account if technology is to be successfully integrated into a Freshmen English curriculum. Technology as a teaching tool is growing at an unprecedented rate but very often is still not being utilized as effectively as it could be. However, if it is used efficiently then so many new avenues are available to teachers to explore. Therefore this paper will focus on such issues as: the role of technology in curriculums; incorporating technology into curriculums; the skills teachers and students have in using technology; training teachers and students to use technology; and efficient ways of utilizing technology. It is proposed that if these issues are addressed then technology can become a more powerful and less stressful tool in the classroom for teachers and students alike.

Introduction

Since its inception, the English program at KUIS has developed each year and evolved into a course of study unique to university students in Japan. Currently staffing over forty five highly qualified, native English speakers from various countries, the program endeavours to provide a learning

environment that moves students away from the traditional modes of teaching they encounter during their schooling years, and introduce them to a style of learning that promotes autonomy and a high degree of personal control and responsibility. One course central to the program and its development is the Freshman English (FE) course; a course for first year students in the English Department that currently has approximately 450 students, divided into 16 classes and taught by 16 designated ELI teachers. The FE curriculum contains theme-based units and aims to engender individualisation, interdependence and interaction among students. A wide variety of methods are used by teachers to facilitate the goals of the FE curriculum, one of which is through the use of different forms of technology. However, the successful integration of technology into the FE curriculum is a work in progress and still requires a lot of attention. This paper will focus on the issues that need to be addressed so that technology can be integrated into the FE curriculum and utilized by teachers and students more efficiently. Therefore, the research questions are as follows:

Research Questions

1. Does the use of technology have a place in the FE curriculum?
2. What are the logistical aspects involved in incorporating technology into the curriculum?
3. What are the capabilities of students and teachers in using technology?
4. How can teachers and students be trained to use technology to meet their respective needs more effectively?
5. What are some effective ways of incorporating technology into a curriculum?

Does technology have a place in the FE Curriculum?

Before you can take a clear stance on the issues of integrating technology into a curriculum, you first have to ascertain exactly what you need technology for. As Mayer (2001) illustrates, ‘history shows technology, from radio to TV to computers, has not made as successful impact on learning as one may have thought. This is due in most part to the fact that technology hasn’t been used as an aid to help people learn, but simply foisted upon them with no real goal or aim. The technology was the focus rather than the learning.’ Recognition of this fact is a step in the right direction and a lot of research has been undertaken to deal with this issue. Progress has been made but there still remains confusion over the role of technology in classes. As Warschauer (1999) states, technology in language teaching has gone from being a tutor to being more of a tool, but the question still remains, a tool for what? You need to know what the goals of the curriculum are before you can start implementing ideas or learning strategies, or thinking of ways to integrate technology into classes.

Once the objectives of a curriculum have been established, you can then look at whether technology can help achieve the aims set down in the framework. However, it is vitally important that a pedagogical framework is in place, because without one, you don’t know what you are using technology for. You can’t simply expect technology to be thrown into the curriculum as some kind of panacea. As Warschauer (1996) notes ‘those who expect to get magnificent results simply from the purchase of expensive and elaborate systems will likely be disappointed. But those who put technology to use in the service of good pedagogy will undoubtedly find ways to enrich their educational program and the learning opportunities of their students.

Therefore, one first needs to look at what the curriculum at KUIS is specifically trying to achieve. At the heart of the curriculum at KUIS is the desire to accommodate individual differences of students (Johnson, 2004) or, in other words, to create a personalized curriculum. What does a personalized curriculum mean? In essence it is ‘a course of study which is specially crafted on the basis of the differing aptitudes, needs, interests, and preferences of each student in which the student has a large measure of control and responsibility for progress and achievement’ (Johnson, 2004) More specifically, the essential features of such a curriculum include flexibility, in terms of accommodating the routes, rates and modes of learning for students; choice, in terms of enabling students to exercise their learning preferences; and finally responsibility, in relation to moving the onus for progress and achievement from the teacher to the student. (Johnson, 2004)

So, with this in mind, can the use of technology contribute to reaching the objectives set down in the FE curriculum? The answer is definitely yes. Technology can be used in classes to enable students to gain independence and autonomy, to work collaboratively and co-operatively with students and to interact with students. As Johnson (2004) says, ‘curriculum design and educational technology are still at the heart of attempts not only to accommodate but indeed celebrate individual needs, interests and preferences.’ Calderon-Young (1999) lends further credence to this notion by stating that ‘the proponents of computer-assisted language learning (CALL) claim that all of the technology we have at our disposal has the potential to empower students when it is used appropriately.’ The key word here is *empower*. Enabling students to take control of their own learning and govern their own

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learning is fundamental to the goals of KUIS. Further evidence is given by Warschauer (1996) when assessing the benefits of hypermedia (multimedia resources all linked together that allow learners to navigate their own path simply by pointing and clicking). He says that one of the distinct advantages in using hypermedia is that students gain much more control, over their own pace and over the direction they take, and what they choose to look at or ignore. These three examples clearly show that the benefits of using technology are closely aligned with the goals of the FE curriculum and that technology can play a vital role in its development.

Having established what the objectives of the FE curriculum are, and that technology has a vital role to play in reaching these objectives, the focus now needs to shift to what is involved in successfully incorporating technology into the curriculum.

What factors need to be taken into account to successfully integrate technology into the curriculum?

The most basic element to look at is what technology is available for FE students and teachers to use. Fortunately, KUIS is equipped with a huge amount of quality technology that is available to FE teachers and students. There are twelve digital video cameras, six firewire cables (for capturing digital video), two digital cameras, a portable projector, a DVD burner, a DVD recorder, approximately fifty MD Players, and three 1GB portable flash disks (storage devices). In addition, the SACLA (Self Access Centre for Learner Autonomy) at KUIS houses six Blended Learning Space (BLS) classrooms,

each of which has about thirty notebook computers with Windows XP Professional operating systems and high-speed wireless internet connection, as well as a teacher's computer and projector. Moreover each BLS contains Hi-Fi cabinets equipped with multi-region DVD player and VCR deck, an MD Player and a satellite selector and receiver for watching satellite television through the projector. In contrast however, classrooms in all other buildings on campus are equipped with TV, VCR and DVD players only.

Therefore, in planning a curriculum it would be easy and extremely tempting to incorporate as many lessons as possible using technology or computers because of the seemingly infinite possibilities and the incredible facilities available. However, the first consideration that needs to be made is how often will technology, or a computer, be available to teachers and students? The BLS classrooms have almost everything a teacher could want, but currently most FE teachers are only in the BLS classrooms once a week. That means three lessons out of four each week are in classrooms that are equipped only with a TV, VCR and DVD player. This is a very important issue because a curriculum needs to take into account what is or isn't possible for a teacher to accomplish using technology. Indeed, in a survey conducted among ELI teachers including those teaching FE, over 50% of respondents stated that problems they had had using technology in classes were specifically caused by classrooms without the necessary facilities.

A perfect example of this dilemma is the incorporation of filmmaking into the curriculum. If set up correctly it is a wonderful opportunity for students to create, produce and entirely control their work from start to finish. It involves

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collaboration, interaction, interdependence, autonomy, freedom of choice and responsibility on students – everything that KUIS is trying to achieve. But consideration needs to be made for what is involved in making a video from start to finish. The process up until capturing the video can be done on any given day. However, from capturing the video to editing it and exporting it to tape, CD or DVD requires the use of a computer. In addition it requires time to teach the students how to capture, how to edit and how to export. And it takes even more time for the students to actually carry out the process of each of these skills.

So therein lays the problem. Time and computers (as well as the requisite cables) are necessary to successfully enable students to complete their video projects, yet many FE teachers only have one BLS class per week. One class runs for 1.5 hours, but by the time students have come in, taken the computers out, set them up, attached the necessary cables and opened up the necessary programs, they are looking at about 1 hour and twenty minutes of class time. Then allowing 5-10 minutes to pack everything up at the end of the lesson, the actual working time in class is about 1 hour 10 minutes at best. Add to the fact that most of the students are working on software - in English - that they have never seen before, and it is clear that more than an hour or so is necessary.

But if teachers are only in the BLS once a week, what can be done? Teachers can't simply wait a week to continue the project because most of the time classes have moved on to different units by that time. This is a current problem in the FE curriculum and one that has seen teachers resort to all

sorts of measures to overcome it, including using staff from MEC (Media Education Center) to conduct tutorials completely in Japanese to save time – something that goes against everything KUIS and the FE curriculum is trying to achieve.

Though this is just one example, it highlights how unplanned incorporation of technology into the curriculum can be very problematic and frustrating for both teachers and students. Thus careful thought must go into curriculum planning to ensure that practical issues are recognized and catered for, and that class or project objectives are realistic. But it also brings up another pertinent issue.

What skills do teachers and students have using different forms of technology?



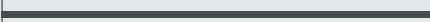



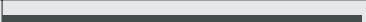





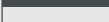
When trying to integrate technology into a curriculum, this is a question that must be considered. The example above of the problems using video cameras is not just related to time issues. Very often, both teachers and students have very little idea about using different forms of technology that have somehow found their way into the curriculum. Firstly I will focus on the skills of teachers.

In a recent survey sent out to ELI/FE teachers asking them about their proficiency and experience using different forms of technology, responses were quite varied. In terms of which forms of technology teachers felt comfortable using, applications such as MS Word, MS PowerPoint, and MS Excel rated

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highly, as did using the Internet, MD Players, Digital cameras and to a lesser extent video cameras. In contrast, only 32% of respondents said they felt comfortable using Windows Movie Maker, while just 20% said they were comfortable using I-Movie (both movie editing software packages).

TABLE 1: *A survey asking teachers which forms of technology they are familiar with and comfortable using*

Which forms of technology are you familiar with and comfortable using?			
		Response Percent	Response Total
Microsoft Word		100%	34
Microsoft Excel		70%	24
Microsoft PowerPoint		94%	32
Microsoft Publisher		14%	5
MD Players		88%	30
Internet		97%	33
Video Cameras		73%	25
Digital Cameras		88%	30
Microsoft Windows Movie Maker		32%	11
Apple I-Movie		20%	7
Adobe Photoshop		35%	12
Macromedia Dreamweaver		29%	10
Moodle		17%	6
Total Respondents			34

This statistic was also reflected in response to which forms of technology FE teachers had used, and were comfortable using in their classes at KUIS. MS Word and MS PowerPoint rated highly, as did the Internet, MD players and video cameras. However only 11% had used Windows Movie Maker and

20% had used I-Movie. When asked why they preferred using particular forms of technology more than others, the response was overwhelmingly that they were simply familiar with the respective pieces of technology.

What are the implications of these responses? Quite simply that teachers are only using forms of technology that they already know how to use. But if they are not familiar with different forms of technology then they are very reluctant to use them. This may seem obvious but it has an impact on classes and students. In the case of using movie editing software, teachers are quite clearly unfamiliar with it and thus shying away from using it. Or in many cases they are passing the responsibility over to members of MEC to teach students in Japanese. This is taking away great opportunities for students to produce wonderful pieces of work that they can have total control over. The motivational aspects involved in students filming, editing and producing their own movies are incredibly high, but due to lack of knowledge on the part of many teachers, students are not being offered these opportunities. This applies to any other form of technology too.

A further problem is created when individual teachers may be more proficient in using different forms of technology than other teachers. When one teacher utilizes a particular form of technology in a particular unit because he/she is comfortable using it and teaching it, but another teacher decides against using it in the same unit because of their own unfamiliarity with the technology, it causes a disparity in what students from different classes are receiving. Even though the curriculum is designed to be personalized and flexible, it is contentious that some students have access to learning new skills

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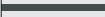


while others don't simply because of a respective teacher's know-how. In fact, 48% of teachers surveyed responded that problems they had had using technology during their classes at KUIS had been caused by their own lack of knowledge in using the respective technologies. So naturally this in turn affects the skills the students receive. How can this problem be addressed? Through careful planning of the curriculum, but also through teacher training, a topic I will address later.

Before that, student proficiency in using different forms of technology needs to be looked at. Exposed to so many different forms of technology from a very young age, there is an assumption among teachers and people in general that the younger generations are growing up fluent in the use of technology. Particularly Japanese students, as it is the country where so many of the advances in technology are created. However, following an extensive survey of FE students, this is simply not the case. In fact, it was surprising enough to see that they weren't as proficient as may have been expected using different forms of technology, but what was most surprising was how little many of them knew about even basic applications such as using the Internet, E-Mail, and MS Office applications such as Word, PowerPoint and Excel. But it should not be so surprising considering that the Japanese Ministry of Education has only recently set computer literacy benchmarks for high school graduation and are seeking to have students proficient using technology by 2005. (see <http://www.mext.go.jp/english/org/eshisaku/eshotou.htm>)

In regards to using the Microsoft Office suite of applications, only 47% of respondents were familiar with MS Word before they entered KUIS. Moreover, at the time of the survey (shortly after 2nd semester had begun) only 57% felt

comfortable using MS Word and could complete actions such as cutting, copying, and pasting. However only 33% knew how to format pages, use borders and shading, create backgrounds or use the drawing functions of MS Word. Their lack of basic knowledge using MS PowerPoint is also significant. Prior to entering KUIS only 17% of students surveyed said they could use PowerPoint. At the time of the survey the number had increased to 48%. Yet that means by second semester 52% of FE students surveyed were still not familiar with MS PowerPoint.

TABLE 2: *This survey looked at students' ability to use Microsoft Office applications such as Word and PowerPoint before entering the university and after 1st semester at the university. 147 students took the survey. Relevant results have been published*





Using The Microsoft Office Suite			
		Response Percent	Response Total
I was familiar with MS Word before entering this university		47%	69
I am now comfortable using MS Word		57%	85
I can complete actions such as cutting, copying and pasting		57%	84
I can create backgrounds in MS Word		17%	25
I can use the Drawing Functions in MS Word		17%	25
I could use MS PowerPoint before entering this university		17%	25
I am now comfortable using MS PowerPoint		48%	80
Total Respondents			147

Using digital video cameras and editing software is even bleaker. Prior to entering KUIS 13% of FE students surveyed said they were comfortable using digital video cameras. Of those who said they were comfortable using digital

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video cameras, only 11% said they had used video cameras with an English menu. However, in terms of editing captured video, only 4% said they had experience using Windows Movie Maker and 2% said they had used Apple I-Movie prior to entering KUIS.

TABLE 3: *A survey asking students how much experience they had using video cameras and editing software. 147 students took part in the survey*

Using Video Cameras and Editing Software			
		Response Percent	Response Total
I had experience using video cameras before entering this university		13%	18
I have experience using video cameras with an English menu		11%	15
I have used Windows Movie Maker to edit movies		4%	63
I have used Apple I-Movie to edit movies		2%	25
Total Respondents			147

I have chosen to use the particular statistics above because they are central to the issue of curriculum planning at KUIS. In the current FE curriculum there are numerous tasks that involve students using MS Word, MS PowerPoint, digital video cameras and Apple I-Movie (there aren't any explicitly suggesting the use of Windows Movie Maker but that is simply because those who constructed the curriculum in the past had no idea how to use it) In fact, creating videos and giving MS PowerPoint presentations are used as the Final Project (where students earn a high percentage of the final grade) in a number of units, which has the potential to be problematic. Why? Because the statistics above show that the majority of students don't know how to use these different forms of technology. That they are in the FE curriculum indicates

that assumptions may have been made about students' capabilities, or that there was a lack of consideration for such issues when initially planning the curriculum. How can this be rectified? Teacher training and an examination of how students are taught technology is the most obvious way.






How can teachers be trained to use different forms of technology?

It is evident from the survey results above that there are a number of discrepancies between teacher know-how using technology, student know-how using technology and curriculum demands. So how can these discrepancies be remedied? Before you can tackle the problem of teaching students, you first have to tackle the problem of training teachers. This issue has been a thorn in the side of KUIS for some time now. In response to how teachers have solved issues they have had with technology in the past, 85% said that they taught themselves. With more than 40 teachers on staff, various committees in place and a curriculum that constantly requires teachers to incorporate technology into their teaching, this is not an ideal situation.

There have been a number of suggestions or methods employed in the past to train teachers to use different forms of technology. When teachers were asked which options they would like to take to improve their skills using technology, opinions were divided. 12% of respondents said they would like lunchtime workshops held by fellow teachers, 15% said they would like workshops held by teachers before the commencement of first semester, 27% said they would prefer guides and tips on where/how to teach themselves, 27% said they would like formal training provided by external, qualified staff and 15% said they would like a combination of the options on offer.

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TABLE 4: *This asked teachers what options they would like offered to help them increase their skills using different forms of technology. A total of 34 teachers participated*

What could be done to improve your skills in using different forms of technology?			
		Response Percent	Response Total
Lunchtime workshops held by fellow teachers		12%	4
Workshops held by teachers before first semester		15%	5
Guides and tips on where/how to teach myself		40%	14
Formal training provided by external, qualified staff		32%	11
A combination of the above (reasons provided)		15%	5
Total Respondents			34

Looking at the different options, some are more feasible than others, but each needs to be examined. Even though formal training provided by external, qualified staff rated highly in the survey of ELI/FE teachers, it is not something that can be pursued. The first reason is practicality. As Fitzgerald (2004) says, nearly all on and off campus training is done in Japanese. The drawbacks of this are obvious. Fitzgerald also points out that IT professionals without English Language Teaching experience cannot easily imagine how to use CALL or technology to teach effectively. Further, the cost to benefit ratio does not add up. Teachers at KUIS are on 2-4 contracts so constant training of incoming teachers would become expensive. And what's more, KUIS would effectively be training teachers to benefit different schools after they move on from KUIS.

The idea of training teachers before the commencement of first semester

brings up an interesting dilemma. Do you train teachers according to what is already – rightly or wrongly – in the curriculum, or do you try to integrate technology into the curriculum based around the skills that FE teachers already possess? It must be the first option simply because the second option – with the short-term nature of contracts at KUIS – is not viable. The curriculum would have to constantly shift, evolve, regress and change ad infinitum to accommodate incoming teachers.

Training FE teachers to use the different forms of technology they will be required to use in the curriculum is a definite possibility, but measures need to be taken to ensure a greater success rate than similar ideas that have been used in different areas at KUIS in the past. Though there is currently nothing in place that addresses this possibility, the IRP (Internet Research Project) committee does conduct workshops for new teachers prior to first semester. However, their success rate has been limited. Moreover, the workshops are targeted at maximising use of the BLS rather than on the specific forms of technology that FE teachers would need training with. One of the reasons for the varying success rates of IRP's workshops is that the context is not set clearly enough. How to use the resources is taught in the workshops, but not when, why, and how in relation to different classes. Of course IRP can't govern or predict what each new teacher may or may not do in their classes, but it nonetheless does often mean that teachers feel a little at sea with the knowledge of using different forms of technology without any real context for their use. If the FE committee was to introduce similar workshops, it would need to ensure that a clear context and explanation for the use of the different forms of technology was provided.

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The final issue is who would conduct these workshops? In a pilot project in Egypt, Warschauer (1999) said he chose to train a leadership core in the uses of technology rather than conducting short-term training for large numbers of teachers. This is interesting, particularly in the KUIS context – and for most universities with EFL teachers in Japan – because as long as teachers are on relatively short term contracts of 3 and 4 years, it will be almost impossible to create this kind of leadership cadre that facilitates the utilization and training of technology to a broader group that Warschauer talks of. As long as teachers keep coming and going at regular intervals and technology continues to advance at its current rate, then having teachers with the necessary skills to use technology well and efficiently, or training teachers to do so, will be a continual headache.

One possible solution is to make how-to manuals for using the different forms of technology. Most computers nowadays come with a ‘printscreen’ function, to take pictures of what’s on your monitor at any given time. This allows the writers of these manuals to provide graphic, as well as written instructions. Upon completion these manuals could be placed on the network and made accessible to FE teachers. Workshops could be held using the manuals as guides so that a group setting could benefit from trial, error and discussion, but teachers would also have the opportunity to work individually on improving their skills. Having the manuals on the network would also eliminate the problem of teachers coming and going. The manuals would always be there for new and old teachers alike. The only thing that would have to be updated would be manuals specific to newer forms of technology being introduced to the existing curriculum.

How can technology be utilized most efficiently for students?

The first thing that needs to be taken into account is what the technology is being used for. Is it being incorporated into the curriculum to simply teach students a new skill using technology or is there an alternative or accompanying goal in mind? The FE curriculum at KUIS has a dual purpose in mind. The first is to teach students how to use different forms of technology that will help them during Freshmen English and beyond. The second is to do so within the pedagogical framework set down in the curriculum's objectives, meaning that whilst students are learning how to use different forms of technology, they are also being provided with activities that facilitate individualization, interdependence and interaction

The pedagogical goals of the curriculum must always remain central to planning, and technology must be integrated in such a way that achieves these goals.

If there aren't any pedagogical parameters, the use of technology in a curriculum will have two major flaws. The first is that technology, intentionally or not, could end up being taught solely for the purpose of teaching different forms of technology. If this happens, not only are the objectives of KUIS forgotten, but classes also run the risk of becoming nothing more than computer classes, or IT classes – something which KUIS is vehemently against. The second is that technology can often be utilized or relied upon as some kind of fancy resource that is highly beneficial to students simply because it is technological, new and modern. The problem with this of course is that,

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as Chapelle (2003) notes, there is still a lot of debate over whether the use of technology demonstrably benefits students more than a traditional classroom setting when learning a language. But when technology is used as a tool to facilitate pedagogical objectives, then its integration into a curriculum will be much more successful and beneficial to students.

A good example of how this has been achieved successfully in the current FE curriculum is the incorporation of MD Players for listening activities. Students are first introduced to MD Players at the start of first semester and made aware that they will be using MD Players for listening activities throughout the year. Students are put into pairs and then each pair is given one MD Player. They begin by going through a variety of communicative activities which help them become familiar with the technology and allow them to produce useful vocabulary such as 'rewind', 'play', 'stop', 'pause', 'fast forward'. After that they are required to produce more complex phrases relevant to the MD Players and forthcoming activities such as 'shall we rewind?' 'do you want to listen again?' 'can we stop there?' 'did you understand that section?' and so on. Following that they move onto the specific listening activities.

The important thing is that the technology is being used on two fronts. On the one hand students are learning to use the MD Players and the target language that goes with them, but on the other hand they are being given autonomy and control over their learning. Once they have learnt how to use the players, they can then work through activities at their own pace. They can choose which language is relevant to them at any given stage, they can control what they listen to and how many times they listen to particular passages,

and they can work through activities in a way that is suitable to their needs regardless of what other pairs are doing. The dual focus of teaching them technology within a pedagogical context is being adhered to. If this premise of integrating technology into the curriculum is kept in mind, then it doesn't matter what kind of technology is utilized. The end result should always be the same.

Conclusion

In summing up, the use of technology has become a huge part of the language learning environment globally and at KUIS, and continues to facilitate innovative teaching methods in the classroom. There is no doubt that as different forms of technology become more available, accessible and affordable, their place in classrooms and curriculums will continue to become more important. However, incorporating technology into any given curriculum will not ensure that it has the desired effect or is immediately successful. A solid pedagogical framework must be in place to ensure that technology is being used for the right reasons, and not just as some kind of fancy gimmick or distraction from the ultimate target. Technology itself will not necessarily make students better, or more successful learners, but when used in conjunction with sound pedagogical principles, it has almost limitless potential. Further, the curriculum must be planned so that unrealistic goals aren't set and undue pressures aren't placed on teachers to incorporate technology.

Thus, the abilities of teachers and students using technology cannot be overlooked. If either lacks the required skills, then lessons will not work and

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the curriculum and the integration of technology can suffer. For students to know how to use technology, teachers must teach them, but if teachers don't know how to use the technology, then there must be measures such as manuals, guides to websites, workshops and so forth in place for them to acquire the necessary skills. If teachers feel confident they can learn to use different forms of technology, then they will use them. However without the opportunity to attain such skills, not all teachers will take the chance of utilizing technology in their classes or risk having their lack of technical skills embarrass them in front of their students.

If all these factors are taken into account, then technology can play a significant and enjoyable role in the language learning process.

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