

Language Teaching and New Technologies *A Psycholinguistics Review of Integrating New Technologies into Second Language Learning*

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Abstract: This study aimed at investigating, psycholinguistically, in an Algerian context, the usefulness of technology in language teaching and learning. Firstly, it reviewed the relevant literature on the matter. After that, a study was conducted. We distributed a questionnaire to 19 Master students of English at Mhamed Bougara University in Bumerdes, Algeria. The questionnaire included 12 questions in order to know the participants' attitudes and opinions on some aspects related to using technology in an English language classroom. The gathered data were discussed and analysed from a Psycholinguistic perspective providing that this field of study can offer a rich and robust scientific ground to the topic of this research. The findings revealed that the majority of the participants see that technology use is beneficial to learn a language. According to them, the negative aspects of technology use fluctuate between institutions budgets, students' distraction and the decreasing of the teachers' role. Most of them stated that their teachers were not open to using technological tools. They claim that the barriers that an educational institution can face to integrate technology are: teachers training, lack of equipment, and renovation of the whole educational system. Most of the participants believe that listening and speaking are the two most improved skills in the classes that use technology. All in all, to them, communicativeness is improved in classrooms that use technology because it motivates them, encourages independent learning, facilitates information access, leads to teamwork, and develops the speaking skill.

Keywords: Technology use, Psycholinguistics, Language learning, Advantages, Disadvantages.

Introduction

According to Block (2003), since the 1990s, the field of language teaching has witnessed a turning point. This latter has led to adopting techniques and strategies from other domains. Thus, the technological invasion in the modern era has reached every domain, including language learning and teaching. Contemporary educational institutions strive to integrate new technologies, such as Internet, E-learning, Tablets, Smart Boards, Data shows, smart TVs, etc, in their language classrooms. Nevertheless, even though those new technologies have many advantages at the level of teaching English as a foreign language, there are many obstacles that hinder their use in Algeria.

For Hong et al. (2017), Kennedy (2006), Leow et al. (2015), as cited in Valera, J. A. (2019), researches in the field of Applied Linguistics have given rise to a more improved interdisciplinary attempts that have permitted other fields, like psycholinguistics, to earnestly be part of the shaping of modern teaching approaches depending on freshly novel interpretive ideas. Those new approaches are for the purpose of exploring both the taught academic content for non-native learners, and the practical connections between the various procedures

responsible for information processing during language learning. Hence, we strongly believe that the foreign language teaching/learning operation has a lot to do with psycholinguistics which has a huge amount of knowledge to offer as explanations and analyses for a better understanding of this marvellous human-specific behaviour.

Therefore, this research, firstly, embodies, critically, the advantages and obstacles of using technology in teaching foreign languages. Secondly, it deals with a study to elicit Algerian students and teachers' perceptions, attitudes, and opinions about integrating technology in second/foreign language learning.

The benefits of using technology tools to achieve better atmospheres in English language classrooms are never to be under-estimated. As far as the Algerian context is concerned, there are numerous obstacles that make it very difficult to rely on technological tools to teach the language. Furthermore, in the available relevant literature, none of the studies have relied on psycholinguistics to interpret the findings. Thus, as we give more importance to this field, the gathered data are more likely to be interpreted from a psycholinguistic perspective.

I. Literature Review

This part of the study concerns itself with highlighting some key concepts and ideas about the advantages and limits of relying on new technologies to teach a second language. Pursuing this further, it has been suggested that the use of new technologies has positive impact on both learners and teachers (Mansor, 2007). Some studies (Timucin, 2006; Miner, 2004; Friggard, 2002) have concluded that using technology enhances the improvement of teaching methods in addition to learners' linguistic knowledge. Moreover, as stated by Lam and Lawrence (2002), technology provides students with the information that might not be provided by the teacher. This positive aspect of integrating technology has stimulated language teachers, educators, and pedagogues to apply it to boost pedagogical practices. Notwithstanding, the incorporation of technology in the classroom cannot escape problems. This part of the study, therefore, is concerned with discussing both advantages and disadvantages of technology use as an attempt to provide teachers and researchers with some essential background knowledge and useful references about this matter.

A. The benefits of using new technology in language teaching

Many studies have demonstrated the advantages of technology use in language learning, and this part of the study will focus on some of them.

1. Commitment

Several researches revealed that one of the benefits of using technology tools is that they can increase students' motivation (Dunkel, 1990), because through the use of technology, fun and games are brought into the classroom. This fun factor is very significant in a language classroom (Warschauer & Healey, 1998; Galavis 1998). That is to say, this learner's excitement that the use of technology creates is crucial in motivating students to learn the language which in turn encourages students' commitment to the classroom.

The field of Psycholinguistics includes several researchers who highlight students' motivation (Schmidt, 1991; Pardee, 1990; Gardner, 1985; Oxford and Shearin, 1994; Brown, 2000). Motivation, in this respect, is defined as the student's likelihood regarding the purpose of

learning a second language. Besides, the already mentioned researches claim that it is a very significant aspect that learners should have in order to learn the language appropriately.

2. Boosting communicative learning

Another advantage of relying on technology in language classrooms is that communication in learning activities is highly encouraged. Gillespie (2006) claims that new technologies help students gather information and react to classroom tasks, such as games, images and videos. For Murphy (2006), Internet is not only a source of information but also a means of communication. This means that technology tools are useful to improve communication in the classroom. It is also suggested that technology allows learners to connect to the world outside the classroom and thus make their language production better knowing that their work will be shared with a large audience.

3. Decreasing language anxiety

Employing new technology in language teaching appears to have another advantage. It is said that it decreases language anxiety amongst learners (Levy 1997; Chapelle 2001). In his study of EFL teachers' attitudes of Computer-assisted language learning (CALL), Ozerol's (2009) research dealt with 60 language teachers, from different schools in Turkey. The teachers mutually concurred on the idea that technology use decreased learners' language anxiety providing them with more opportunities to communicate. In the same context, Brul's (2006) study is relevant. To explain, this study concluded that the use of computers in language teaching opened doors for diversity in the classroom environment, improved students' language skills and enhanced learner autonomy.

From a Psycholinguistic point of view, to be emotionally ill-at-ease when learning English leads to serious issues. However, according to Lindgren (1976), an average level of anxiety is demanded so that a successful language learning operation takes place. He mentioned a study that was carried out in Australia concluding that learners with moderate amount of anxiety scored particularly better than learners with high or low levels of anxiety.

B. The obstacles of using new technology in language teaching

Nothing is perfectly put; everything has both positive and negative sides. For that, this part of the study concerns itself with the obstacles that the classroom might face concerning new technologies use.

1. Unreachability of resources

Inaccessibility to technology resources is a major disadvantage for those educational institutions that cannot afford or do not have access to a computer or an Internet connection (Coghlan, 2004). According to Gips et al. (2004), the financing of computer equipment is also seen as a serious obstacle for low-budget schools. As for Mike's (1996) research, it says that unequal opportunities to have access to technology tools have been an issue for language teachers and students. That is, sometimes the low budget of some educational institutions does not allow them to afford the financing of such new technologies, which in turn means that the fact that technology tools are expensive makes it very difficult for certain schools to benefit from them.

2. Absence of efficient training

Various researchers think that the absence of effective teacher training, lack of proper knowledge and practice are the reasons behind unsuccessful use of technology as a learning means. A considerable number of researchers such as Coghlan (2004), Schwab & Foa (2001), and

Lai & Kritsonis (2006) agree on the idea that every teacher must develop his computer competency to use technology tools efficaciously. For Symonds (2000), teachers are not encouraged to do enough training. Finally, Romano (2003) claimed that using new technology does not help learning unless teachers are well trained to adopt technology as an educational means.

3. Teachers' perception

Research conducted on the disadvantages of technology use in education has concluded that teachers' attitude was an important obstacle (Hodas 1993). Several teachers believe that the use of technology in the classroom is negative (McGrail 2005). Fang & Warschauer (2004) notified that traditional teachers were scared of losing control of the classroom. That is, fear of failure in technology knowledge was the reason behind teachers' lack of confidence, which in turn made them feel anxious and resist its use (see Beggs 2000; Balanskat et al. 2006). Subsequently, Becta's (2004) research, exhibited that teachers felt frightened to rely on technology in the classroom if they could not count on their knowledge about it.

This part of the study has tried to deal with the benefits and limits of using new technologies as a step to augment the understanding of this way of teaching languages for both teachers and learners. According to the literature, there are several benefits of technology tools including students' commitment to the lesson, boosting communicative learning, and decreasing language anxiety. Nevertheless, there are some limits hindering the appropriate use of technology in language teaching such as unreachability of resources, absence of efficient training, and teachers' perception of the technological tools. Thence, if using new technology tools in language teaching is dealt with properly, the outcomes of teaching would be great.

II. Methodology

The present work is a qualitatively descriptive study that looks at the perceptions, attitudes and opinions of some Algerian teachers and students about using new technologies in language teaching and learning. Seeking objectiveness, pertinent data were collected using a mailed questionnaire. Moreover, the findings are discussed and analysed relying on the field of Psycholinguistics and what it could provide as ideas and insights.

A. Data collection methods

In the present study, we opted for the questionnaire as the method by which we gathered data from the participants. By definition questionnaires "are any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers" (Brown, 2001, p. 6). We have sent, through emails, a questionnaire to 19 Master students of English at Mhamed Bougara Boumerdes University. The questionnaire is semi-structured and contains 12 questions, among which 02 are factual, 06 are closed-ended, and 03 are open-ended.

B. Data analysis procedure

With respect to the idea that this research is qualitative, in order to analyse the collected data, we opted for a descriptive approach. The results of the questionnaire were calculated using Microsoft Excel and then demonstrated in graphs and pie charts by the same hardware. We reckoned that this approach is an appropriate one because our study sought to see the usefulness of technology use in language teaching in our Algerian context.

III. Results and Discussion

Question 01

- What is your gender? (Tick in (✓) the box that best describes your answer).

Male

Female

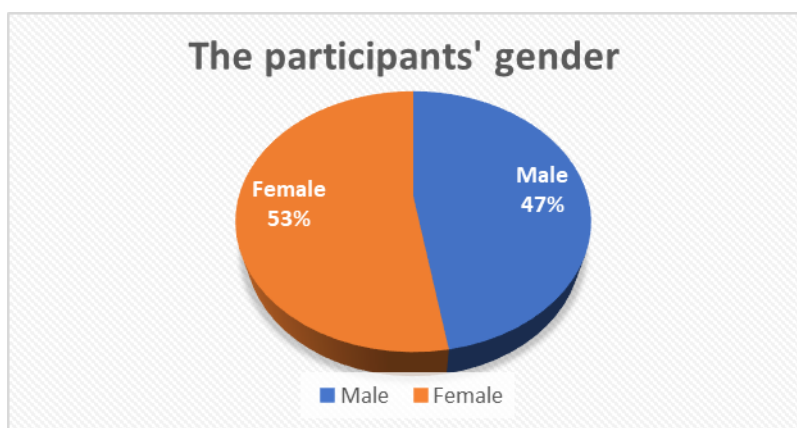


Figure 01: The Participants' Gender.

Endeavoring to know the participants, we have put such a question in our questionnaire. Also, in order to guarantee the reliability and validity of the study undertaken we made sure that both genders have taken part in this study. Therefore, this pie chart shows that there is balance between both genders. More precisely, out of 19 students, 09 are males (47%). However, 10 of them (53%) are females.

Question 02

- How long have you been studying English?

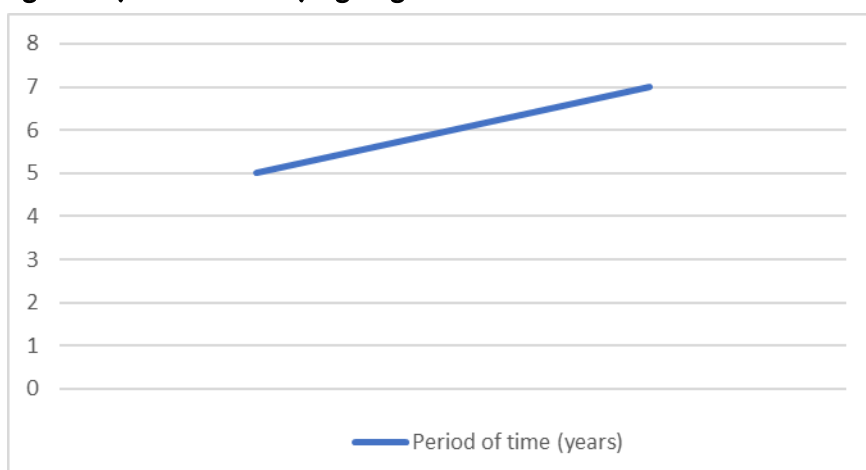


Figure 02: The students' studying period of time.

The graph representing **question 02** shows that there are five participants with seven years studying the English language. Our goal asking this question was to demonstrate the credibility of

the answers. Furthermore, it, in turn, entails that all the participants have a good idea about learning English and the aspects of using technology in the classroom. The participants' level, thus, in our situation, is very important since it manifests that the answers can be taken into consideration.

Question 03

To what extent do you think using new technology is beneficial to language teaching? (Tick in (✓) the box that best describes your answer).

Very beneficial Fairly beneficial Not beneficial at all

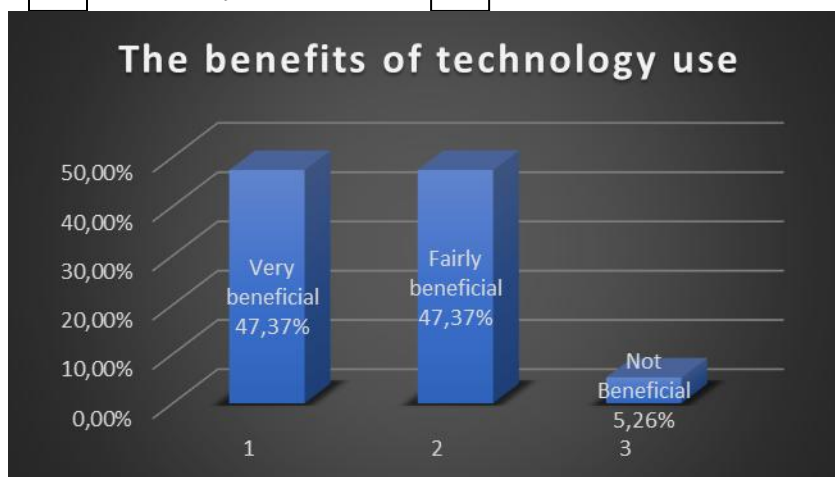


Figure 03: Students' opinions on the benefits of using technology in classrooms.

The above chart shows that few of the participants (5.26%) believe that technology use in the English classroom is not beneficial at all. However, a considerable number (47.37%) of them have opted for the idea that relying on technology is very beneficial for the language learning process. An identical number (47.37%) have selected "fairly beneficial".

To comment on the data in this chart, it might come to our minds that the participants' opinions are, perhaps, based on the extent to which their experience with technology use (which is just using data shows and computers in Algeria) went in good ways. To explain, the operation could have had negative impact if the teacher, for instance, is not good at computers, which makes him unable to do well presenting his lesson. However, the field of psycholinguistics can provide us with more a convincing idea. We believe that the learning styles have a lot to do with the participants' selection between the three given options.

From a psycholinguistic perspective, amongst the learning styles, there is a perceptual learning style which stands for the reliance on the student's senses to learn the language. This latter includes a learning style that is known as the visual learning style. Visual students are more likely to depend on their eyes to learn the language. Meaning, when the teaching operation is depicted in a visual form, they learn better (Fleming and Baume, 2006). The idea is simple, it might be that the ones who have chosen that technology use is very beneficial tend to be visual learners (these are 09 participants out of 19), so their experience went hand in hand with their learning style, which made them have better environment for learning. Notwithstanding, those who have opted for "fairly beneficial" and "not beneficial at all" (09 students and 01 student respectively) should be of other perceptual learning styles. This tells us that among the participants, there are almost half who are visual.

Question 04

- In your point of view, what negative aspects could technology in teaching languages give rise to?

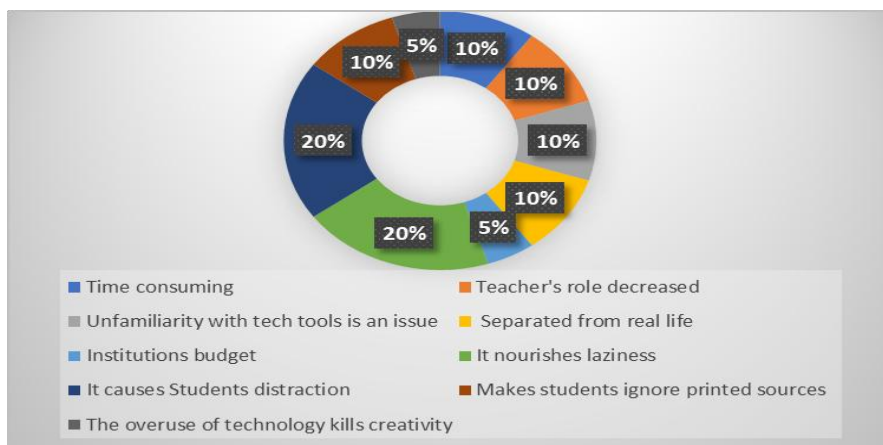


Figure 04: The participants’ opinions concerning the negative aspects of technology use.

The purpose of this question was to shed light on the students’ opinions about the disadvantages of using technology tools to learn the English language in the classroom. As this graph exhibits, its two biggest portions are devoted to the idea that technology use can be the reason for students’ laziness, and that it causes distraction making them unfocused to the lesson, (20% each). In addition, the two lowest percentages (05%) are for the financial deficiencies of the educational institutions being unable to provide appropriate technology tools, and the fact that technology kills creativity if overused. Furthermore, the other five portions (having the percentage of 10% each) fluctuate between the fact that using technology tools can decrease the teacher’s role, it might consume much time, teachers and students being unfamiliar with tech tools makes another issue, and it can make students ignore printed sources.

We think that the answers of the participants are quite relevant provided that relying heavily on technology can have various negative aspects, including what they have mentioned. If we compare our data with the available literature (See page 03), absence of efficient training is a negative aspect according to many researches (Coghlan, 2004; Schwab & Foa (2001); Lai & Kritsonis (2006); Symonds (2000); Romano, 2003). They claim that both students and learners have to be well equipped with enough knowledge in order to be able to work with technology tools. Otherwise, the teaching/learning operation can be very difficult.

Since one is to relate psycholinguistic knowledge to this precise issue of negative aspects of technology use to learn English, it would be said that if technology use in the classroom is a new activity for the learners, some of them would see it as a risk-taking operation that makes them afraid to actively be part of the lesson. Amongst the factors that influence language learning there is one which is called “risk taking”. Nunan (1992) argues that situations whereby the learners face challenging activities are more likely to raise risk taking deficiencies in them. That is to say, we hypothesise that students who stress on the disadvantages of technology use in language classrooms see it as a risk that they are not willing to take making them inactive during the lesson.

Question 05

- Do you believe that your teachers are open to using new technology in language classrooms? (Tick in (✓) the box that best describes your answer).

Yes No Not really

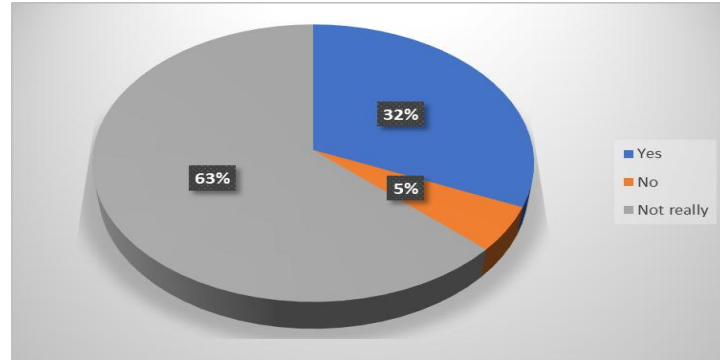


Figure 05: The participants' opinions on their teachers' openness for using technology tools.

The fifth question of our questionnaire was to demonstrate the teachers' tendency to rely on technological material in their lessons. Surprisingly enough, as we can see in the above pie chart, 12 students (which corresponds to 63%) of the participants think that their teachers are not really open to use technology tools to teach English. However, 32 % of them (06 students), have stated that their teachers showed a strong aptness for using technology. Nevertheless, 05% (01 student), believe that their teachers are not open to using new technologies in their language classroom at all.

In the Algerian educational context, we have many teachers who are obsolete towards using technologies in their classrooms which could have been of much help, for them and their students, to have better outcomes of learning. Even more, the majority of the teachers do not do any effort to be up-to-date with the present time's technological developments. As it is shown in our study, most of our participants witness that their teachers were not that welcoming to teaching with technology-assisted materials.

Question 06

- As a student, what barriers do you think would the educational institutions face to integrate technologies?

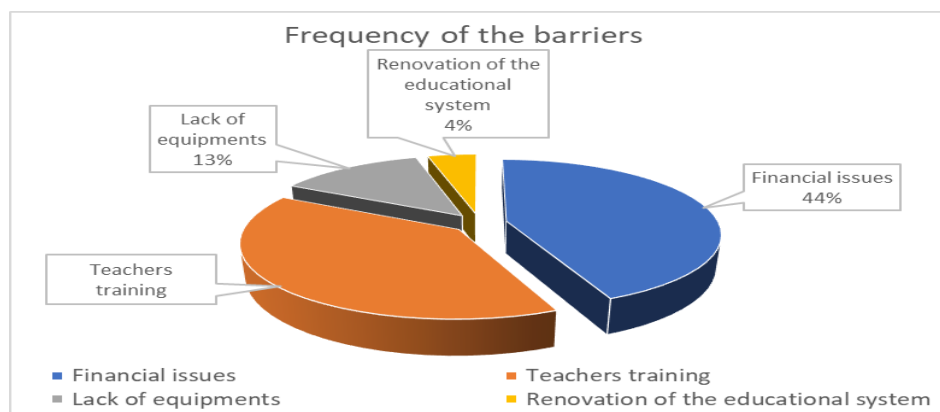


Figure 06: The participants' perspectives concerning the educational institutions' obstacles to integrate technologies.

As we move on to get to know our participants' opinions, we posed such a question. 10 students (44%) believe that what prevents institutions from integrating technological tools in their classrooms is the lack of financial support. 39% (09 of them) claim that teachers' training could be a serious problem, which is obviously related to the first obstacle because money is crucial to train teachers. 13% (03 students) mentioned that the lack of equipment is the issue here since the majority of our educational institutions, not to say all, lack technology tools. Finally, 01 participant (04%) referred to the idea that renovating the whole educational system to meet the requirements of the new-technological era is an issue itself causing a huge obstacle for any country to overcome.

It is clear that all the answers imply the economical aspect in their intrinsic meaning giving much importance to money. The integration of technological tools seems to be a very strenuous task for underdeveloped countries. Robust substructures on which institutions are based are lacking many important aspects, mainly financial ones, which can make them able to meet the required levels concerning technologies used for language teaching.

Question 07

- Does technology integration really help language learners improve their own learning?

(Tick in (✓) the box that best describes your answer).

Yes No I do not know

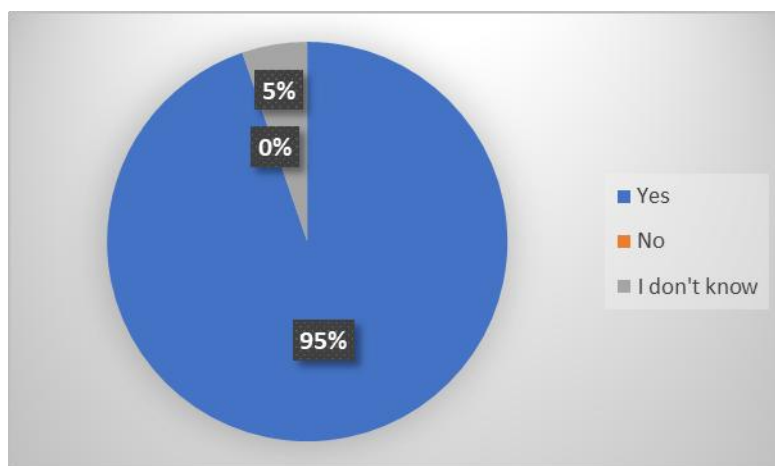


Figure 07: The participants' opinions on the usefulness of technology use.

Depending on the students' answers represented in this pie chart, the overwhelming majority (95%) have selected "yes" as an answer for this question, claiming that technology use is very advantageous. Somehow, this was a rephrasing of **Question 03**. It was an attempt to confirm the extent to which the participants were focused in answering and not just answering in vain. If we do the math, in **Question 03**, the percentage of "very beneficial" (47,37) plus the one of "fairly beneficial" (47,37) equals 94,74 which is almost identical to the percentage of this question which is 95%. Back to our question, only 05% (reflecting 01 student) selected "I don't know" as an answer. Additionally, there is no one who opted for ticking in the "No" box.

Given the high importance of technology use in language learning, the results of this question were strongly expected. Besides, it is obvious that most students like to study in new environments, and relying on technology tools such as digital tablets, computers, videos, projectors and smart phones can be very attractive and motivating for learners, especially the young ones.

The variation of technology tools can assure the variety of learning styles in the classroom, which from a psycholinguistic point of view, would be very appropriate to deal with all types of learners. As an illustration, videos and E-books can be of much help for visual learners, audio files are for auditory learners, digital tablets can be useful for kinaesthetic learners who like to move when learning, etc.

Question 08

How often have your teachers used technology tools in the classroom? (Put the description that best suits your answer between brackets)

Very often / usually / sometimes / rarely / never

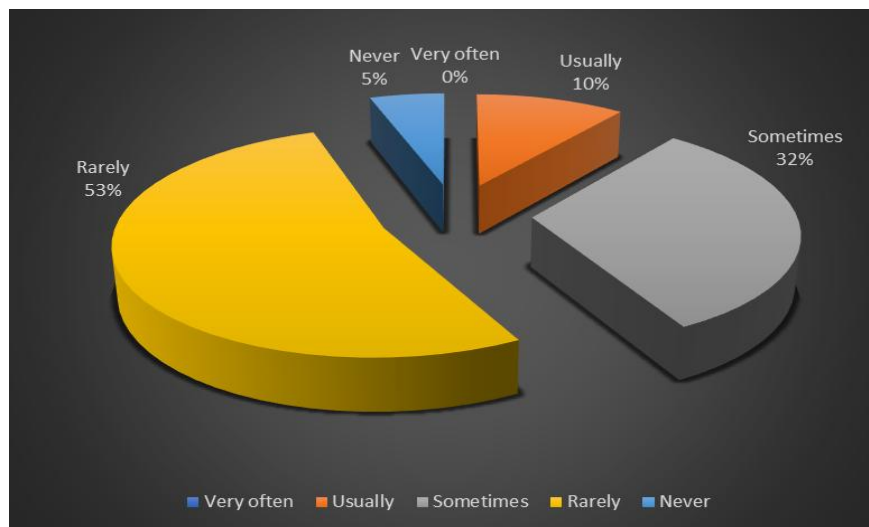


Figure 08: The frequency of using technology tools in the language classroom.

We asked the students about how often their teachers used technological materials in the classroom to see the degree to which they are interested in it. Seemingly, more than half of them (53%) said that their teachers rarely brought technology tools to the classroom. 32% of them claimed that they sometimes witnessed some lessons with technological tools. 10% opted for “usually” as an answer for the question which means that it happens that they dealt with technology materials more often. And finally, one of them (05%) stated that his teachers never used any sort of technology tools during his studying period of time.

Again, the teachers’ mentalities are very important. We see that the classical routine of teaching English has to shift towards a new era of development that includes new approaches, methods, and techniques. It is very difficult to meet the present-day needs with outdated mentalities. This is apparently what our participants have faced. At least, most Algerian educational institutions possess projectors; however, the teachers are not interested in using them. Rather, they opt for old ways of teaching English.

Question 09

How do you find lessons that include technologies? (Tick in (✓) the box that best describes your answer).

Interesting Fairly good Boring

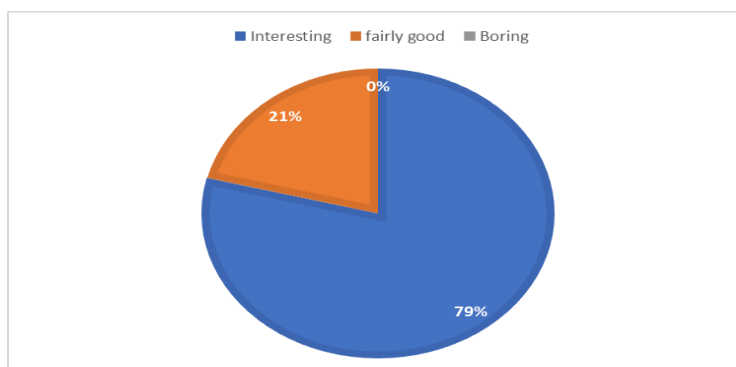


Figure 09: Participants opinions about lessons that include technologies.

Student’s attitudes towards lessons that include technology tools could be significant to our study. We posed such a question as an attempt to examine their feelings about the classroom atmosphere where technology is used. Thus, the major aim of this question is to examine the attitudes towards technology among university students of English.

As it is exhibited in the above pie chart, the majority of the participants (79%, which corresponds to 15 participants) have selected “interesting” as an answer to the question. Moreover, 21% of them (that is the rest) have opted for “fairly good”. Importantly enough, none of them has gone for “boring”, which means that all the participants find lessons that include digital technologies enthusiastic enough for language learning.

Psycholinguistics claims that good teachers are the ones who take their student’s learning styles into consideration. With the technological development teachers are able to make the process of using authentic materials in their English language classrooms much easier. Listening to native speakers speaking English would be exciting for the students. Watching videos to contextualise the language is another key element that can be brought in the classroom easily with the help of computers and internet. Technology can be very advantageous to diversify meanings and vocabulary... and so forth. Particularly, these qualities of technology use are what attracts the participants and make the overwhelming majority of them state that lessons that include technologies are interesting.

Question 10

What skill do you think is the most improved by using technology tools in language classrooms? (Tick in (✓) the box that best describes your answer).

Speaking Listening Writing Reading

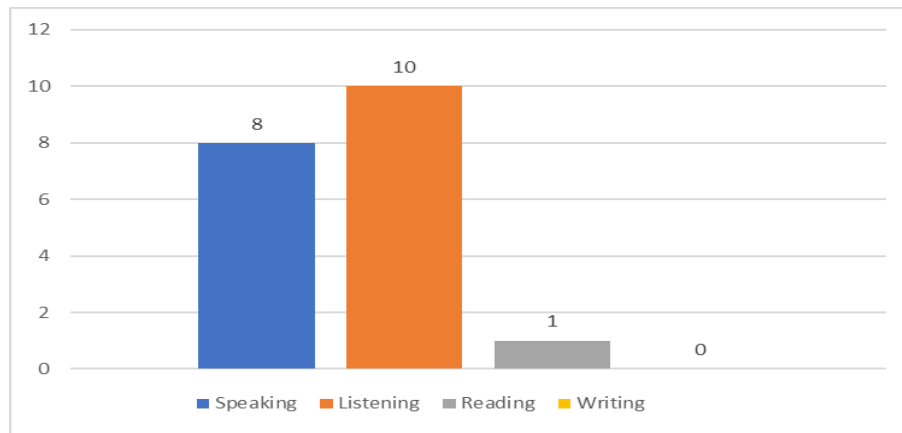


Figure 10: The participants' opinions about the skill that is developed the most with digital technologies.

We reckon that it is important to know the students' opinions about which skill is well improved when technology tools are used. This bar chart shows that 08 participants out of 19 have claimed that the speaking skill is the one that is developed when it comes to using technological materials in the language classroom. According to 10 of them, it is the listening skill that takes advantage from technology tools. Still, one participant believes that the writing skill is the skill that is the most improved by using technology tools.

We believe that since our educational institutions include only projectors and computers as technological means, and due to the fact that they are rarely used, the participants have gone for the idea that listening and speaking are the two skills that are mostly improved. However, if they experienced other types of technology such as digital tablets and VRs (Virtual Reality headsets), they would have opted for other skills.

Question 11

With what type of teaching do you focus more in the lesson? (Tick in (✓) the box that best describes your answer)

Traditional way of teaching

Teaching that integrates technology

The mixture of both of them

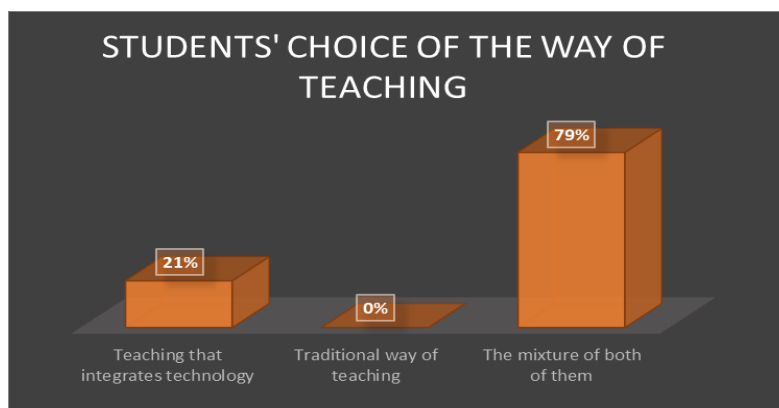


Figure 11: The participants’ opinions on the type of teaching for better concentration.

On the basis of this question, we asked the students to select the type of teaching in which they focus the most. 04 of them (21 %), have opted for “teaching that integrates technology”, but 97% (the rest) have selected “the mixture of both of them”, and none of the students preferred the traditional way of teaching.

As far as this question is concerned, our participants preferred that the traditional way of teaching and the modern one (with technology) are amalgamated in the classroom. In other words, they like technology to be integrated in their courses, but with the intervention of the classical way of teaching. As a matter of fact, the technological tools can be used to demonstrate examples in order to emphasise the teachers’ explanations which can be seen as a classical way of teaching. Hence, one can never deny the significant role of the teacher as being the learners’ guide and helper to achieve better English learning outcomes.

Question 12

- It is commonly said that language classrooms which incorporate new technology tools develop communicativeness in learners, how do you think that happens?

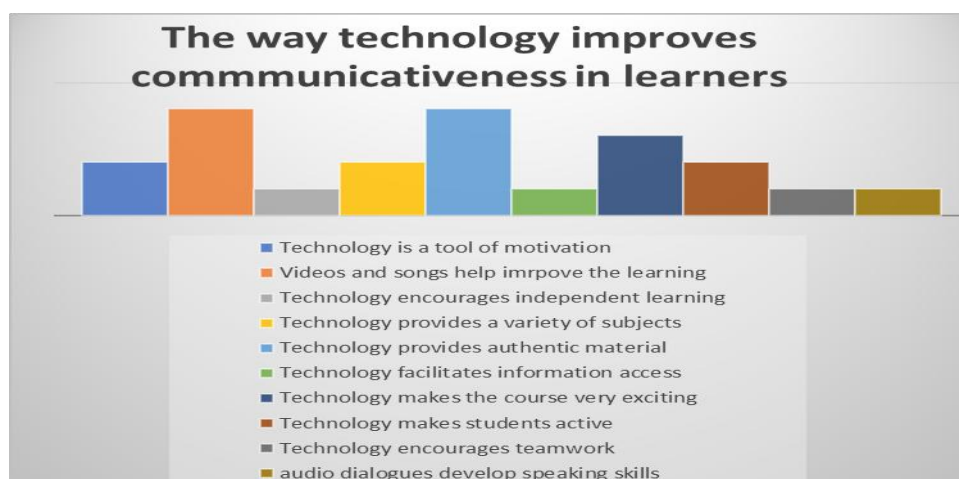


Figure 12: The participants’ opinions on how technology use improves communication skills.

For the purpose of figuring out the participants’ perceptions concerning the way lessons that involve technology tools can improve the communicative abilities in learners, this question was put at the end as being significant to our study. Their answers, as it is demonstrated in the graph above, are divided into ten topics that we deduced from their answers. Since this was an open-ended question, we gave the students some room to express themselves in connection with the communicative skill when it comes to using technology material.

Consequently, according to some participants, through technology-based lessons, authentic material can be presented which is a very important point in order to introduce contextualised language, this is, as they claimed, can be done relying on videos and songs. Moreover, using technology might be a motivator for them; it encourages self-education from some others. Also, certain answers included the idea that thanks to some technological tools the teacher is able to present a variety of subjects, which can attract students, and enrich their

knowledge at the same time. By making the lesson very exciting, employing technology in a language classroom helps students be very active and reach the information easily. Finally, some of the participants stated that team work is highly encouraged in classrooms where technology is used, which in turn develops their communicativeness to a high extent.

The field of Psycholinguistics, in which we are interested, explains the participants' answers focussing on the theory of linguistic intelligence, as being one factor influencing language learning positively if dealt with, appropriately, by the teacher using technology tools. According to Christison & Kennedy (1999), students with high linguistic intelligence are able to use language properly both orally and in writing. That is to say, the ones who are better language students are more likely to be the ones whose linguistic intelligence is high. So, students who are able to react quickly to, and deal with, meanings, sentence forms, and linguistic structures are considered as the ones possessing acceptable levels of linguistic intelligence (Armstrong, 1999). What we are trying to say is that using technology can be one way through which linguistic intelligence in learners is boosted given the fact that it, not only, contains a very rich ground of sources (take the internet as an example), but also, it can be of much help to variate and vary between the techniques and the ways of teaching.

IV. Implications

Depending on what has been dealt with in this research concerning technology use in an English language classroom we recommend the following:

- The English teaching/learning operation has to be supported by all the means that can be of help. For that, relying on certain technological material to build the lesson must be seen from an optimistic point of view for it can come up with a revolutionary language teaching approach that is able to make a language classroom a better place.
- The field of Psycholinguistics has to be considered when it comes to using technologies for it encompasses a very rich scientific background from which educators, syllabus designers, and teachers can take advantage of in order to construct an English language course corroborative by technology.
- Governmental educational institutions would better make all the needed efforts to get equipped with the necessary technological tools, and trainings, to let the teachers work in a better place.

Conclusion

In the end, the essence of this article was to determine the opinions of the participants about some matters related to using technology while teaching English as a foreign language. In the first place, we reviewed the relevant literature. In the second place, we tried to analyse, psycholinguistically, the collected data. We distributed a questionnaire to 19 Master students from Mhamed Bougara University (Boumerdes) in an attempt to perceive their attitudes and opinions on using technology in a language classroom. Thus, while analysing the data, we referred to the field of psycholinguistics for it can provide us with a comprehensible vision on the topic.

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