

The Journal of Studies in Language, Culture and Society (JSLCS)

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Journal of Studies in Language, Culture and Society (JSLCS) is an academic multidisciplinary open access and peer-reviewed journal that publishes original research that turns around phenomena related to language, culture and society. JSLCS welcomes papers that reflect sound methodologies, updated theoretical analyses and original empirical and practical findings related to various disciplines like linguistics and languages, civilisation and literature, sociology, psychology, translation, anthropology, education, pedagogy, ICT, communication, cultural/inter-cultural studies, philosophy, history, religion, and the like.

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The First Special Issue

Issue's Theme: Technology in Language Learning

Journal of Studies in Language, Culture and Society (JSLCS)

Editor in chief: Dr. Nadia Idri

Guest editor: Dr. Christian Ludwig (University of Bielefeld, Germany)

Technology is playing an increasing role in Foreign Language Learning (FLL). For example, it can support students in improving their language learning skills or help them organise their learning process. The aim of this special issue is to shed light on the various roles that (educational) digital media can have in the foreign language classroom, illustrating the vast potential that technology holds for increasing students' language learning and motivation. We invite contributions by scholars and practitioners alike, adding to the academic discussions revolving around technology in the classroom. All contributions should have a clear methodological focus, carving out the pedagogical potential of digital media and showcasing different technology tools. Possible topics to be discussed could, among others, include:

1. Learner autonomy
2. Virtual and augmented reality
3. Blended learning
4. Cooperative and collaborative learning
5. Audio recordings
6. Using blogs and wikis
7. Vocabulary learning
8. grammar learning
9. Skills training
10. Collaborative writing
11. Project- and task-based learning
12. Pronunciation
13. Assessment and evaluation
14. situated learning
15. Online reference tools
16. Using pod- and vodcasts
17. MOOCS and Webinars
18. Producing and consuming electronic materials

Foreword

First and foremost, the editor-in-chief, Dr. *Nadia Idri*, from the Faculty of Arts and Languages, University of Bejaia; the Associate editors; the members of the Scientific Committee; the Reviewers and the members of Language Editing Team wish to give a big hand to the guest editor, Dr. *Christian Ludwig, Essen* from Germany.

Technology continues to play an inefaceable role in Foreign Language Learning. Digital media has the assertion to be a learning facilitator and an organizer. This special issue includes seven authors who in concert try to illuminate to the understanding the exacting topic of pedagogy that has vexed us all hitherto. Undoubtedly, the authors have a knack for nailing the details about their issues discussed with exuberance hoping to make the readers capture the very essence in which the articles have been written.

I am not exactly qualified to judge a book, but regardless, I found it very interesting and I can see how readers will enjoy it. Whether through a *Blended Learning Reading Course*; or *Integrating Technology in English Language Classrooms*; or with the *Employment of Speech Analyzer and Praat Programmes*; yet through *Multimedia Related Vocabulary Learning Strategies*; across *the Use of Computers in Teaching English*; by the way of the *Use of ICT on Developing Students' Autonomy*; or across *Sharpening Students' 21st Century Skills through Project-based Learning* all the contributors from different universities have discussed academically and with a quirky style and in a celebratory mood the topic of technology in the classroom.

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ACTION RESEARCH ON INTEGRATING A BLENDED LEARNING READING COURSE IN HIGHER EDUCATION

Abstract

Adopting a Blended learning approach in higher education is often a daunting task mainly if the e-learning based instruction model is not approached for fear of obstacles that may hinder rather than advance the teaching/learning process. Developing reading skills with learners necessitates the continuous integration of multiple teaching methods and strategies. Students' tendency for information and computer technologies encouraged the teacher-researcher to think about blending face-to-face with online instruction in the design of a reading course. This action research project was used to answer the question – how does blended learning environment impact students' academic performance and learning engagement within the class? Accordingly, this study describes a research utilizing blended learning approach to teach reading to second year students at the Ecole Normal Supérieure “Assia Djebbar” of Constantine (ENS). The intervention was designed to fit into individual lessons needed to improve students' reading skills mainly summarizing and responding to narrative texts and to get through their personal blended learning experience. Results of this action research may help to prove whether or not the blended learning approach has a positive impact on students' academic achievements and learning attitudes. This is to provide solutions to the teaching/learning impediments when this approach is adopted at a tertiary level education.

Keywords: action research, academic achievements, blended learning, EFL learners, face-to-face Instruction, higher education, online learning.

1. Introduction

The traditional face-to-face (F2F) instruction fails to satisfy individual learners' interest and learning styles diversity because the course activities offered are generally one-size fits all. Hence, all learners are exposed to the same teaching instruction during a F2F lesson delivery. With the introduction of Information Computer Technologies (ICTs) in the teaching/learning environment, new pedagogical opportunities that were impractical or even impossible to implement in the traditional educational contexts are created. ICTs that bring to surface new teaching/learning approaches such as e-learning courses, computer mediated learning via e-mails, podcasts, computer facilitate for the educational system a safe shift from traditional mode of learning to an online one. An innovative teaching/ learning model where the best online learning and Face-to-Face instruction are merged together gains popularity in higher education level. It is all about blended learning (BL). The latter offers consecutively a learning style that is mostly preferred by students and assists language teachers. The manipulation of this kind of network learning proved effective in enhancing language skills, students' learning motivation, and learning engagement.

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Lecture delivery at the ENS is effectuated via F2F mode. Most teachers do not approach technology based courses for fear of obstacles that may hinder rather than advance the teaching/learning process. Teaching Reading techniques (RT) extends over two years of training. During the first year, students experience reading short texts by manipulating some comprehension strategies mainly scanning, skimming for the main idea, and summarizing. In the second year, the course objective extends to include reading complex and long materials such as fiction and non-fiction works. Developing post reading skills mainly critical reading becomes the target during this year. To improve students' reading skills by enabling them to vary the use of the different comprehension strategies when reading different types of materials such as short stories, books, magazines, newspapers, articles, and then to respond in a written form to their reading experiences necessitates the continuous integration of multiple teaching methods and strategies. Learners' inclination for ICTs motivated the teacher/researcher to think about blending Face-to-Face with online instruction in the design of a reading course. The purpose of this action research design is to bring evidence from a BL classroom project. By reviewing the current practice of BL model through the participants and the researcher (lecturer)'s reflection and discussion, future BL course design will be improved.

2. Literature Review

2.1. Blended Learning Definition and Characteristics

Blended learning or hybrid learning is identified as a flexible approach to course design where different times and places of learning are combined. This approach to education where online learning instruction is combined with traditional classroom instructional methods creates a new innovative teaching/learning procedure. The concept has been approached from different perspectives. From a holistic perspective, BL is achieved when multiple media is utilized in instruction delivery via the integration of instructional media into a traditional classroom or into distance learning. If reached from an educational scope, it is a course where online instruction is integrated with traditional classroom activities in that a portion of F2F time is replaced by online activity (Kaur, 2013).

The many definitions provided for this concept enlarge from the number of the characteristics used to describe it. One major feature in a BL course is that it enhances the quality of instruction. The blending of different times and places for learning offers learners a new learning environment featured by some conveniences of fully online courses without the complete loss of face-to-face contact (Rovai & Jordan, 2004). Because these two different learning environments require the integration of different types of materials and activities, learners are given an opportunity to exchange ideas, build their own cognition (Littlejohn & Pegler, 2007) and enrich their critical thinking skills (Caner, 2012).

Individualization and personalization are noticeable aspects in a BL approach. Individualizing is achieved when the learners' learning styles are addressed (McDonough & Shaw, 2003). BL promotes the individualization of course activities. According to Krasnova and Ananjev (2015), instead of one size fit all activities, a major feature of F2F course, online delivery grants highly motivating activities that positively affect students' performance and promote their progress. Because through an online-mediated learning approach, learners can work not only with course materials but also access any web resource. Personalizing which is to increase the relevancy of the content in relation to learners' motivation, interest, academic and professional needs (McDonough & Shaw, 2003) is insured in a BL course. The latter can

accommodate students who have different expertise levels, prefer different learning strategies and who are self-directed learners (Dennis, et al. 2006).

Two distinct learning environments necessitate different modes of communication. BL varies for students and teachers ways of interacting, sharing, collaborating and asking questions either in real-time via Synchronous technologies support; or allowing more time for student reflection via Asynchronous technologies support (Bonk & Zhang, 2006). The Face-to-Face communicative activities are more synchronous in orientation in that teacher/learners interaction is focusing around free-flowing face-to-face discussion and immediate feedback. In the technology-supported communicative activities, the rely is on the use of asynchronous online forums (Littlejohn and Pegler, 2007). Different from the synchronous mode, the asynchronous modality offers more opportunities for students' interaction far from any kind of pressure that is due to time or place. Despite the fact that there is no single accepted definition of BL among researchers; yet to fit the purposes of this action research, BL is described as an approach to course design where computer-mediated delivery and face-to-face interaction are combined.

2.2. *Achievements when Blending Reading Courses: Evidence from Literature*

Aiming to involve learners in learning experiences where the best features of online learning are harmoniously integrated with direct F2F classroom instruction motivated educators and researchers to explore BL course design. Because BL is often thought as a way on how both educators and students can meet their teaching and learning needs (Krasnova & Vanushin, 2016), researchers explore the possibility of manipulating this instructional model for teaching and learning reading skills in EFL contexts (Norberg et al., 2011; Yang, 2012; Behjat et al., 2012; Zehedi & Tabatabaei, 2015; Krasnova & Vanushin, 2016; Ghazizadeh & Fetemipour, 2017).

Behjat and his associates (2012) conducted their study on 107 Iranian university students. The main objective was to test the utility of BL on EFL students reading skills. Findings confirmed that BL can help EFL learners perform better in their reading comprehension. And that online reading encourages learners' autonomy to read more materials independent of what is presented in the classroom. In an experimental design, Yang (2012) conducted their study on 108 Taiwanese students; the results revealed that BL was effective in enhancing students' reading proficiency. Additionally, it provided students more opportunities to discuss their reading difficulties during group discussion and obtain their peers' feedback. Norberg et al.'s inquiry (2011) revealed that BL promotes highly engaged and motivated learners. They concluded that these new classes where F2F instruction is mixed with online-based instruction require learners' motivation for continuous and active learning engagement. Within the same field of interest, Ghazizadeh and Fetemipour (2017) investigated the effect of BL on Iranian EFL learners' reading proficiency. Results confirmed that BL positive effect was statistically significant. Additionally, it was proved that BL works as an accelerator of learning to read in Second or Foreign language in and outside the classroom.

According to Krasnova and Vanushin (2016), successful blended learning courses strongly depend upon students' perception. In study undergone at a Russian university involving 46 participants, the two researchers recommended the adoption of BL in English language classes. For them this instructional approach offers EFL teachers an opportunity to integrate innovative and technological advances of online learning with interaction and the participation of the best traditional practices. Meaning that besides being effective in enhancing EFL skills, BL is proved to be efficient in developing learners' positive attitude

towards this innovative approach. This new adopted attitude is due to EFL learners' appreciation to the convenience of online access with the support of face-to-face instructors when needed (Rovai & Jordan, 2004). In short, mixing the online delivery of educational context with the best features of face-to-face (F2F) interaction becomes a new mode of instruction delivery that fits the wants of both teachers and learners.

2.3. *Blended Learning Reading Course: An Action Research Project*

The need to review the different characteristics of a BL reading course when put into practice (implemented) so that future courses could be re-planned necessitates the adoption of a frame work. When implementing classroom teaching/learning projects, Kurt Lewis suggests a four-stage frame work model which he called Action Research (AR). According to Arora (2017), this cyclic process starts by the planning stage that ends when the teachers puts into practice his plans or acting. During the implementation phase, the researcher goes through a systematic observation during which he makes his own reflections on the project and then re-plans future classroom projects (Arora, 2017, p. 164). This means that via AR, the teacher is enabled to plan, act, observe, and then reflect on his classroom practices for the sake of improving future classroom instructions. According to McNiff and Whitehead (2010), this alternative research method that helps the teacher fulfills the role of a researcher via getting engaged in a classroom practice- based investigation is characterized by the following:

- a. AR focuses on improving learning, not on improving behaviours;
- b. It emphasises the values base of practice;
- c. It is about research and knowledge creation, and is more than just professional practice;
- d. It is collaborative, and focuses on the co-creation of knowledge of practices;
- e. It involves interrogation, deconstruction and decentering;
- f. It demands higher-order questioning. (McNiff & Whitehead, 2010, p. 17).

This implies that no action research is complete if the above listed characteristics are not seriously regarded by the researcher prior to the project design. For the sake of improving future BL practice, Lewis' four stage frame work was adopted to implement my BL reading course. The latter enables the teacher/researcher to review the current practice of a BL reading course through reflection and discussion where the new generated BL practice-based knowledge will serve as a basis for future BL reading course design.

3. Study Procedures

Study Objectives and Research Questions

Based on the above discussed literature review, the characteristics of BL Reading instruction seem to serve a circumstance that is required to solve the problems in the research setting: developing students' post reading skills. To achieve the study main objective, improving BL practices through generating living knowledge when implementing this teaching/learning approach, a BL Moodle –based reading course action research project was carried out in this inquiry to address a pedagogical concern of EFL learners at the ENS. On the one hand, this project was designed to observe if BL has an effect either positive or negative on students' post reading skills mainly summarizing and responding via discussing favorite parts or elements of a story. On the other hand, it determines the extent to which the executed project meets its objectives stated prior to the beginning of the training. This action research project that aims to facilitate the integration of BL model at a tertiary level was used to answer the following questions:

1. Does the implementation of BL foster second year EFL learners' summarizing skills and ability to discuss story major theme(s)?
2. How do students react towards the benefits of F2F instruction in a BL reading course?
3. How do students view the use of Moodle e- learning instruction in a BL reading course?
4. How do students react about the impact of BL in developing their reading skills?
5. Which mode of course delivery students prefer in their EFL future learning?

3.1. Project Context: Subjects and Instrumentations

To explore the above questions, a quasi-experimental pre/posttest control group design was carried out on a sample of population selected from 2nd year EFL students where individual students were not randomly assigned neither to the control or experimental conditions. The rationale behind selecting 2nd year students is that all the participants have experienced during their first year reading short texts and manipulating comprehension strategies mainly scanning, skimming for the main idea, and summarizing. As the main objective of this subject (RT) in the second year is to develop students' post reading skills; second year students are convenient and appropriate to attain the objectives of this project.

Fifty (50) participants were assigned either to the BL condition or to the traditional F2F condition. Prior the beginning of the training, a pretest was administered to students. During a period of six (06) weeks, whereas the participants in the BL group (BL-G) were exposed to two modes of instruction delivery: traditional F2F interactive learning and e-learning activities via Moodle platform blog (<http://www.elearning.ensc.dz/course/view>), the participants in the control group (C-G) received the reading materials, instruction and feedback through traditional F2F in-class instruction only.

By the end of the study and in order to check the effectiveness of BL program, a post evaluation training questionnaire was administered to the focus group (BL-G). The twenty five (25) participants under the BL conditions expressed their attitude towards the program objectives, characteristics, and the different attained gains. For collecting reliable data, the questionnaire was carried out immediately after the BL training got over and the informants answered it in the classroom.

3.2. The Action Research Project Procedure

As explained above to fulfill the research objectives, this action research project went through four stages. The planning phase starts form the 7th of January to the 14th of January 2019. During the "**Plan Stage**", the classroom PowerPoint presentations, the classroom tasks, and the online assignments were prepared. The two stages "**Act and Observe Stages**" began in the 3rd week of January and extended over a period of five weeks, form the 21st of January to the 7th of March 2019. After administering the pretest to the participants, the BL was implemented for a period of five weeks followed by collection of data via the posttest and the administration of the post-evaluation survey to the focus group. The last phase of this AR, "**the Reflect Phase**" started immediately after data was collected (the 14th of March 2019). To reflect on the BL model, the researcher began the analysis of data where pre-test and posttest scores are compared, the learners' responses to the questionnaire are analyzed, and the researcher's observations are discussed.

3.3. Moodle- based Blended Teaching/ Learning Design

For an appropriate implementation of a BL reading course, the researcher adopted Wang and Chen's five stages Moodle-based BL mode (2010) (cited in Tang, 2013). This teaching model involves previewing, class activities design, online learning process, class learning and feedback, and assignment and evaluation (Tang 2013). These five stages represent the frame work of each week.

During the “**Preview**” stage, my task as a teacher was to upload the weekly related documents to the platform. This would facilitate for learners to preview and to refer to the leaning materials when they login to the Moodle platform. At the “**Online learning process**” phase, students were asked to visit the Moodle platform blog (<http://www.elearning.ensc.dz/course/view>) after the class to do their homework. During e-learning instructions, users of the blog benefitted from two modes of communication: live via synchronous technologies, and delayed via asynchronous technologies. When it comes to “**the class learning and feedback**” phase, students took reading lessons in the classroom in the form of traditional face-to-face instruction. All my reading lessons were presented to learners via a data show. For example, in one of the designed courses where the objective was to develop students' ability to organize a story plot, the below listed steps were followed:

- a. Providing a narrative reading material
- b. After making some predictions from the title of the story, students engage in a silent reading
- c. Checking students initial understanding of the material
- d. Presenting a lesson about the main components in the plot of a story (exposition, raising events, climax, falling events, and the resolution)
- e. Putting into practice the presented theory through asking learners to identify the main elements of the story in the material at hand: characters (major, minor), setting (time and place), events (major and minor)...etc
- f. Organizing the story plot

During the above listed steps, a direct corrective feedback was provided to students. In the last phase, “**Assignment and Evaluation**”, after the weekly reading assignment was uploaded (see **Appendix 1**), all the participants posted their responses on the Moodle weblog. The online feedback was sent once students' responses were evaluated.

4. Data Analysis

To reflect on the BL model, the analysis of data started. Due to the fact that in this study the teacher/researcher relied on different tools to collect research data, the latter was analyzed from different perspectives. First, pre-test and posttest scores are compared to answer research question one. Second, the learners' responses to the questionnaire are analyzed to answer research questions: two, three, four and five. At last, the researcher's observations are discussed in relation with the research findings so that to generate some pedagogical implications.

4.1. Research Question One: “Does the implementation of BL foster second year EFL learners’ summarizing skills and ability to discuss story major theme(s)?”

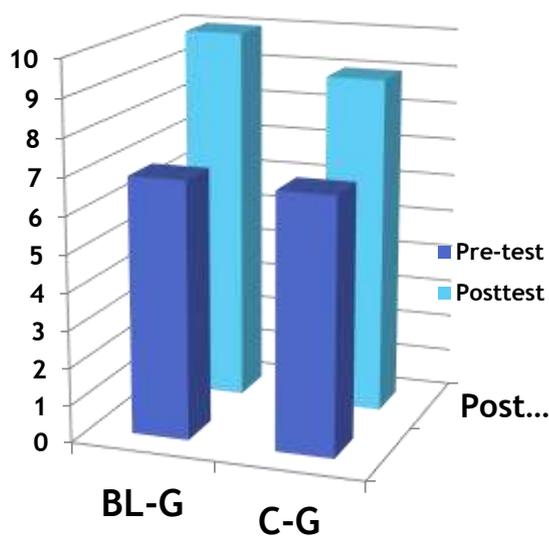


Figure 1: Pre vs Posttest Summary Results

When looking at **Figure 1**; it is easily perceived that BL-G and the C-G manifested similar performance in the pre-test summary scores. Yet the performance of the BL-G in the posttest is remarkably different than the attainment of CG in the posttest whose scores have slightly increased since the pre-test. This implies that the BL-G exhibits an eye-catching progress in summary skills. Differences in posttests mean scores were statistically validated by the t-tests analysis (see **Appendix 2**) and confirmed true the positive effect of BL procedure on Summarizing skill progress.

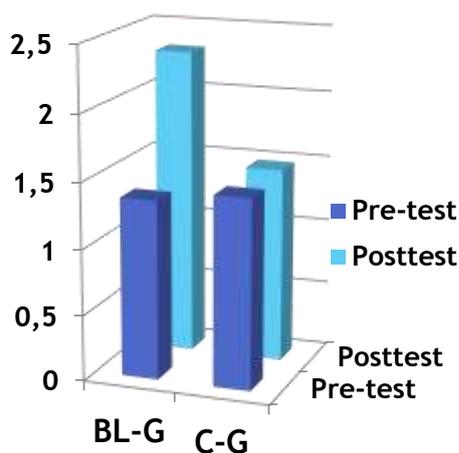


Figure 2: Pre vs. Posttest Reading Response Results

From the results presented in **Figure 2**, it is noticeable that the participants’ response scores in the pre-test were a bit the same. However, the BL-G outperforms the C-G in the posttest. The BL-G divulges an improvement in reading response scores which is not the case of the C-G whose scores have slightly increased since the pre-test. To give more significance

for this comparison, a statistical testing is needed. Differences in posttests mean scores were statistically validated by the t-tests analysis (see **Appendix 3**) and confirmed true the positive effect of BL procedure on students' writing a story response progress.

4.2. Research Question two: "How do students react towards the benefits of F2F instruction in a BL reading course?"

When asked to express their reaction towards F2F course objectives, content, design, and mode of classroom interaction; the participants manifested a positive attitude. (67%) of them expressed their willingness for more F2F instruction in a BL reading program. Students found that both classroom modes of interactions whether with their peers (73%) or with their instructor (86%) were beneficial for their learning and contributed in improving their reading skills. This positive attitude was supported by the same assertion shared among participants holding that "*in-class instructions enable us to learn more effectively*". Yet, few of them displayed a negative attitude towards F2F classroom interaction mainly with their peers (7%) by holding the assumption that this kind of classroom interaction had no influence on their learning progress. However, none of the students (0%) exhibited a negative attitude towards F2F teacher-students' interactions. "*The gained benefits from F2F teacher-students' interactions put the latter at the forefront in an effective BL reading course*", argued most of the informants.

4.3. Research Question three: "How do students view the use of Moodle e- learning instruction in a BL reading course?"

Students' level of satisfaction vis-à-vis Moodle e-learning activities was quite high. An important portion of them (67%) reacted positively towards the utility of online activities on their learning outcome. Since both the organization and content of e-activities satisfied students' learning needs, a distinguished number of the participants (67%) preferred to have more online instruction in a BL program. Yet, (30%) of them held a neutral position simply because they are discovering a new environment of learning "Moodle-based" e- learning they were not used to.

4.4. Research Question four: "How do students react about the impact of BL in developing their reading skills?"

The generated quantitative data from the pre/posttest analysis and the perceived progress in post reading skills set a strong basis for the expected students' attitude towards BL approach. Not surprisingly, the majority of participants (90%) found that all the components in BL course helped them in achieving success and developing their reading skills. Without taking into account students with neutral position (43%), as explained previously, the others agreed that BL course enables them to fulfil their learning goals: they can read, summarise, and then respond to narrative texts. Most participants found that BL provides them with opportunities to read by themselves far from the boundaries of the classroom walls. They gained certainty and self-confidence because they were observing the progress of their reading skills.

4.5. Research Question five: "Which mode of course delivery students prefer in their EFL future learning?"

With the exception of small portion of students (13%) who preferred attending an entirely face-to-face course; the other left portion (87%) welcome BL course design where two different modes of learning are harmoniously merged. The utility of BL environment in students' future learning is supported by a set of reasons such as: the ease, the flexibility, and

convenience of online instruction. Similar assertions were shared among participants. *“Technology offers us ease, flexibility, and convenience via e-instruction. It gives us the opportunity to do more activities without time pressure”* asserted one of them. *“BL Empowers and enables us to become more engaged, self-directed and self-responsible about our own learning”* added another learner. Despite the importance of e-learning, F2F learning is certified focal in any effective learning environment. Most students share the idea that *“e-learning could complement the lacks of F2F one session week contact; but cannot substitute teacher F2F interaction”*. Students’ agreement for future BL course design is expressed via their belief that BL extends their learning beyond the classroom. They could understand from this experience that the class isn’t the only source of learning

5. Reflection on the Study and BL Action Plan

Aiming at improving BL practices through generating living knowledge when implementing it, a BL Moodle –based reading course action research project was designed to observe which learning condition, F2F or BL, will produce a better learning outcome on students’ post reading skills. The purpose of both instructional deliveries was for students to be able to learn how to summarize and then respond in writing via discussing favorite parts or elements of a story. The teacher researcher investigation was about determining the extent to which the executed project meets its objectives stated prior to the beginning of the training.

The BL approach has a positive impact on students’ academic achievements and learning attitude. While both groups manifested noticeable gains, the BL-G showed more improvement in the posttest assessment. As the BL-G gains were statistically confirmed to be due to the training students were exposed to for five weeks. It was concluded that those who practiced reading comprehension via a blended learning environment can enhance their post reading comprehension skills mainly summarizing and discussing one of story major theme(s) in a written form better than those who receive instruction via the traditional F2F method only. For the positive gains exhibited by the F2F- G, it was attributed to the reading-based instruction and at home reading assignments that students under the F2F condition received when the BL-G was receiving reading-based instruction via both F2F and Moodle e-learning platform.

Students’ perceived learning engagement in the BL-G seemed to be related to the information easy access, to the synchronic/asynchronic modes of communication between teacher/students, and to the unlimited access to material and experts, major characteristics in online learning. Students’ reflection on the BL certified that the online asynchronous modality offered them more opportunities to teacher/students’ interaction far from any kind of pressure that is due to time or place. For some experts in the field, the online learning platform provides an interactive environment for communication among students and teachers, and equips teachers to provide scaffoldings for students to engage in collaborative and cooperative activities even beyond classrooms (Yuen, 2010; Krasnova & Ananjev, 2015).

The study findings were positive for the BL approach; although, the F2F direct instruction teaching/learning approach was far from dropped. Despite favoring an online learning mode, students’ testimonies did not lessen from the importance of their F2F interaction with their teacher, or their peers in their learning achievements. Students overtly expressed their constant need for teacher direct instruction and class discussion. One might speculate here that holding this positive attitude towards F2F mode of learning is related to students’ familiarity with this habitual mode of learning. Hence, learning under F2F condition is the norm for these students. Yet, their unfamiliarity with the online learning makes from it seemed like a novelty. An excessive training may enable students to become more familiar

with this new mode of learning. In a way or in another, without a complete loss of face-to-face contact, BL approach creates an innovative and effective learning experience for EFL students.

I noticed that my students' online participation during the program was low. Sending their reading assignments responses via the platform was not done at the same pace mainly during the first week. The reason behind students' delay in sending their works on time was almost related to the lack of internet at the campus. For some of them, online learning is difficult not only because of the lack of internet access ; yet for other learners their delay in responding to the e-activities was due to the fact not all of them had the necessary tools (personal computers and laptops) to engage in an online learning. The latter may stand as a major obstacle in the success of the BL program if serious attention is not given to the problem. No BL approach is complete without the online learning component, so if students are not encouraged by their faculty to overcome the net problem, students' motivation interest and engagement to learn will decrease.

6. Overcoming BL Challenges

Because the study findings proved that BL works as an accelerator of learning to read in second or foreign language in and outside the classroom, it is high time to implement this teaching/learning approach at tertiary education. However, the implementation of BL teaching is often a daunting task. It requires certain fundamental preparations in all elements of teaching/learning process. Based on this experience, as a teacher/researcher, it was agreed on with Lalima and Dangwal's recommendations (2017) on what to consider for an appropriate and successful BL program. A group of factors including teacher, student, content designing, and infrastructure represent the basic requirements for implementing a successful blended learning (Lalima & Dangwal, 2017, p. 133).

1. Teachers should be well acquainted with the concept of blended learning and fully trained and skilled to blend both types of approaches- tradition and technological.
2. Teacher training programmes for both in-service and pre-service towards should be reoriented to preparing teachers for blended learning approach.
3. The need for teachers with wider outlook and positive approach towards change. Teachers should be flexible, ready to accept the changes and very innovative and dynamic.
4. Students should be enabled to have access to internet at their private computers because BL encourages learner's autonomy to read more materials independent of what is presented in the classroom. Besides, students should have basic hardware support to learn online and offline at their residence also.
5. Facilities like well-furnished computer lab, internet connection, provision for video chatting is the compulsory factor of blended learning.

7. Conclusion

Regardless the challenges faced during the project implementation, BL creates innovative learning experiences that involve students in learning situations which compel them to read, write, listen, speak, and think. This action research project of practicing BL approach to course design reached its main target because it enhanced the students' interest and engagement in learning. Despite the fact that this research is only conducted in one university and the sample is limited where future work is needed to investigate these findings on a larger scale, BL reading course is recommended as a teaching/learning approach because it boosts EFL readers' comprehension and critical reading skills. When expanding the

traditional teaching/learning environment by blending the ICT's tools to complement F2F sessions, both teachers and learners could benefit from the characteristics of this new environment. Through reflection and discussion, our review to the current practice of a BL reading course ends by suggesting Lalima and Dangwal's above listed requirements (2017) to be seriously considered for a successful BL reading course design in the future.

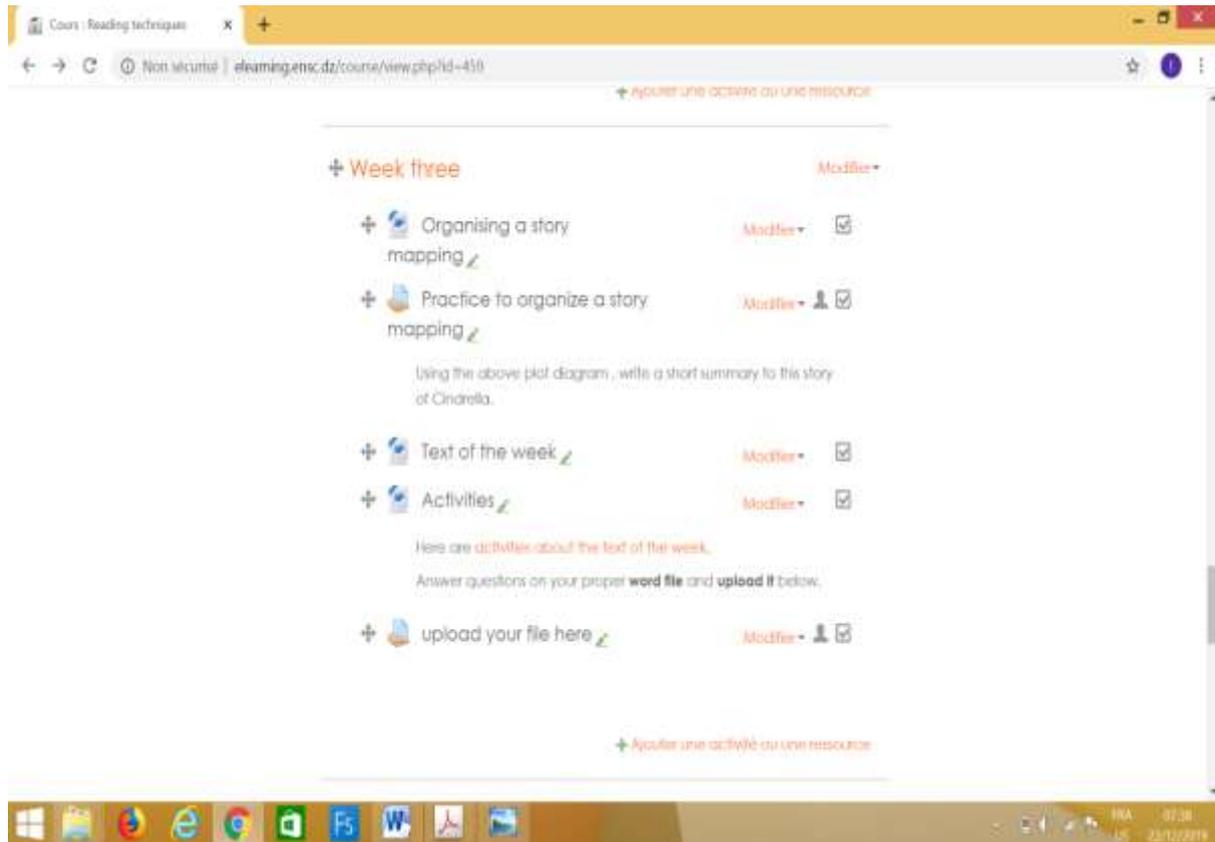
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Appendix

Appendix 1: Sample of the Weekly Reading Assignment



Appendix 2: Pre / Posttest Summary Scores Descriptive Statistics

Descriptive Statistics	BL-G		CG	
	Pretest	Posttest	Pretest	Posttest
N	25	25	25	25
Mean	6.88	10.06	6.82	9
SD	.196	.275	.193	.239
Median	7	10	7	9
MIN	5	8	5	6
MAX	9	12.50	9	12

Appendix 3: Pre / Posttest Reading Response Scores Descriptive Statistics

Descriptive Statistics	BL- G		C-G	
	Pretest	Posttest	Pretest	Posttest
N	25	25	25	25
Mean	1.36	2.32	1.44	1.48
SD	.110	.125	.116	.148
Median	1.00	2.50	1.50	1.50
MIN	0.50	1.50	0.50	0.50
MAX	2.50	3.50	3.00	3.00

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TEACHERS' ATTITUDES TOWARDS INTEGRATING TECHNOLOGY IN ENGLISH LANGUAGE CLASSROOMS OF BISKRA UNIVERSITY THROUGH MOODLE PLATFORM

Abstract

E-learning has become one of the necessities of higher educational institutions in Algeria. To offer innovative teaching technologies, these institutions integrated Moodle Platform to get with the advent of e-learning technology. The present study explores the attitudes of the teachers towards the use of Moodle Platform as a pedagogical tool in EFL classes of Biskra University, and the challenges that they face to use such a platform. To collect data, a questionnaire was administered to teachers to know their attitudes regarding to the integration of Moodle as an electronic platform in the process of teaching and learning English in the classroom and the challenges they face. The results showed that teachers do not adequately master Moodle platform access, and they still urge the use of the traditional classroom-based teaching for the reason that there is a lack of training amongst these teachers as well their students to use this platform. Furthermore, based on the teachers' views, the students have almost no idea about this electronic platform. Yet, the challenges facing the implementation of IT skills in teaching and learning the English language are mainly administrative and pedagogical. They are represented in the lack of e-learning sources for all classes and the lack of training to use technology-based classrooms from both teachers and students

Keywords: attitudes, challenges, e-learning technology, Moodle platform, traditional classroom.

1. Introduction

Integrating technology in the language classroom means using technology sources such as computer and other mobile devices like smartphones, tablets, digital cameras, social media platforms, and other software applications connected to World Wide Web. In this sense, educational technology has made a shift towards language teaching to emphasize student engagement in a virtual interactive environment. Using the huge range of ICT tools, a student can be exposed to the four skills of communication and practice them with the help of his virtual peers. Despite of the increasing importance of the technology in language classrooms, there still exists a negative attitude towards integrating ICT tool to help the teacher promote his students' language use. This can be due to absence of pre-service teacher and in-service teacher training programs and lack of equipment.

Since technology is becoming increasingly necessary in all professional fields, Algerian higher educational institution calls for the rapid integration of technology in language classrooms. Urgent teacher training programs were organized and executed since 2016 that sought primarily to spot some light on the use of ICT in the new in-service teacher classroom. Meanwhile, enormous efforts are set through the websites of the Algerian universities to launch a new era of higher education where the teacher and the students can

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keep in touch through virtual environment more officially through their own university website.

The Moodle e-learning platform is a web link that is provided by Biskra University as well as in other Algerian universities. It is an electronic platform which is a virtual classroom used between the teacher and his students where they can get access to the programmed subjects, drills, tasks and assignments. Moodle platform can be a remedial to the lack of equipment if it is used effectively in the Algerian University.

2. Literature review

The use of technology has become an interesting part in the English language learning and teaching process in higher education. It enables both teacher and students to promote language learning process and facilitates getting access to classroom events rapidly across time and place. The use of software and hardware forms of technology became an obligation in universities across the world, and the word ‘integration of technology into the classroom’ became, too, widely used amongst educators. In this sense, it is time to rethink about integrating ICT tools and the Internet connectivity in the language curriculum and classroom.

2.1. *Technology Integration in Education*

Information and communication technology is a tool that can be either a hardware or software. ICT equipment such as computers, smartphones and other tools cannot be workable unless it is linked to Internet connectivity. It is an important aspect of electronic learning. Tracy (1995) defined the Internet as being the international network of communication in which computers in a wide area network (WAN) can communicate with each other crossing the time and space.

Integrating technology means shifting pedagogy and the role of the teacher in a classroom. Technology integration, in other words, occurs when the students are not only using technology daily, but they have access, too, to various ICT tools to match the printed tasks to understand the lessons content deeply. Technology integration means using technology to promote the educational environment (Dockstader, 2008). By integrating technology in the classroom, the teacher and the student are supported by other tools as the computer and other ICT devices added to the paper and pencil tools to achieve their English language learning goals. Teachers, then, should use ICT tools just like a calculator, a pen or a chalkboard that facilitate teaching and learning process (Jackson, 2002). Well-integrated technology in language classroom by well-trained teachers can make learning a foreign language easy and approachable.

2.2. *Approaches to Technology Integration in Language Education*

This study departs from the technology pedagogical content knowledge approach that was depicted by Mishra and Koehler (2006) as a practical approach for integrating technology and the project based learning (PBL) approach as a suitable environment for technology integration. Both the teacher and the students need to set clear goals and objectives. O’Bannon (2002) claimed that teachers’ role is to classify objectives starting from the selection of instructional methods, media and evaluation.

On one hand, the TPACK approach, first established by Mishra and Koehler (2006), was an attempt to develop the understanding of teaching with educational technologies. Technology integration in teaching appears to be a techno-centric approach that ignores the interdependency between content, pedagogy and technology. Harris, Mishra and Koehler (2009) assume that approaches like the software-focused initiatives, demonstrations of sample resources, lessons and projects concentrate on the educational technology being used rather

than the students' learning needs and give little credit to two key domains which are content and pedagogy.

According to these scholars, the application of educational technology must comprehend more than the tools used in teaching to involve content and pedagogy (Harris, Mishra, & Koehler, 2009, p. 3), as shown in the following figure.

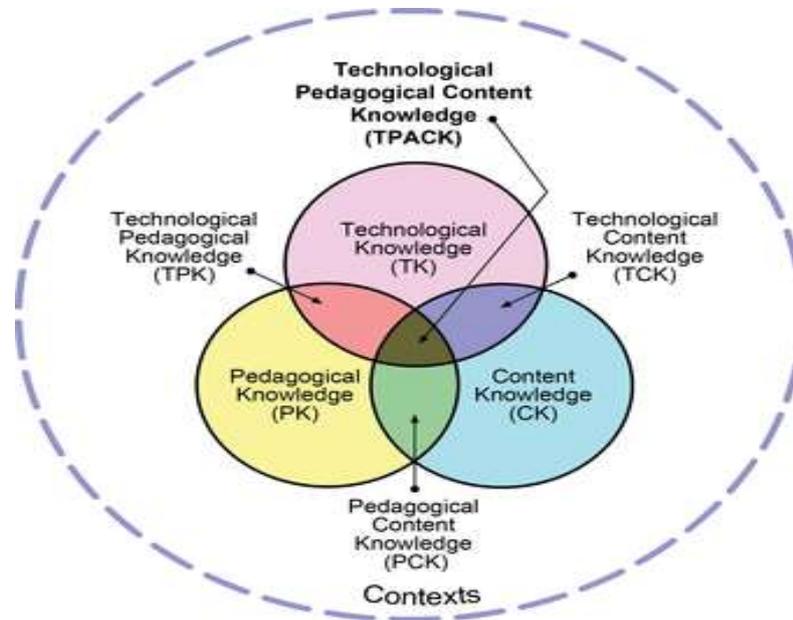


Figure 1

The TPACK Approach

The TPACK framework provides an effective map to integrate technology in classroom. It “describes how teachers’ understandings of technology, pedagogy, and content, can interact with one another to produce effective discipline-based teaching with educational technologies” (Harris, Mishra, & Koehler, 2009, p. 4). They introduce the TPACK framework as three interdependent components of teachers’ knowledge:

1. *Content knowledge* which is the knowledge about the actual subject matter that is to be learnt or taught (Shulman, 1986).
2. *Pedagogical knowledge* that comprehends the deep knowledge a teacher should have about techniques or methods to be used in the classroom, the nature of the target audience, and the strategies followed in evaluating learners’ understanding of the subject matter.
3. *Technological knowledge* which recommends the understanding of information technology that enables a person to apply it productively on an everyday basis.

TPCK then consists of multiple interactions among content, pedagogy and technology. Isolating any component will be definitely insignificant. Learning about technology is then more different than learning what to do with it instructionally, and does little to help teachers develop knowledge about how to use technology to teach more effectively (TPK), its relationship to disciplinary content (TCK), or how to help students to meet particular

curriculum content standards using technologies appropriately (TPCK) in their learning. (Harris, Mishra, & Koehler, 2009, p. 11)

On the other hand, teachers must know that there is no specific technological solution that can function equally well for every class, course or pedagogical approach. In this sense, an understanding of the complex manner in which all three domains co-exist, co-constrain and co-create each other is recommended, so teachers have to develop fluency and cognitive flexibility.

Many scholars have considered this approach to be a productive medium for technology integration and efficacy in teaching as well as learning. In another side, project based learning (PBL), which was set by many scholars such as Thomas, Mergendoller, & Michaelson, 1991; Jones, Rasmussen & Moffit, 1997; Stoller, 1997; Thomas, 2000; Grant, 2002, is an instructional model that implies the following.

- An in-depth investigation of the topic under study.
- Stimulating higher level thinking skills by involving the students in performing projects using what they have learnt and creating their own meaningful products.
- Using authentic content and assessment.
- Involving the students in design, problem solving and decision making by exposing them to challenging authentic problems or questions.
- Learner-centered, as the teacher's role is facilitation and not direction.
- Developing learners' autonomy and motivation.

This approach is obviously appropriate to 21st century learning that uses authentic tools and resources, including technology. Accordingly, this study used both approaches to ensure efficient technology integration in the EFL classroom

2.3. Moodle Platform

Modular Object-oriented Dynamic Learning Environment (MOODLE) is an online educational platform that can be a space for the learning environment for teacher and students. The Moodle system “constitutes itself as a virtual learning environment (VLE), where the learning process is completed online, representing a software open source and is destined to support a collaborative learning environment” (Oproiu, 2015, p. 427). Teachers can use Moodle to create and manage the courses and to create an interactive environment between them and their students. In the other side, students can collaborate and interact with their classmates to submit their assignment and to download their courses.

Moodle was developed by Martin Dougiamas in 2002 to help create online courses for educators around the world. It mainly focuses on interaction and collaboration in constructing the content. The first version of Moodle was launched in August, 2002, and it is now administered by the Australian Company, Moodle HQ, and funded by 84 Moodle Partner service companies all over the world. The Moodle platform is nowadays used by many learning environments such as education and business. To cope with these challenging technological advances, the Algerian University provided a Moodle platform to create a virtual classroom between the teacher and their students. Biskra University released the Moodle platform via its web server (<http://elearning.univ-biskra.dz/moodle/>). In 2018, Biskra University organized training days for teachers of all the university departments to train them how to use Moodle platform through its website.

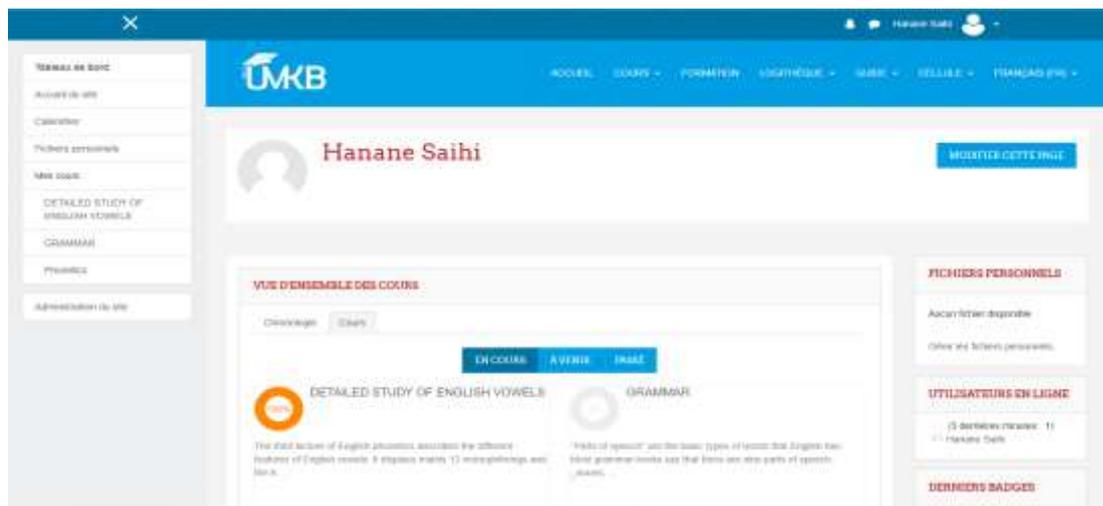


Figure 2

Moodle platform via Biskra University

Due to the rapid technology integration, Moodle platform is used by higher educational institutions all over the world in order to create a central interface for e-learning. In this sense, virtual classrooms are created to ease students' access to documents in different formats, video conferences, assignments and tests. Weller (2007) stressed two roles of this e-learning platform: The first is that it enables the management of the content in terms of the courses and homework. It further ensures synchronized collaboration by chatting and video-conferencing and non-synchronized collaboration by forums and blogs. The second role is that it enables managing the courses and the student applied to the courses. Hence, Moodle classroom can provide plenty of tasks set by the teachers such as providing a wiki for the students, creating online forum for discussion, uploading documents, and providing quizzes and tests.

3. Research Methodology

The study detected the teachers' attitudes towards the integration of Moodle platform since they had been exposed to certain training to learn how to use e-learning Platform. Therefore, the participants were mainly the trained teachers on how to use Moodle platform. To collect data a Likert scale questionnaire was administered.

3.1. Participants

The selection of participants was based on convenience sampling techniques; the available teachers who volunteered to take part in the study. Trained teachers (N=8) on Moodle platform have taken part in this research, and they responded to the questionnaire via email or in print. All the teachers are from Biskra University who are in-service teachers of English for more than one year. They are either hold a Magister or PhD qualified teachers.

3.2. Procedures

The questionnaire was divided into three sections. The first section was for the general information about the respondents. The second section was about the teachers' attitude towards the technology in general while the last section was about their attitude towards the use of Moodle platform in the English language classroom at a university level. The data collected were encoded using the Excel processing software package in form of Bar charts.

4. Results

The eight respondents were affiliated to the English Language Section through a contest held each year by the University to recruit new teachers. These selected in-service teachers are mostly of more than 6 years in the teaching career. Most of them are Magister qualified teachers who are in the same time PhD candidates.

4.1. General information

Table 1

Teaching experience

	1 – 5 years	6 – 10 years	11 or more
Teaching experience	3	4	1

Table 2

Teachers' Qualification

Magister degree	5
PhD degree	3

The above tables show the years of teaching career of the sample selected to respond to the questionnaire. Five out of eight teachers have an experience of more than six years. Five of them are Magister qualified teachers, and 3 are PhD qualified.

4.2. Teachers' Attitudes toward Technology and Moodle Use and Integration in EFL Classrooms

From their responses to the questionnaire, teachers have shown their support to the technology integration in their classrooms, but they pointed out the lack of equipment (software) and the insufficient training of the use of educational technology.

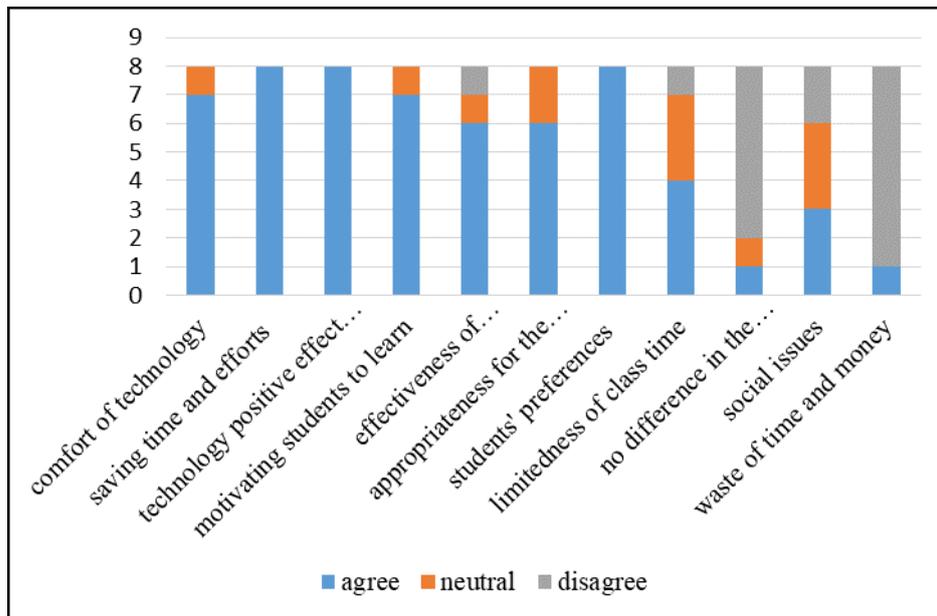


Figure 3

Teachers' Attitude towards Integrating Technology in the EFL Classroom

All the respondents agree with the fact that technology can save time and efforts, and can improve learning environment of the educational institution. They also agree that their students prefer to use technology devices such as laptops and smartphones in their classrooms. Of all the respondents (N=08), 07 teachers agree that technology makes their career much more comfortable, and it motivates their students to learn English. 06 teachers agree with the effectiveness of technology-based classroom if compared to the traditional one, and that it fits their subject goals and learning activities. Meanwhile, 04 teachers stress on the limited class time to use technology. They also disagree with the idea that technology can make no difference if it is integrated in the English language classroom. The 10th statement (cf. Appendix II) has fluctuant responses in terms of the society effect on implementing technology integration in EFL classrooms: 07 out of teachers disagree with the idea of its being waste of time and money; while 03 of the respondents (N=08) 03 agree, 3 remained neutral and 02 disagree. Always begin with the lowest rates and go increasing

4.3. Teachers' Attitudes towards and the Use of Moodle Platform in EFL Classrooms in Biskra University

The figure below shows the teachers' attitudes towards Moodle platform in terms of its use and its fitness to their students. 7 questioned teachers support the use of Moodle platform but under certain better circumstances.

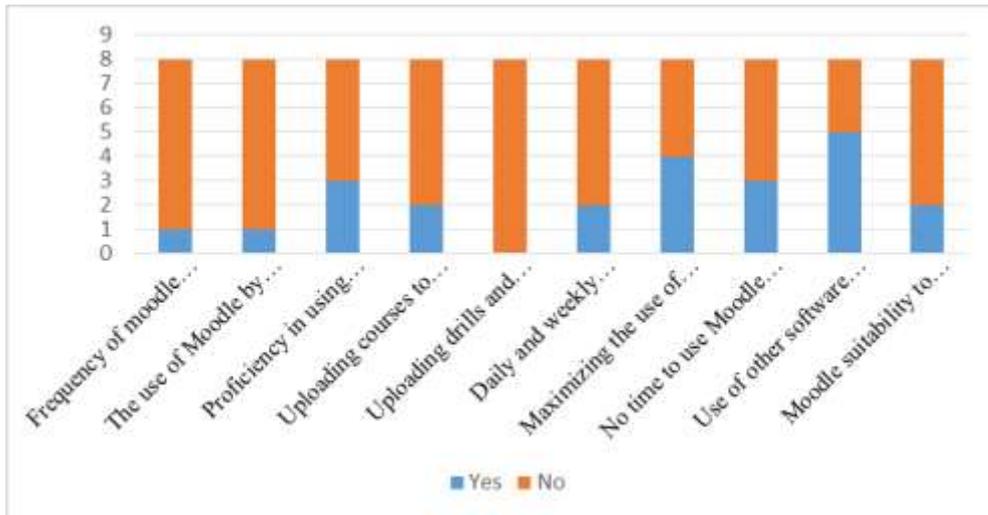


Figure 4
Teachers' Attitudes towards the Use of Moodle Platform

Of all the respondents (N=08), 07 do not use Moodle platform frequently. They stress that their students also do not use Moodle platform and ignore its use. 05 of teachers assert that they are less proficient in using the platform; while the rest confirm that they need extra training.

Concerning uploading the courses via Moodle platform, 6 teachers do not upload any course. All the respondents do not assign any weekly or daily tasks via Moodle platform. Concerning teachers' trial to maximize students access to Moodle platform, there are equal responses between 'yes' and 'no'. 3 teachers agree that they do not have much time to get access to Moodle platform and that it does not suit their students' learning background. Yet, 5 teachers confirm that they use other software applications instead of Moodle platform. The questioned teachers further commented on the integration of Moodle platform.

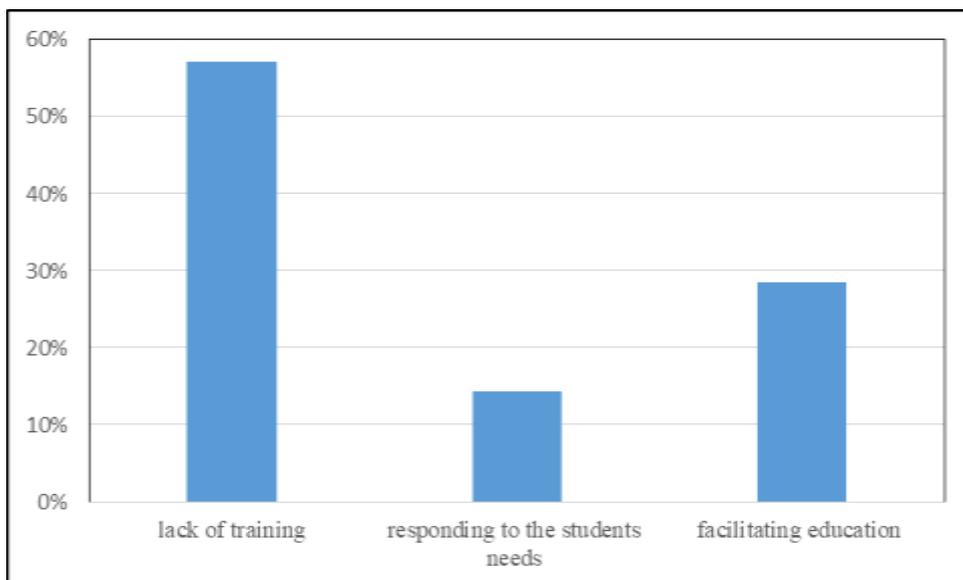


Figure 5
Teachers' Comments

Teachers do insist on training about the use of Moodle Platform. Hence, they state the necessity to cooperate with computing engineers to cope with technology advances. They add that using Moodle needs extensive training for both students and teachers with the provision of necessary tools and equipment. Based on the comment of one teacher, technology is very important in teaching, and since students are no longer motivated to use books for reading or taking notes and look for more interactive electronic environment, it is time for teachers to adapt themselves to students' interests rather than forcing students to follow a specific approach of learning. Another teacher adds that Moodle facilitates collaboration, and it copes with the new teaching methods as Competence-based Approach (CBA); while one of the teachers stressed that the practice of this platform needs time and effort on a frequent basis so that it becomes a teaching/ learning routine.

5. Discussion

The analysis of the teachers' responses at Biskra University reveals that although they are aware of the existence and importance of Moodle platform, they assert that time and lack of training hinder the adoption of Moodle platform. The teachers further expressed the students' ignorance of Moodle platform. The respondents expressed that using the electronic environment would be reasonable if there is a continuous training for both teachers and students. They are rather interested in interacting with their students on the platform in order to create a friendly electronic learning environment with an immediate feedback. The teaching staff's desire is to create a more active and a new teaching environment that provides a learning autonomy. The teachers call for extra material and facilities to ease the access to Moodle platform by the students and the teachers.

6. Conclusion

Moodle platform cannot replace traditional classroom; however, it can pave the way to access information. Furthermore, e-learning environment provided by Moodle can be accompanied by traditional English language teaching/learning. Moodle platform can be a support for English language teachers who seek to increase the quality of online courses for the students if the implementation of virtual learning environment becomes a reality in Biskra University for both teachers and students. Moodle platform is an innovative pedagogical software that can achieve better goals than traditional pedagogical tools can do for both teachers and students, but it needs more efforts and more time allotment from these two main actors.

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Appendix

Questionnaire

Dear colleagues,

We hereby invite you to participate in this study about your attitudes towards integrating technology in English language classrooms of Biskra University through Moodle platform.

Your knowledge and experience are important, and we would very much appreciate your cooperation.

I. General information

1. Qualification

Magister

Doctorate

2. Years of experience.

1-5

6-10

11 or more

3. Teachers' attitude towards integrating technology in EFL classrooms

Statements	agree	neutral	disagree
1. Technology makes me feel comfortable.			
2. Technology saves time and efforts.			
3. Technology makes university a better educational institution.			
4. It motivates students to study better.			
5. Technology-based classroom is more effective in teaching English than the traditional classroom.			
6. Technology fits my subject goals and language learning activities.			
7. My Students prefer to use technology tools such as laptops, smartphones, tablets, etc.			
8. Class time is limited to use technology.			
9. Technology will not make any difference in the classroom.			
10. Social issues can limit implementing technology at university.			
11. Learning about technology and its use is a waste of time and money.			

4. Teachers' use of Moodle platform

Statement	Yes	No
1. I use Moodle platform frequently.		
2. My students use Moodle platform.		
3. I am proficient with the basics of Moodle platform.		
4. I upload my courses to Moodle platform to facilitate it access by my students.		
5. I upload drills and practices via Moodle platform.		
6. I assign daily and weekly tasks that support my curriculum.		
7. I seek to maximize the use of Moodle platform among my Students.		
8. I do not have time to use Moodle platform		
9. I use other software applications to assign tasks such emails, blogs and social media.		
10. Moodle does not suit my students' learning background.		

5. Any further comments and suggestions

.....

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ANALYSIS OF ALGERIAN STUDENTS ENGLISH INTONATION DEVIATIONS WITH THE EMPLOYMENT OF SPEECH ANALYZER AND PRAAT PROGRAMMES

Abstract

Learners' mispronunciations can be detected easily in a long stretch of speech in which the listener can discriminate differences in vowels, consonants, and prosody productions compared to native speakers' English. Algerian students employing inappropriate intonation contours, which differentiate grammatical categories and speakers' intentions, may lead to comprehension and communication problems. This paper aims at investigating the intonational errors produced by Algerian English as a Foreign Language (EFL) students and the extent to which Algerian Arabic interferes in the learning process of English tonal categories. This quasi-experimental study reports on the effect of providing audio-visual feedback to students' pronunciations of English intonation with the use of Speech Analyzer, and the retrieval of pitch and intensity values with Praat during the third semester of the phonetic course at the Department of English, University of Guelma, Algeria. The experimental group of second year students (N=10) productions were compared to native speakers of American English control group (N= six, at the Diderot Paris 7 University, France) renditions in which both groups were subjected to non-random assignment. The applicability and contribution of these speech-processing programs in data manipulation, analysis, and synthesis are evaluated. The results display that the students' intonation deviations were interpreted in terms of Algerian Arabic transfer or individual differences; therefore, their performances were perceived with a foreign accent. The implementation of these devices in teaching English intonation enables to estimate the degree to which such technologies are useful.

Keywords: Algerian Arabic, EFL, intonation deviation, speech-processing programme.

1. Introduction

The domain of Second Language Acquisition (SLA) overlooked research in prosody and mainly intonation to a considerable degree. In the 1950s and 1960s, the researchers' goal was primarily pedagogical, in which they aimed at developing the ways of Second Language (L2) teaching. However, the 1970s knew a shift of focus to find out how L2 was learnt with respect to learner-centered rather than teacher-centered approaches. In the 1980s, more attention was given to communicative and cognitive approaches over pronunciation teaching. The proficiency approach emphasizes the improvement of the speaking competence; however, no clear instructions were provided regarding the teaching of pronunciation. Recent studies in Applied Linguistics revealed a growing interest towards the acquisition/learning of L2/Foreign Language (FL) phonology and communicative competence. Today, the intonation feature is recognized as an integral part of communicative and linguistic competence. The shift of focus encouraged the application of instructional tools as computer programs in the teaching of pronunciation and intonation, in addition to studying intonation in terms of discourse functions beyond the sentence level. Non-native speakers learning the Target

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Language (TL) face challenges in picking up its sound system and prosodic features. In the light of this, researchers seek to understand the properties of L2/FL renditions and explain the reasons behind the occurrence of such structures.

2. Review of Literature

2.1. Intonation

Intonation is defined as sentence or speech melody in terms of modulations and pitch variations. Prosody deals with pitch, loudness, speech rate, tempo, duration, pause, and rhythm. Pitch is viewed in terms of intonation contours, and it is determined as the auditory sensation of human speech sounds ranged on a scale from *high* to *low* as it also refers to the acoustic frequency of vocal folds (or cords) vibration. The frequency stands for the number of times the vocal folds are completely close or open in a given moment and it is acoustically measured in *Hertz* (Hz) values. Loudness is recognized in the shape of stress placement at the level of a single syllable or longer stretches of speech. It is elucidated in sense of the sound auditory *intensity* level that is measured in *decibels* (db), and it is acoustically analyzed and presented in waveforms. Stress perception and realization depends on the syllable or sentence loudness, in which a prominent syllable/sentence is determined with an increase in pitch and loudness accompanied with duration. Time or duration is measured at the level of a single syllable and it is either clipped or lengthened. The production of longer stretches of speech requires speakers to make use of two parameters. First, the speech rate is about the syllables' speed rendition per second in which the performance of a large number of syllables is considered *fast* and a limited number is seen *slow*. Second, the speech tempo is explained with respect to syllables duration within an utterance in the sense that short syllables are perceived as *fast* and long syllables are heard as *slow* (Reed, 2007, pp.4-8). Rhythm in English is described in terms of strong beats indicated by the stressed syllables within the utterance, in which the prominent units occur at regular intervals and this regularity is perceived in relation to stressed vs. unstressed syllables (Crystal, 1975).

Since the 16th century, it is believed that grammar and intonation are linked in which the tune (rising, falling) and sentence type (exclamation, statement, question) are interrelated. Halliday (1964) portrayed this relationship as *central* in which “only those distinctions which are shown in the grammatical description to be meaningful are represented in the phonological analysis” (p.169). On this basis, the interpretation of intonation contours in this study is explained in relation to the grammatical categories these pitch patterns are associated with.

2.2. Intonation in Algerian Arabic

According to Odisho (2005, p. 66), success or failure in learning L2 and/or FL features is related to the non-native speakers' dialectal background. Algerian Arabic or *Darja* and Berber are spoken by nearly 99% of the population. *Darja* is dominated by 72% of Algerians, (Leclec, 2009; Maamri, 2009) and it is the main language of communication among the subjects who took part in the research.

Arabic Dialects are characterized with an intonation contour that occurs at the word-accented syllable. This notion has been confirmed in Modern Standard Arabic (Haydar & Mrayati, 1985), Egyptian Arabic (Norlin, 1989), Jordanian Arabic (Rammuny, 1989), Moroccan Arabic (Benkirane, 1998), and Lebanese Arabic (Chahal, 2001). Georgin (1980) noted that declaratives in Algerian Arabic are pronounced with a falling tone at the final syllable to indicate finality and a rise to express continuation. Similarly, Ait Oumeziane (1981) examined in his thesis the Arabic speech of Constantine and he provided a description of its intonational and accented characteristics. Further, Guella (1983) discussed the

integration of theme-rheme principle in which *theme* is what is already known from the preceding utterance, whereas the *rheme* refers to the newly introduced information and it is the part that receives the nuclear accent or the tonic. Guella (1984) presented the intonation of Algerian dialect spoken in Nedroma (near Oran) in which the intonational patterns are analyzed from a pragmatic standpoint and in terms of theme/rheme organization, nucleus placement, and contrasted focus. The author (1984, p. 12) illustrated the theme-rheme organization in which the *tonic accent* is emphasized as presented in the following example:

/(ʔ:næ) qutli:k matsxabru:f/
 (I told you not to inform him)

In the coming example the intonation center is positioned at the final syllable to stress *contrast* and “the center of intonation is in its automatic position” (p. 12).

/(ʔ:næ) qutli:k matsxabru:f (ma:ʃi mætsxamru:f)/
 (I told you not to inform him) (and not to get him drunk)

According to Guella, word-order may be utilized in the context for theme-rheme organization (p. 12). For instance:

/matsxabru:f qutli:k/
 (Don’t inform him, I told you)

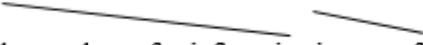
Another illustration demonstrates the shift in the center of intonation which is “in a de-automatized position” (p. 12), and it is placed on *I* to highlight contrast.

/ʔ:næ qutli:k matsxabru:f/
I told you not to inform him

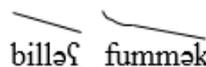
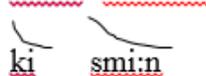
Guella provided another example in which the tonic is carried on the function word [li:k] which is emphasized although it is unstressed in this context to contrast with [li:fæ] (p. 12).

/(ʔ:næ) qutli:k li:k matsxabru:f (ma:ʃi li:fæ)/
 I told you (not her) not to inform him.

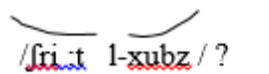
According to Guella, statements are rendered with a falling tone that spreads over the syllables of the tone group (as cited in Benrabah, 1987, p. 81). In the following statement, the tonic syllable is /jəmma:fi/ which is the last long syllable (Guella, 1984, p. 13).


 /dʒama:l ra:fi jəʃa:win jəmma:fi/
 Djamel is helping his mother

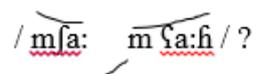
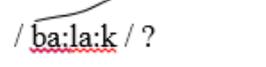
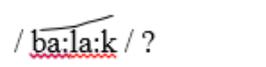
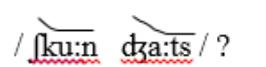
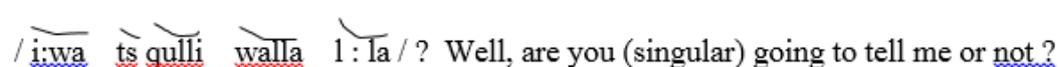
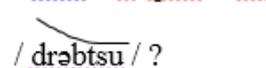
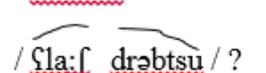
Commands and exclamations make use of a falling intonation contour; however, commands are characterized with a higher falling tone (Guella, 1984, p. 14). The following example demonstrates the tone pattern of command and exclamation, respectively.


 billeʃ fummək Shut your mouth !

 ki smi:n how fat (he is) !

In yes/no Questions, the pitch glides up at the beginning of the tonic syllable; thus, this type of questions is performed with a rising tone as presented in the following example (Guella, 1984, p. 14).


 /fri:t 1-xubz/?
 Did you buy bread?

In this connection, Guella (1984) claimed that polite questions, enquiry or strong doubt (high pitch) necessitating definite response, and probability (low pitch) are produced with a rising tone. By contrast, wh-questions, questions or request aiming at satisfactory answer, questions implying demand for disapproval or insistence, and questions expressing certainty are rendered with a falling intonation pattern. The present examples illustrate these linguistic forms respectively (pp.14-16).


 /mfa: mʃa:fi/? Did he go with him?

 /ba:la:k/? May be? (High-rise)

 /ba:la:k/? May be? (signifying Is it possible?) (low-rise)

 /ʃku:n dʒa:ts/? Who came? (singular, female)

 /i:wa ts qulli walla 1:la/? Well, are you (singular) going to tell me or not?

 /drəbtsu/? You (singular) hit him?

 /ʃla:f drəbtsu/? Why did you hit him?

Benrabah (1987) added that listing items and interjections are produced by Algerian speakers with a rising tone, and in terms of attitudinal meaning the rising-falling contour is employed to show surprise as in the example /^ˆzi:t/ (you have come!) (p. 83). For Benrabah, the speakers' attempt to focus on a particular utterance or portion of speech to direct the listeners' attention towards specific meanings that are conveyed with the application of intonational, grammatical, and lexical forms or the integration of each (p. 76). With respect to the intonation feature, focus can be realized in terms of nucleus placement in the utterance. Phonetically, the last accented syllable serves as the nucleus; in addition, at the semantic level the latter signals the syntactic element that carries a greater information in the sentence. The

nucleus occurs in the lexical item conveying new information in which the last stressed syllable is the tonic. However, contrastivity can mark the focus and it may take place at a non-final syllable as it may specify old information depending on contextual and pragmatic conditions.

According to Benrabah, Algerian Arabic is characterized by the utilization of nucleus shift and word-order to indicate the focus. Algerian Arabic has two possible forms of word-order that are VSO (Verb Subject Object) and SVO (Subject Verb Object) in which the nucleus is associated with the object. In other forms of word-order the nucleus placement highlights contrast leading to shift in focus as displayed in the following examples (pp. 79-78).

VSO order e.g. (a) / ʃraʃemi ʃda:r / (my uncle bought the HOUSE)

SVO order e.g. (b) / ʃemifra ʃda:r / (my uncle bought the house)

OVS order e.g. (c) / ʃda:r ʃraʃia ʃemi / (my UNCLE bought the house)

OSV order e.g. (d) / ʃda:r ʃemi ʃraʃia / (my uncle BOUGHT the house)

Benali (2015) conducted a study on the prosody of focus in Algiers and Oran dialects in which he analyzed the prosodic aspects related to a particular focus. His acoustic examination of data revealed that Algerian speakers of Algiers and Oran dialects differ in *emphatic focus* and *interrogative focus* that take place at final position in the tone group. The emphatic focus is rendered in Algiers variety with a rising-falling pattern, and in Oran speech, it is achieved with a slight rise or fall and flat intonation. Regarding the interrogative focus, Algiers speakers tend to amplify the intonation contour, while Oran speakers place a rising pattern on the last syllable that is preceded by a falling pitch. In addition, he reported that the contrastive focus varied among speakers of the same variety and the broad focus was produced with equivalent intonation contours in the two dialects.

Consequently, understanding how Algerian Arabic intonational system functions serves as the basis for the interpretation of data that is retrieved in the present quasi-experimental study.

2.3. Integration of Speech Processing Programmes

Since the 1970s, computer devices have been employed to visualize the learners' intonational productions. During the 1980s, software and hardware became more attainable involving pronunciation tutors, speech digitizers that provide graphic representation of intonation curves and pitch tracking. In this regard, Esling (1992) claimed that these tools can be utilized for prosody synthesis in contrast to the deliberate didactic method; in addition, the cross-referencing function of auditory and written data permits combining symbols with the corresponding sounds. Similarly, Chun (1998) as cited in Chun (2002, p.120) pointed out four functions to incorporate technology in research and teaching instruction. Chun claimed that computers and computer software aim:

- 1) to provide learners with visualizations of their intonational patterns and with specific feedback to help them perceive the meaningful contrasts between L1 and L2 so that they can improve their speech production;
- 2) to provide learners with authentic and extensive speech and cultural input and in turn to hone learners' perceptual abilities;
- 3) to facilitate, record, and analyze interactions between and among speakers; to build tools for research purposes, e.g., data collection tools to record student performance, progress, and steps toward self-correction.

3. Methodology

The systemic functional approach states that linguistic analysis of spoken or written language corpora is significant in order to retrieve relevant information about the difficulties encountered by non-native speakers learning FL. A quasi-experimental design is used in this research to monitor consistently the influence of a specific treatment on a definite population and sample; therefore, to discover whether or not a particular treatment results in a given impact (Velluntino & Schatschneider, 2004). The quasi-experiment is built on the treatment which is the innovation that the researcher or teacher wants to evaluate its results in his/her classroom. The unit of assignment includes the things or people that the teacher studies and the outcome measure is a type of test that offers numerical data. However, unlike the true experiment, the quasi-experiment lacks the factor of random assignment or equivalent participants in both control and experimental groups (Cook & Campbell, 1979, p.5).

3.1. Context

The prosodic features of English are predominant in comprehending and creating meaning in which these speech signals serve as the clues to process charts of spoken language. Learners employing inappropriate intonation patterns may sound rude or abrupt and this may hinder communication and result in a misunderstanding on the part of the listener. The adopted research method is used to investigate the computer-based approach as a pedagogical tool to cope with the complexity of intonation instruction.

In light of this, this study is centered on the hypothesis that the students' intonational errors are overcome with the application of signal analysis software and extraction of their speech acoustic characteristics. This raises the research questions: What are Algerian students' deviations of English intonation? Does the audio-visualization of pitch curves enable the Algerian students to enhance their productions and perceptions of English intonation patterns? Thus, the research intends to raise awareness among Algerian EFL students and teachers of phonetics towards the important application of speech analysis software and audiovisual feedback technology in EFL classroom. Further, it is meant to increase the students' confidence towards the use of English intonation in discursive situations for communicating meanings effectively and improving their oral proficiency.

3.2. Participants

The EFL subjects and American native speakers who participated in the quasi-experiment were not selected randomly. The control group of American native speakers involves six participants (four males and two females) with an age range of 18 to 34 years old working as teaching assistants at Diderot-Paris7 University, France. The experimental group of Algerian non-native speakers contains ten second year students (six males and four females), and they were aged between 19 to 25 years old. The students were tested during a third semester Phonetics course, at the Department of English, University of Guelma 8 Mai

1945, Algeria. The chosen sample was minimized due to the complexity of data recording and manipulation as it is agreed that the value for each parameter is at least ten participants (Schreiber, Nora, Stage, Barlow, & King, 2006).

3.3. *Procedures and Materials*

The intervention was achieved with the audio-visual representation of recorded speech provided by Speech Analyzer, and pitch and intensity values extraction with Praat programs (Appendix A). The control group participants were integrated in the quasi-experiment for the purpose of comparison and they received no treatment, unlike the experimental group to whom the innovation was administered. The results of both control and experimental groups are compared in the pre-test (the student-participants recorded their productions) and post-test phases (the participants were allowed to listen, visualize, and compare their pronunciations with NAE native speakers renditions and re-record their performances). The annotated linguistic structures (Appendix B) are the most commonly used in English spontaneous speech following the International Phonetic Alphabet (IPA) transcription system of intonation (Figure 1).

TONES AND WORD ACCENTS			
LEVEL		CONTOUR	
é ^ˈ or ˈ	Extra high	ě ^ˈ or ˈ	Rising
é	High	ê	Falling
ē	Mid	ē	High rising
è	Low	ē	Low rising
ě	Extra low	ē	Rising-falling
↓	Downstep	↗	Global rise
↑	Upstep	↘	Global fall

Figure 1

The Tone Chart Used in the International Phonetic Alphabet (IPA)
(Adapted from International Phonetic Association, 1999)

4. Results and Discussion

4.1. *Rising-falling Contour*

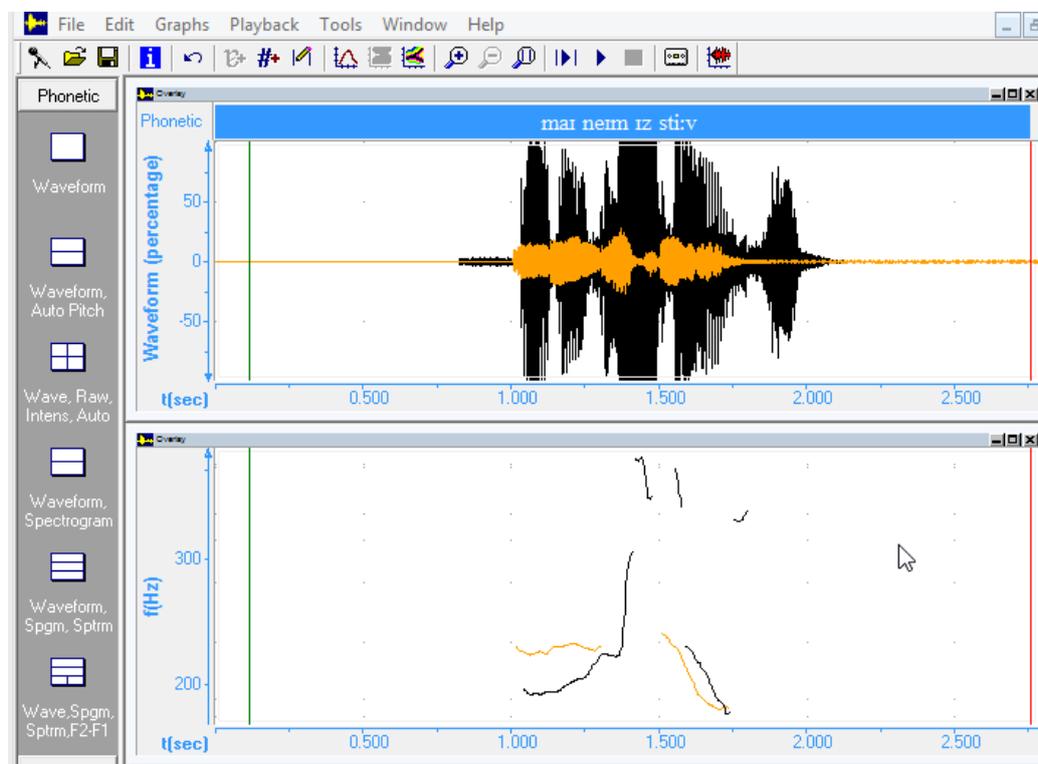
Rising-falling intonation tone falls on the most prominent element in the utterance; it starts at mid-level and reaches high level. This contour ends with either a nonterminal fall at a middle level that signals uncertainty, usually demonstrated in a suspense mood, incomplete idea, or unfinished sentence, or with a terminal fall at a low level that represents certainty and a finished statement (Celce-Murcia, Brinton, & Goodwin, 1996). The utterances that employ this intonation pattern are declarative statements, requests and commands, wh-questions and tag questions eliciting agreement.

4.1. *1. Declarative Statements*

A declarative statement stands for an utterance that presents a state of affair in which the speaker's attitude or emotional status is neutral regarding the information and the last stressed syllable receives a regular fall (Celce-Murcia et al., 1996, p.186). The following example illustrates the rising-falling contour that begins at middle level (2), then rises to high level (3) and falls to low level (1).

3
2 My name is Steve
1

A large number of the students (N=9/10) performed the declarative statements with a falling tone but the pitch does not fall as low as in English in which the utterance sounds to be unfinished and that the speaker has more to say. The transfer of the intonational pattern from Algerian Arabic into English gives the impression that the sentence final pitch tone is sustained, that is, there is more to follow (Figure 2).



Native Speaker **—**
Non-native Speaker **—**

Figure 2

Declarative Statement Pitch Contour Produced by American Native Speaker (1) and Algerian Non-native Speaker (2) Analyzed with Speech Analyzer

4.1.2. *Requests and commands*

Requests and commands in English and Algerian Arabic receive a final falling contour (Celce-Murcia et al., 1996, p.186; Benrabah, 1987). The following example presents the pitch rising from middle to high levels then it falls to a low level.

3
2 Be quick
1

The Algerian learners tended to render the English requests and commands with a falling pitch but it is not as low as it is pronounced by native speakers (Figure 3).

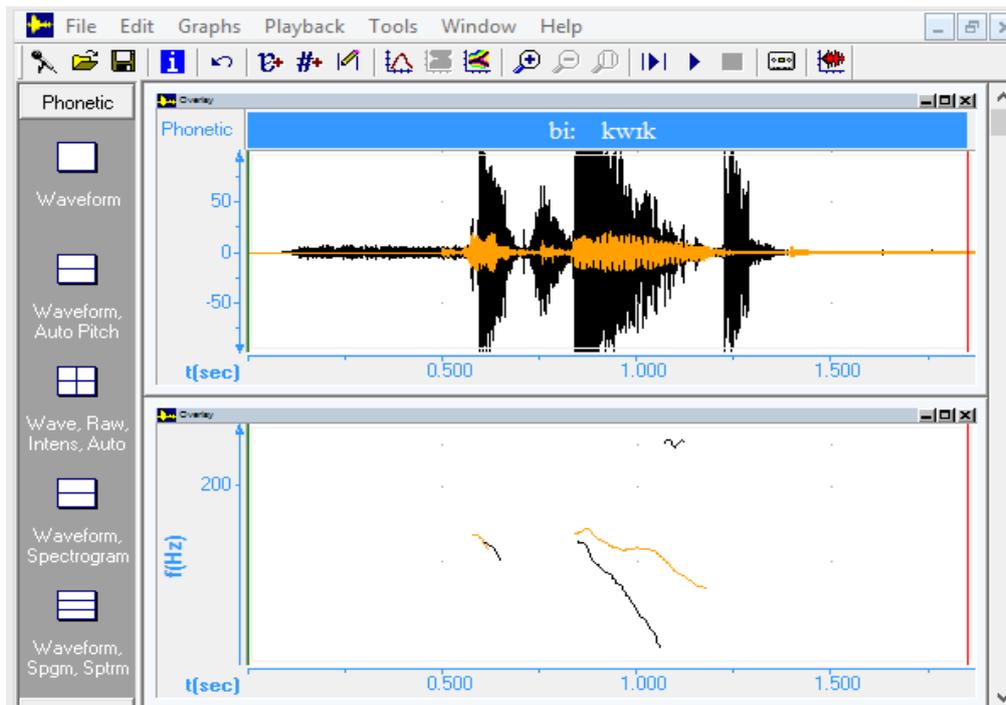


Figure 3

Requests and Commands Pitch Contour Performed by (1) and (2)

4.1.3. Wh-questions

English Wh-questions end with a falling tone in which the contour center is moveable in relation to the focus of attention (Celce-Murcia et al., 1996, p.186). In the following example, Wh-questions are associated with the pitch pattern of 2-3-1 that indicates certainty, in which the tone starts at middle level then it rises to high level then it falls to low level.

3
2 Where did you go?
1

The Algerian students uttering Wh-questions tended to stress the interrogative word whatever is the center of the intonation contour. All the participants used a falling tone but it does not fall as low as in English as displayed in Figure 4 (Hamlaoui & Bengrait, 2016).

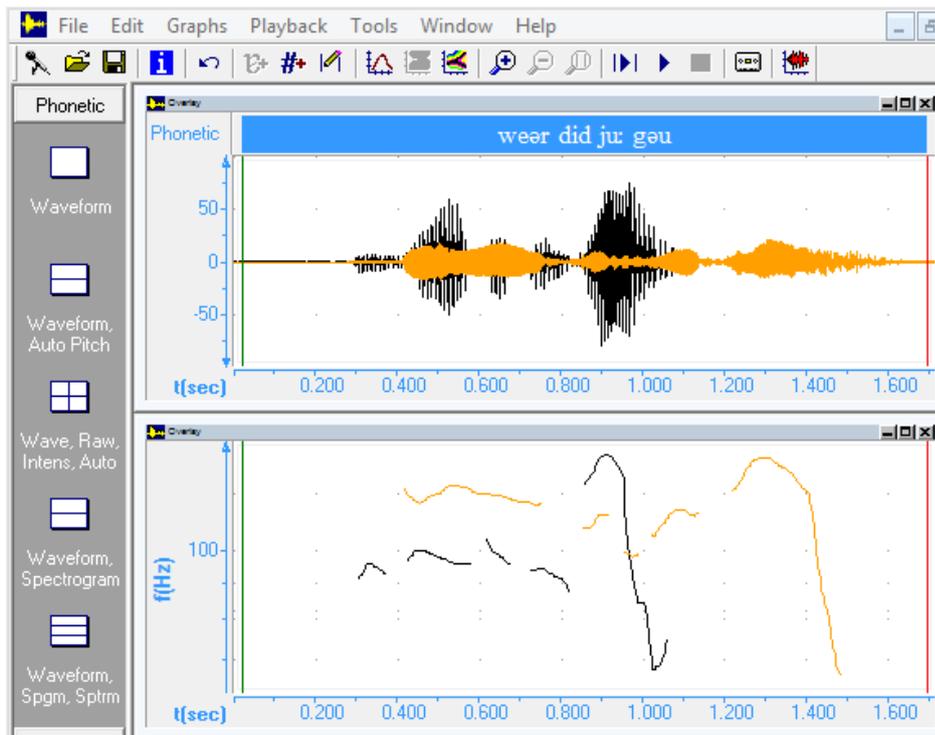
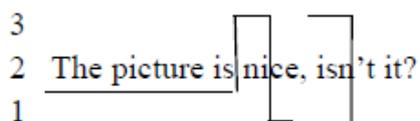


Figure 4

Wh-questions Pitch Contour Rendered by (1) and (2)

4.1.4. Tag-questions Signaling Certainty

The type of tag questions *eliciting agreement* employs the 2-3-1 contour for the utterance and 3-1 pattern for the tag or the interrogative fragment (Celce-Murcia et al., 1996, p.187). The speaker expects confirmation of the information by the interlocutor signaling certainty as displayed in the following example.



The majority (N=9/10) of the Algerian students performed the phrase in the tag-question with 2-3-1 pitch pattern; however, the interrogative fragment was rendered with a rising tone (Figure 5). This tendency is interpreted as the participants transfer into English the rising contour that is adopted in the pronunciation of tag-questions in Algerian Arabic (Hamlaoui & Bengraït, 2016).

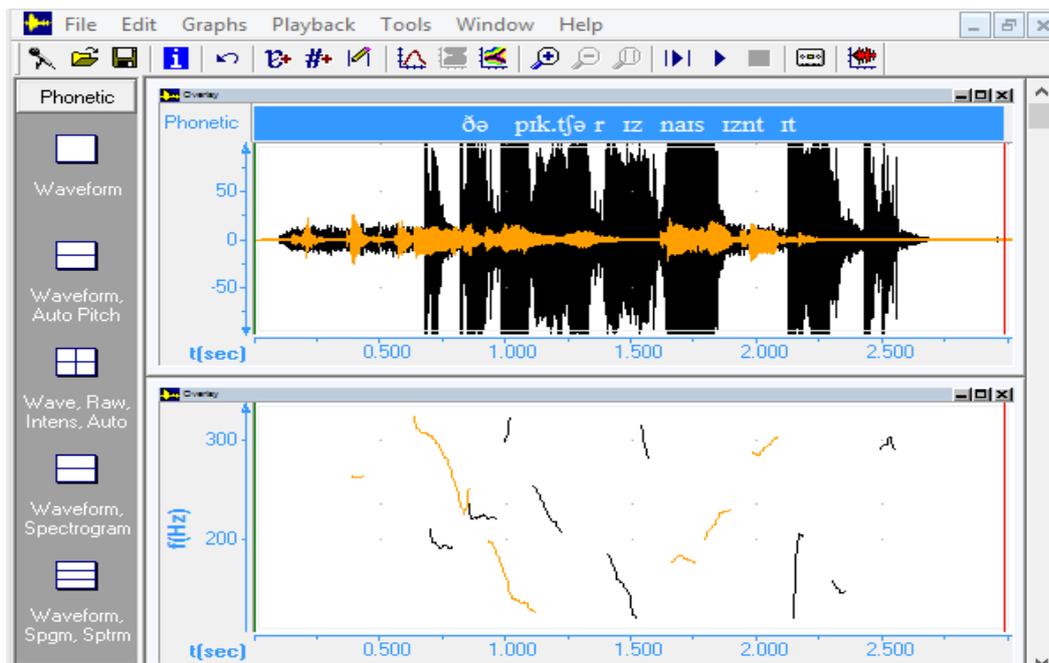


Figure 5

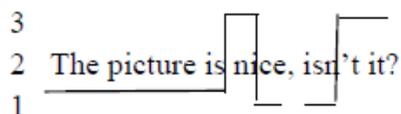
Tag-question with Certainty Pitch Contour Produced by (1) and (2)

4.2. Rising Intonation Contour

The rise intonation pattern in English starts at the prominent syllable in discourse and it spreads over until the end of the utterance. There are two distinct rising intonation contours; the one that rises from low to middle level (1-2 pattern) and another that begins at middle and it moves to high level (2-3 or 2-4 pattern), in which the latter indicates uncertainty and it is employed according to the amount of expressed emotions (Celce-Murcia et al., 1996). The grammatical structures that are characterized with a rising intonation pattern are:

4.2.1. Tag questions signaling uncertainty

This type of tag-questions allows the speaker to respond with either *yes* or *no* as s/he may already have a preconceived knowledge, giving the impression that the utterance is more likely a yes/no question type (Celce-Murcia et al., 1996, p.189). In the following example, the speaker expects information rather than confirmation.



A large number (N=8/10) of the participants were found to use a rising contour in the renditions of tag questions signaling uncertainty but it is much higher than the pitch rise produced by the American native speakers as illustrated in Figure 6.

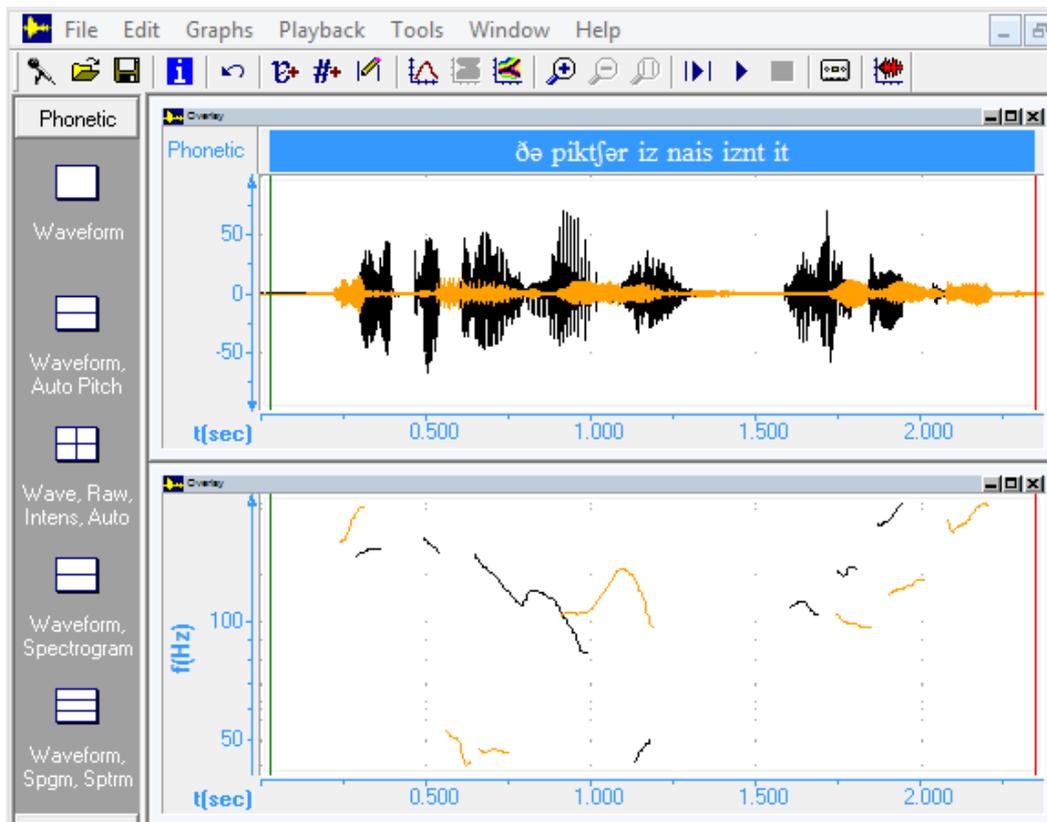
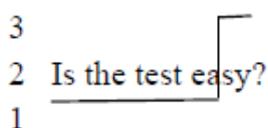


Figure 6

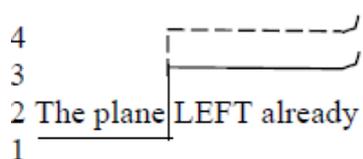
Tag-question with Uncertainty Pitch Contour Uttered by (1) and (2)

4.2.2. Yes/No questions

The English yes/no questions with *a question word order* are performed with a rise at the most prominent word or the rise continues until the end of the question, in which the speaker is expected to answer with *yes* or *no* (Celce-Murcia et al., 1996, p.188) as demonstrated in the following example.



There is a category of sentences that are structured as a statement but function as a question. These sentences differ from yes/no question in that the speaker has already a preconceived knowledge to confirm the information. The yes/no questions with *statement word order* use the rise contours of 2-3 or 2-4 patterns in which the former presents a neutral confirmation and the latter expresses disbelief or surprise as displayed in the following example (Celce-Murcia et al., 1996, p.188).



All the Algerian students employed a rising contour when reading the yes/no questions with a question word order/statement word order similar to the pronunciation of yes/no questions in Algerian Arabic (Figure 7, Figure 8, and Figure 9).

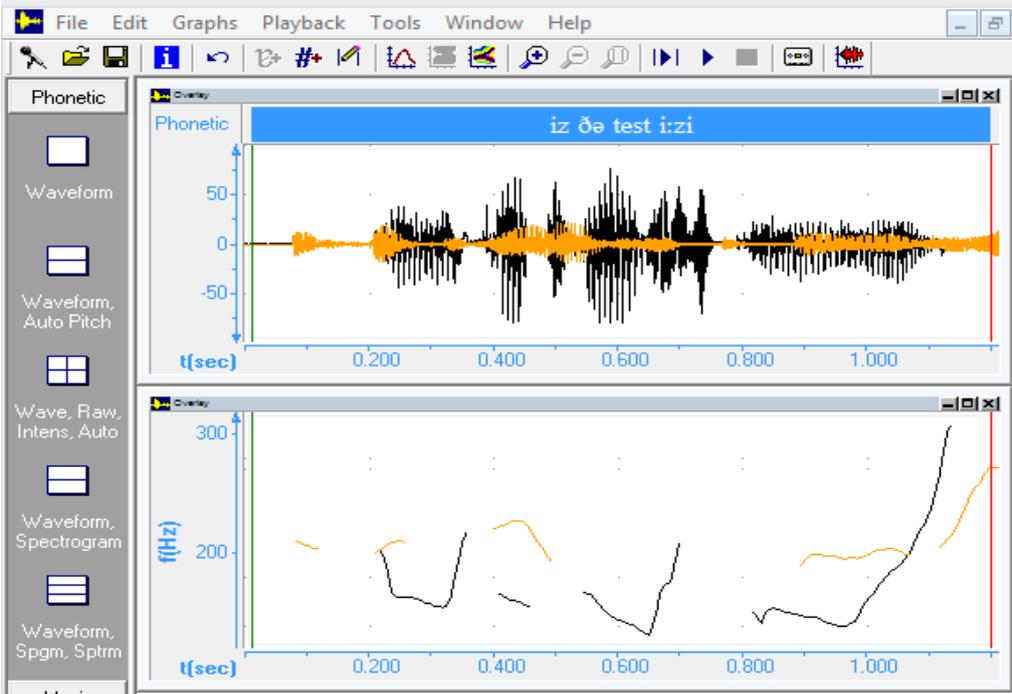


Figure 7 Pitch Contour of Yes/No Questions of Question Word Order Read by (1) and (2)

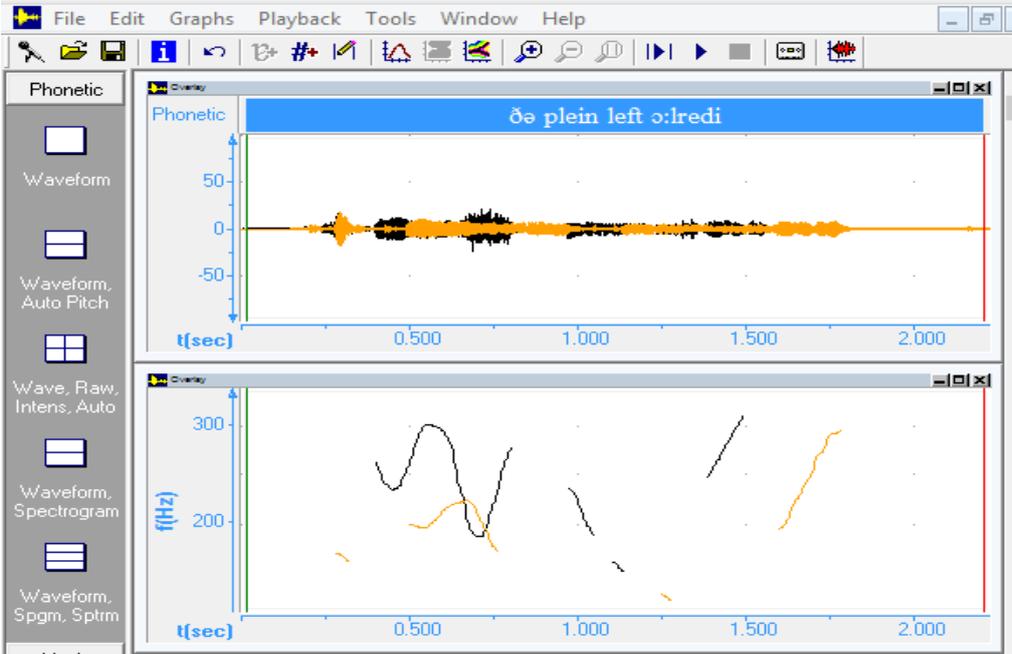


Figure 8 Yes/No Questions of 2-3 Pattern Pitch Contour Read by (1) and (2)

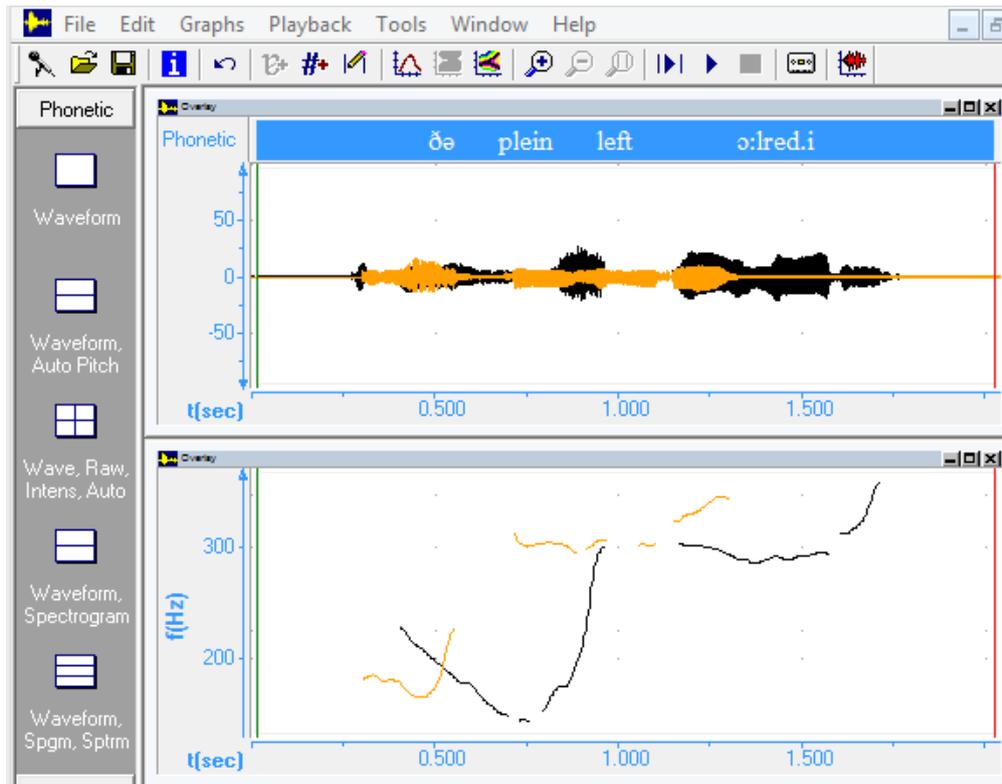


Figure 9

Yes/No Questions of 2-4 Pattern Pitch Contour Read by (1) and (2)

4.2.3. Alternative questions

Alternative questions involve two distinct categories. The open-choice alternative questions in English are rendered with a 2-3 rising pattern in which the listener is offered a free choice and s/he may select from the available options or reject the alternatives (Celce-Murcia et al., 1996, p.190), as illustrated in the following example.

3
 2 Are you going to pay with Master Card or Visa?
 1
 (Open Choice: Are you going to pay with a credit card?)

The cited items in closed-choice alternative questions receive a rising contour of 2-3 pattern until the final element, in which the latter is produced with a 2-3-1 rise-falling pattern (Celce-Murcia et al., 1996, p.190). The following example presents these contours.

3
 2 Are you going to pay with Master Card or Visa?
 1

A large number (N=9/10) of the Algerian students produced both the open-choice and closed-choice alternative questions with a final rising contour and they expressed no difference in meaning. However, a minority placed 2-3 pitch pattern on the word *or* and end the sentence with a falling pitch below middle level by adopting a similar tendency of pronouncing the alternative questions sometimes in Algerian Arabic as illustrated in Figure 10 and Figure 11, respectively.

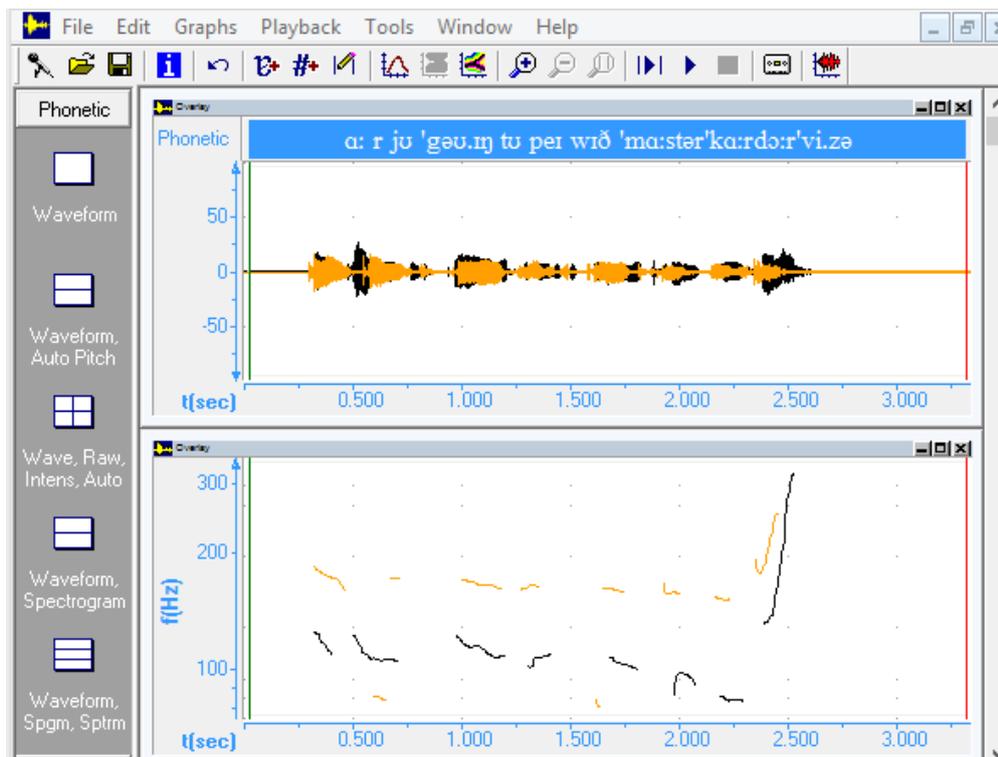


Figure 10

Pitch Contour of Alternative Open-choice Questions Produced by (1) and (2)

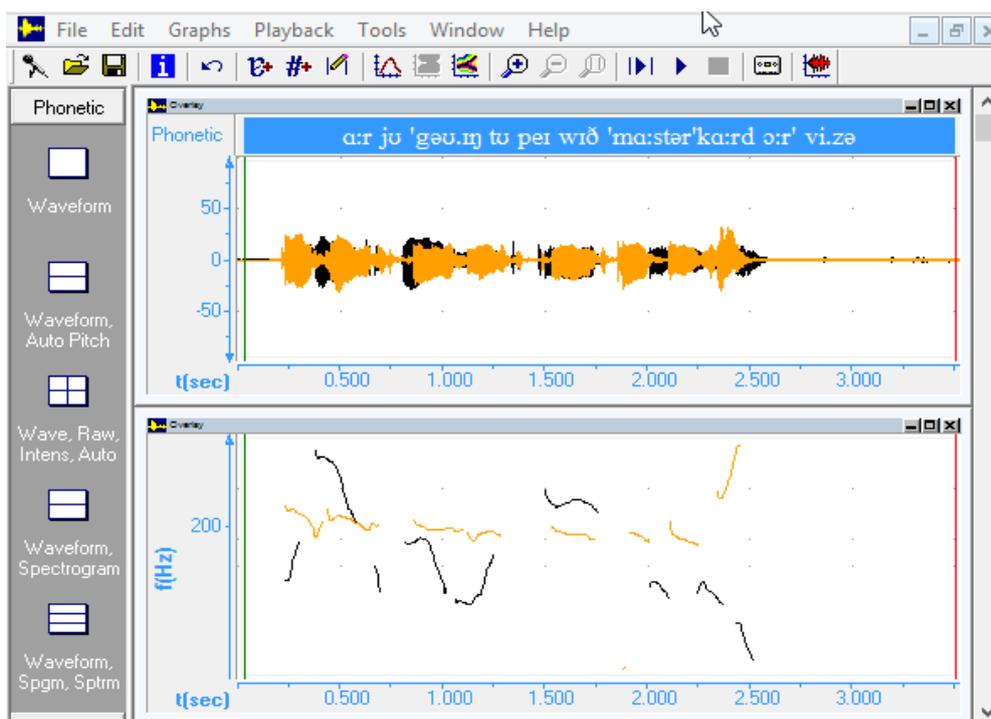


Figure 11

Pitch Contour of Alternative Closed-choice Questions Rendered by (1) and (2)

Echo Questions

Echo questions type occurs in a conversation when the speaker uses the strategy of asking a question before providing an answer. In English, echo questions are performed with a high pitch of 2-3 rising pattern as demonstrated in the following example (Celce-Murcia et al., 1996, p.188):

3
2 What am I doing? I am going skiing
1

In Algerian Arabic, echo questions are produced with a falling tone, thus all Algerian students may have transferred the falling pitch from their L1 into English instead of a rising pitch as presented in Figure 12.

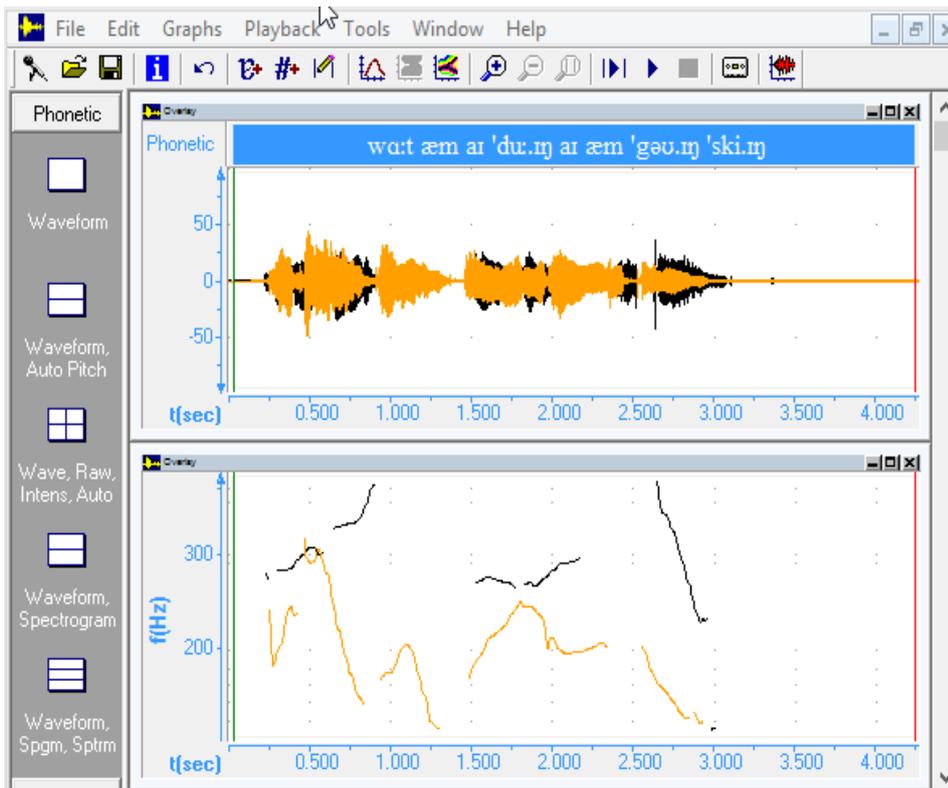


Figure 12

Pitch Contour of Echo Questions Performed by (1) and (2)

Repeated questions

English *repeated/repetition* questions end with a high rising contour (Celce-Murcia et al., 1996) in which the hearer expresses disbelief or asks to repeat what has been said as illustrated in the following example:

What's his name?

The majority (N=9/10) of the Algerian students tended to realize the repeated questions with a falling tone instead of a rising pitch; this inclination is due to the transfer of the falling contour from their native language Algerian Arabic (Figure 13).

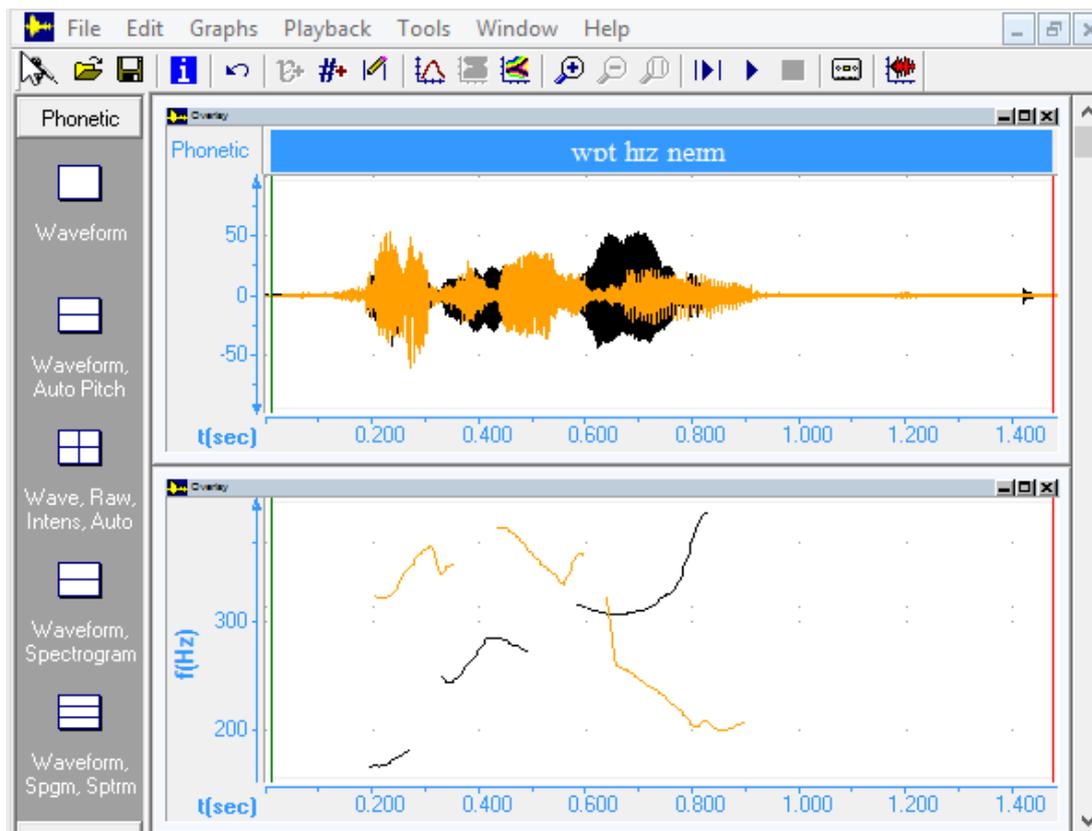


Figure 13

Pitch Contour of Repeated Questions Rendered by (1) and (2)

4.2.4. Other intonation patterns

As mentioned previously, this section deals with various intonation contours that can be employed for the same syntactic structure to convey different meanings in which the pitch height levels are dependent on discourse context. Focus or prominent words have an interrelationship with pitch and this determines the corresponding tonal pattern.

4.2.4.1. Greetings

English greetings are characterized with either a possible fall that implies politeness or a rise that encourages to get more personal in a conversation (Wells, 2006, p.66), as presented in the following example.

3
2 Good morning
1

(falling contour: I am greeting you)

3
2 Good morning
1

(Rising contour: as I greet you, I am acknowledging you)

The pronunciation of English greetings of 2-3-1 intonation pattern produced by the Algerian students presents a similar tendency to that of native speakers because they usually end the sentence with a falling tone (Figure 14) which is transferred in the production of greetings type with 2-3 rising pattern (Figure 15). However, the falling contour in Algerian Arabic does not fall as low as in English, which influences the performance of the English greetings' intonation patterns.

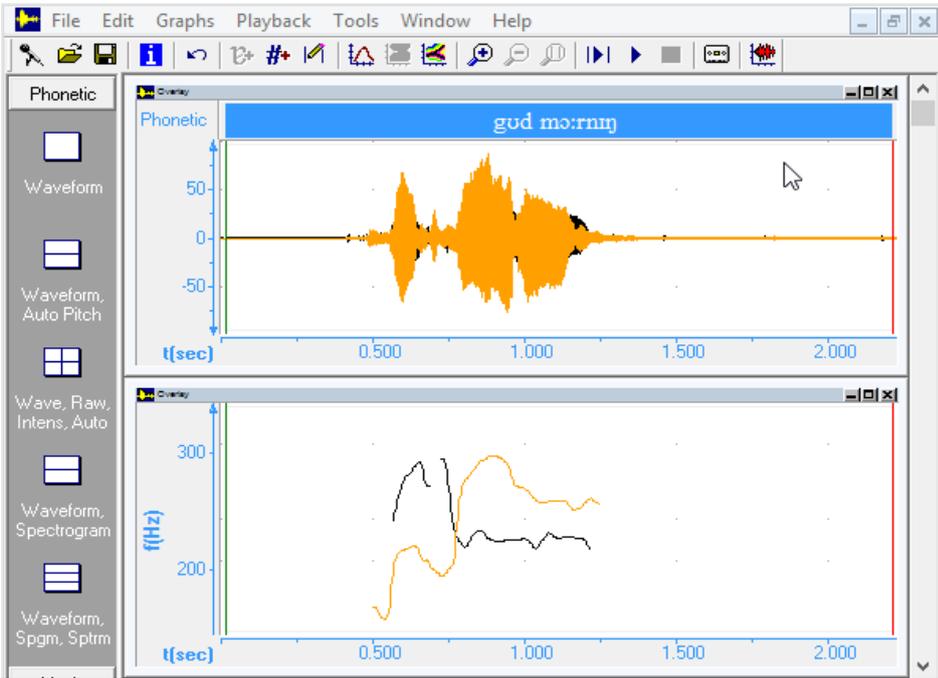


Figure 14
Greetings with 2-3-1 Pitch Contour Read by (1) and (2)

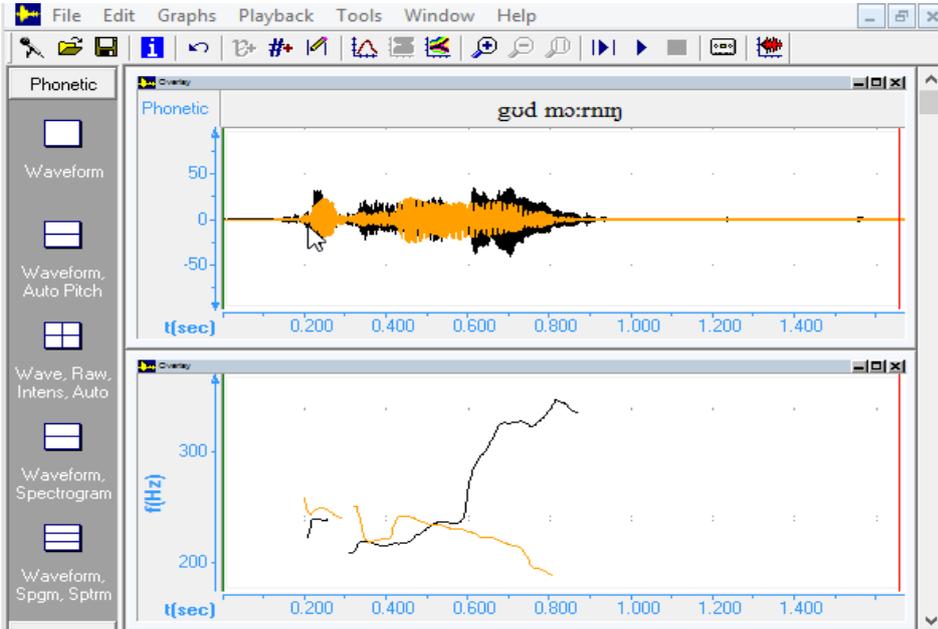
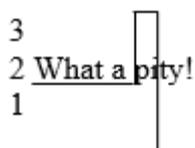


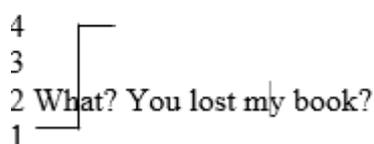
Figure 15
Greetings with 2-3 Pitch Contour Performed by (1) and (2)

4.2.4.2. Exclamations

English exclamatory sentences expressing excitement, anger, or surprise are pronounced with a falling contour (Wells, 2006, p.60). This kind of exclamations is initiated with *how* or *what* and the sentence ends with an exclamation mark. In addition, a high-rise may be employed to indicate surprise, disbelief, or enthusiasm as illustrated in the second example of echo question.



(Exclamatory fall: indicates surprise)



(Extra high contour indicating disbelief)

The majority (N=9/10) of the Algerian students adopted the high-fall pitch when rendering English exclamations of 2-3-1 pattern in order to express strong emotions of surprise or disbelief (Figure 16) and a high-rise in 2-3-4 contour (Figure 17). The transfer of Algerian Arabic exclamatory sentences intonational pattern makes the Algerian subjects sound more emphatic than their English native counterparts.

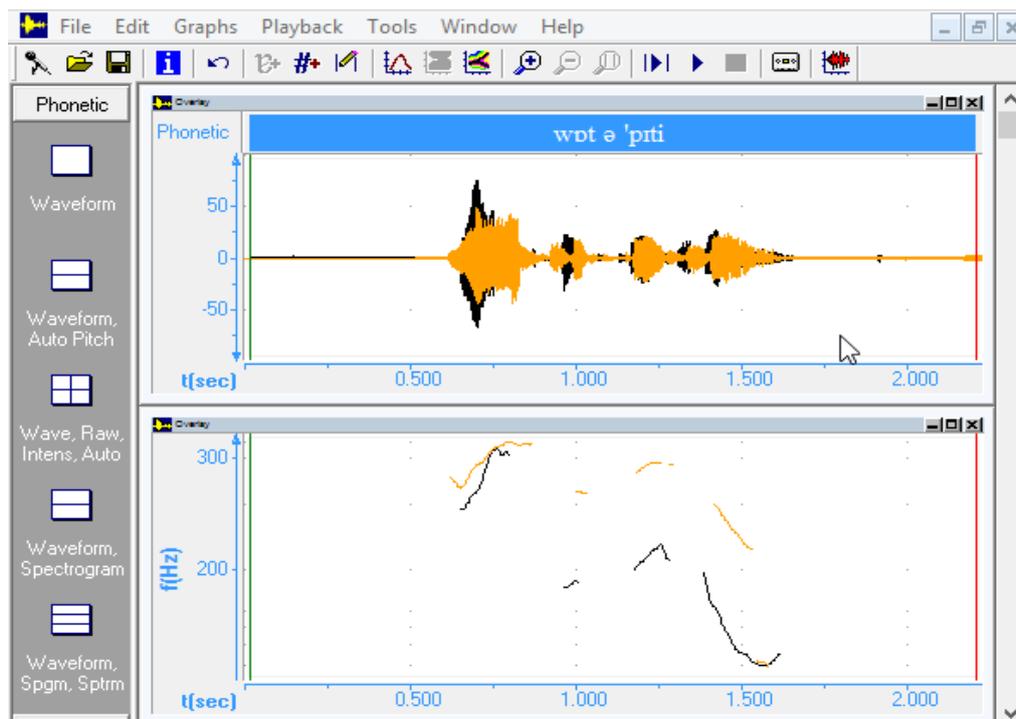


Figure 16

Exclamations with 2-3-1 Pitch Contour Rendered by (1) and (2)

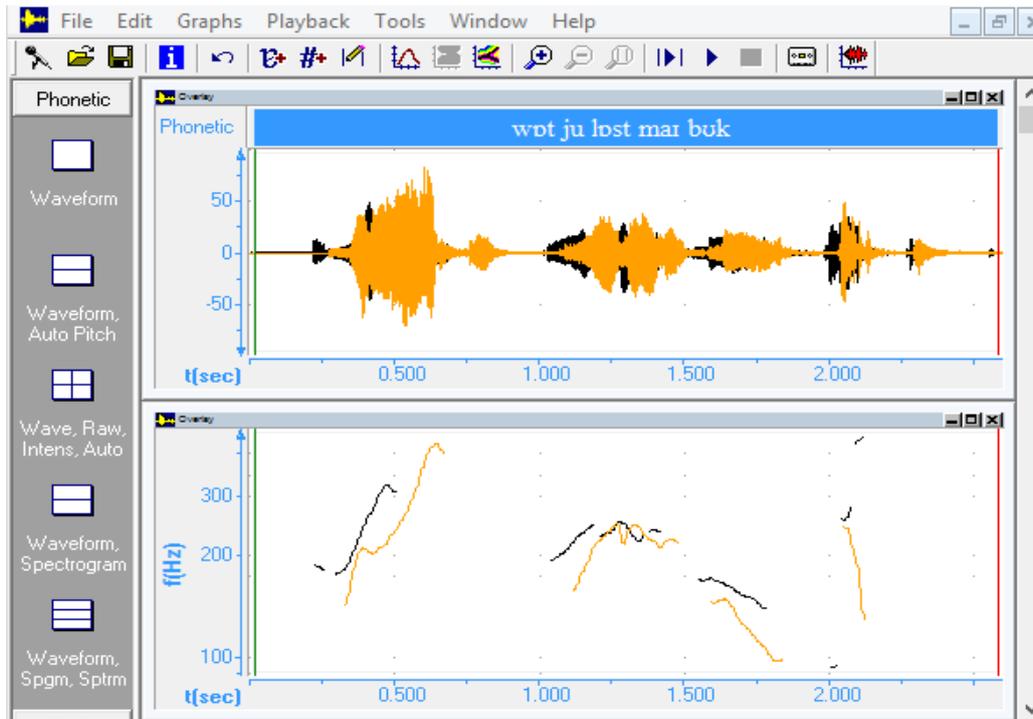


Figure 17 Exclamations with 2-3-4 Pitch Contour Pronounced by (1) and (2)

4.2.4.3. *Contrastive Situations*

In English, sentences indicating contrastive situations, with respect to numerals and verbs, are associated with a falling contour that falls on the numeral second digit and the auxiliary verb (Paterno, 2003). The following examples demonstrate this intonation pattern.

3
 2 I said forty-five not forty-three
 1
 (Falling pitch on the second digit of the numeral)

3
 2 But, I have lived in Alabama before I moved to New York
 1
 (Falling pitch on the auxiliary verb)

The Algerian students placed the 2-3-2 and 2-3-1 falling intonation pattern on the first digit of the numeral and the main verb of the sentence, respectively, presenting contrastive situations (Figure 18 and Figure 19). In Algerian Arabic, structures for contrastive situations

do not exist but Algerian subjects tended to emphasize *forty* in the case of the numerals and verb form *lived* instead of the auxiliary verb.

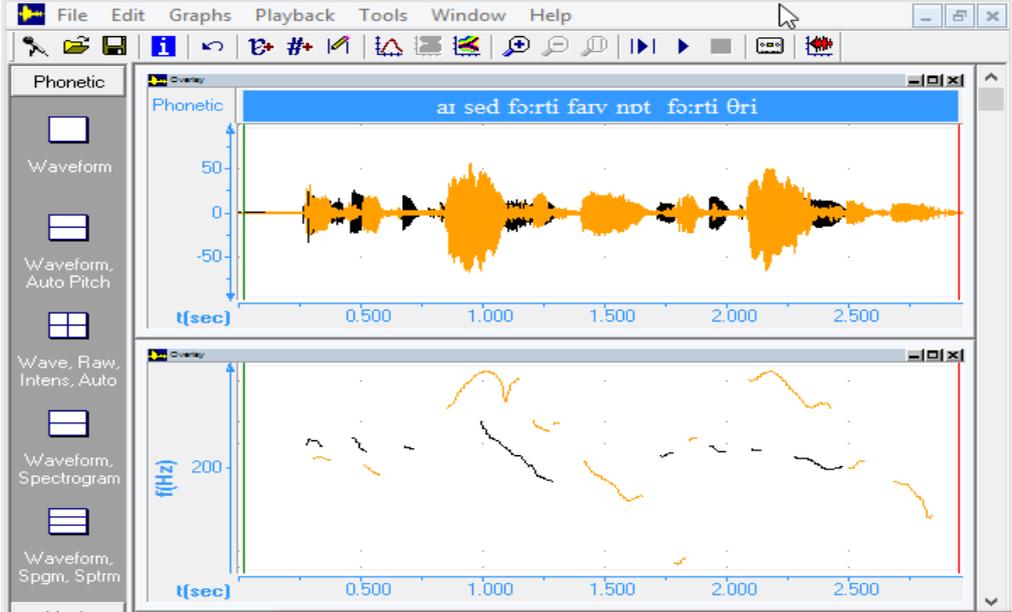


Figure 18
Contrastive Situations with 2-3-2 Pitch Contour Rendered by (1) and (2)

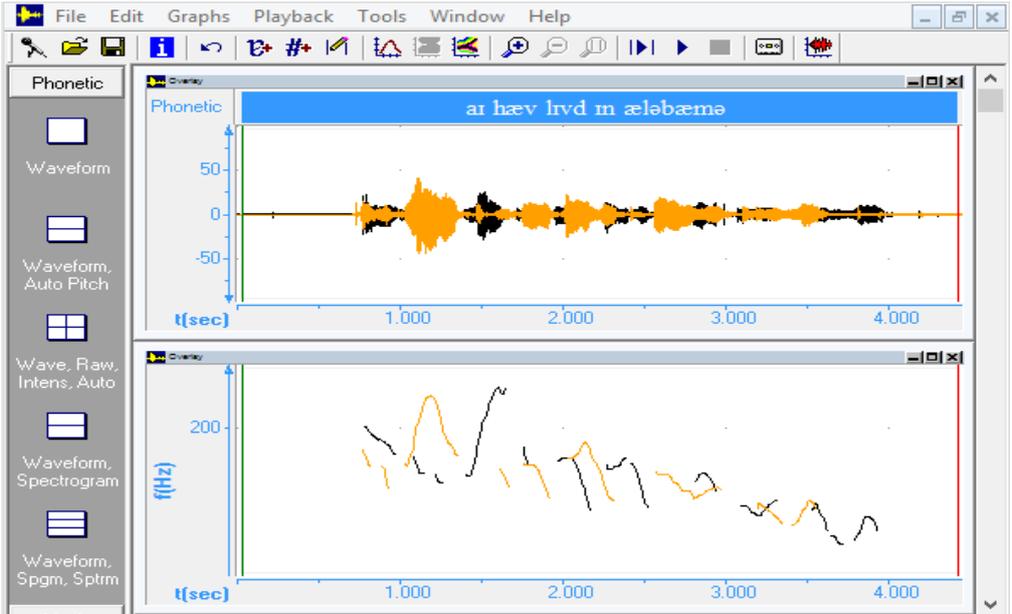


Figure 19
Contrastive Situations with 2-3-1 Pitch Contour Rendered by (1) and (2)

Amazement Expressed with a Question

The feeling of amazement is expressed in English with a question in which the most prominent words are produced with a high pitch signaling a great surprise (Celce-Murcia et al., 1996), as illustrated in the following example.

3
 2 Do you really like to eat Chinese food?
 1

An important difference is observed in the employed pitch contour to express amazement by the Algerian students. They tended to transfer level pitch pattern that marks Algerian Arabic amazement constructions into English; as a result, the students sounded rather angry (Figure 20).

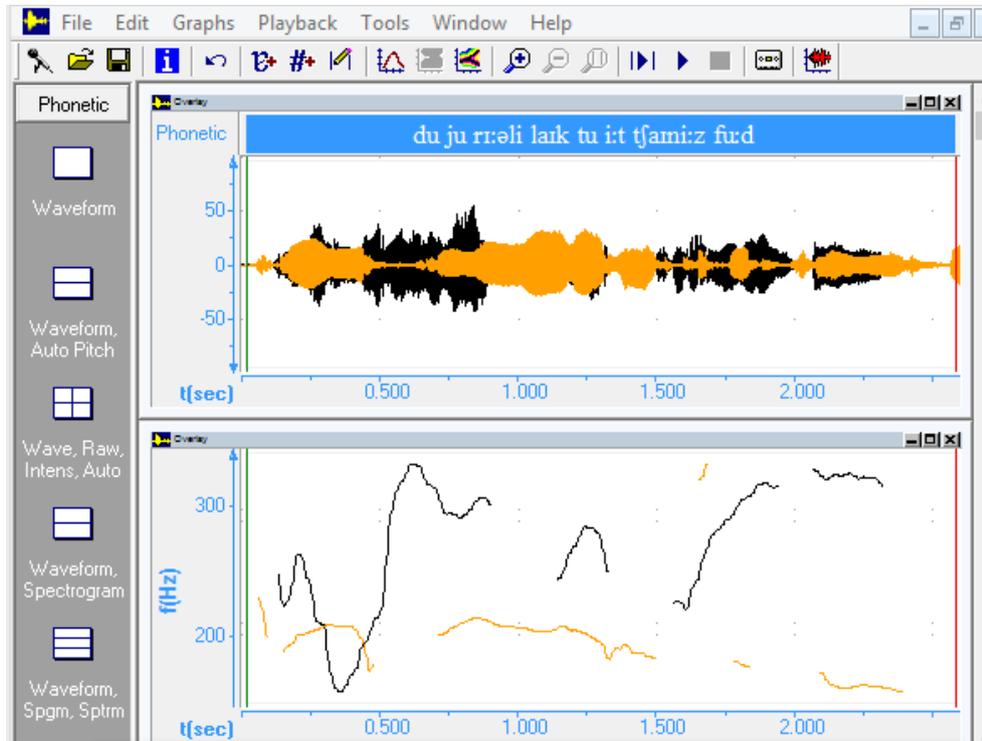


Figure 20
 Pitch Contour of Amazement Expressed with a Question Rendered by (1) and (2)

4.2.4.4. Listing items

Listing a series of items is characterized in English with a pitch rise for each stressed syllable except the last one that is produced with a falling contour. In this context, the rise signals more to follow and the fall marks the end of the list (Grant, 2001, p.112). The following illustration is retrieved from BetterAccent Tutor program (Appendix C). In *A*, a high-rise is associated with *Alex*, whereas *Jing* and *Carlos* are performed with a low-rise, and *Michelle* is rendered with a falling pattern. In *B*, the items *Alex*, *Jing*, and *Carlos* are pronounced with a low-rise that descends slowly over the sequence of syllables; however, *Michelle* receives a high-rise. Example *B* is a yes/no question that involves listing items and this explains the rise placed at the final syllable of the tone group.

- A) I invited Alex, Jing, Carlos and Michelle
- B) Did you invite Alex, Jing, Carlos and Michelle?

Obviously the Algerian students did not face much difficulty in the intonational performance of both examples *A* and *B*. Algerian Arabic has in common with English the rising contour assigned to listing items with the exception of a falling pitch at the final syllable as illustrated in *A* (Figure 21). Although *B* requires a yes/no response and listing the elements would be confusing, the students succeeded in maintaining the rise at the last syllable of the speech chart (Figure 22).

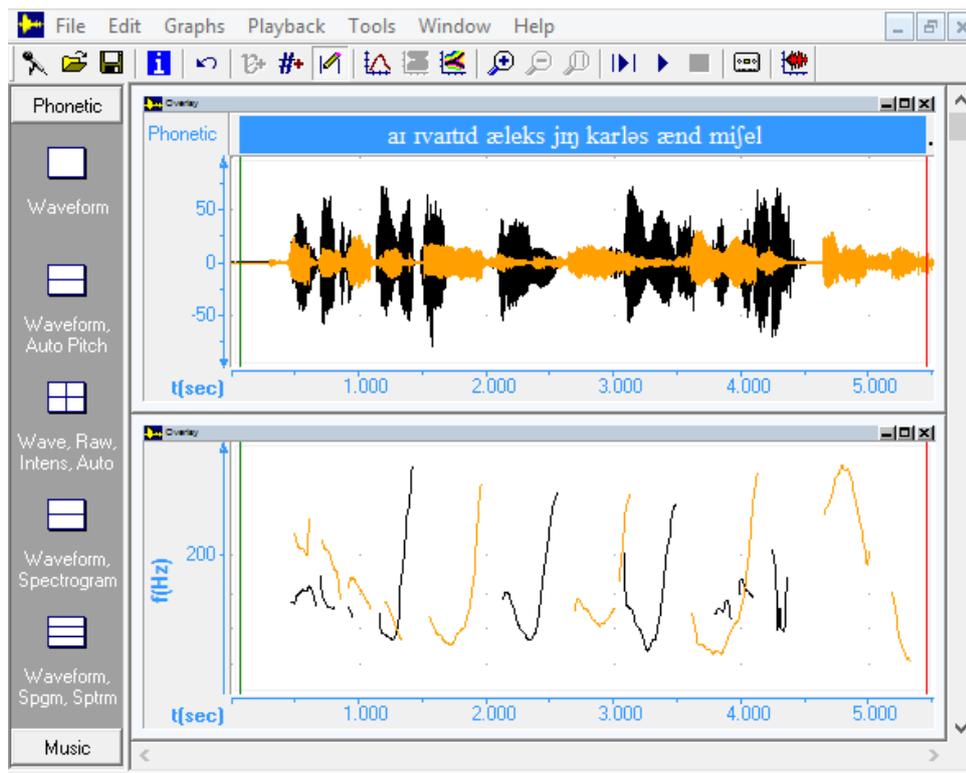


Figure 21

Listing Items Intonation Contours Performed by (1) and (2)

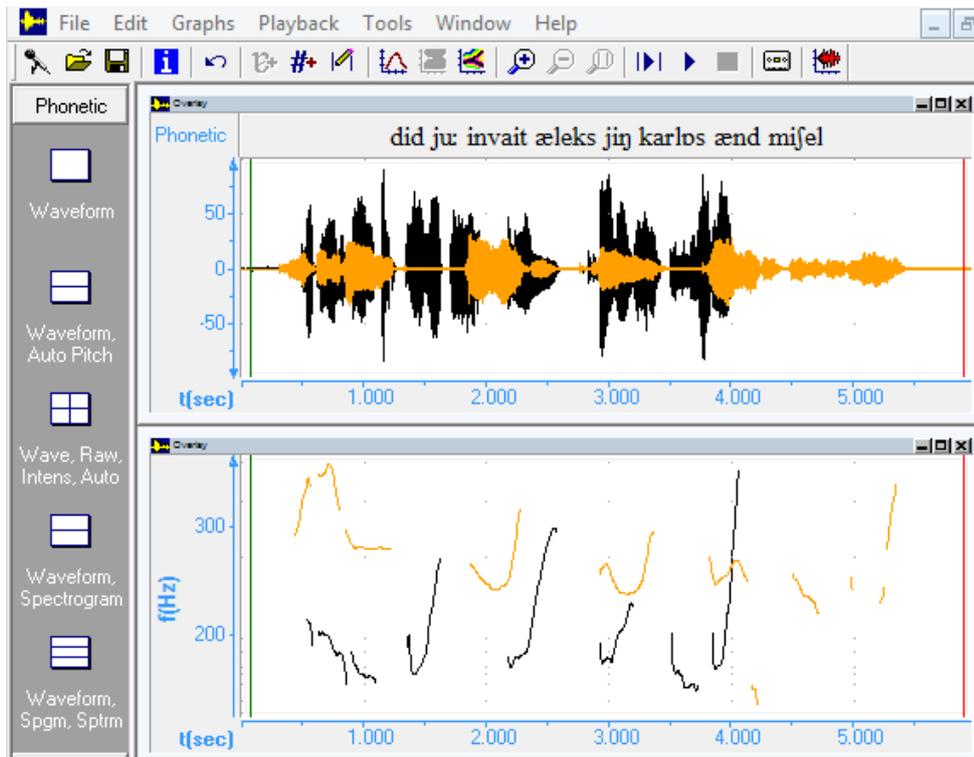


Figure 22

Example of Yes/No Comprises Listing Items Produced by (1) and (2)

4.2.4.5. *Direct address*

Employing direct address at the end of the utterance necessitates the name of the person to be situated separately and produced with a slight rise that is signaled with a preceding comma (Celce-Murcia , 1996; Grant, 2001). The following examples display two possible intonation patterns that express two different meanings in which in *A* Tom is being spoken *to*, and in *B* Tom is being spoken *about*.

- A) Don't you see, Tom?
- B) Don't you see Tom?

The collected information revealed that the Algerian non-native speakers (N=9/10) tended to adopt high pitch in both examples showing no difference at *Tom* with a low-rise in direct address *A* or *Tom* with high-rise in *B* (Figure 23 and Figure 24). Moreover, the renditions of *A* and *B* seemed to be identical requesting *yes* or *no* as a response. This attempt may indicate that the students followed the same tendency as in the production of yes/no questions in Algerian Arabic, and overgeneralized the process to direct address in English preceded by yes/no question as presented in example *A* and *B*.

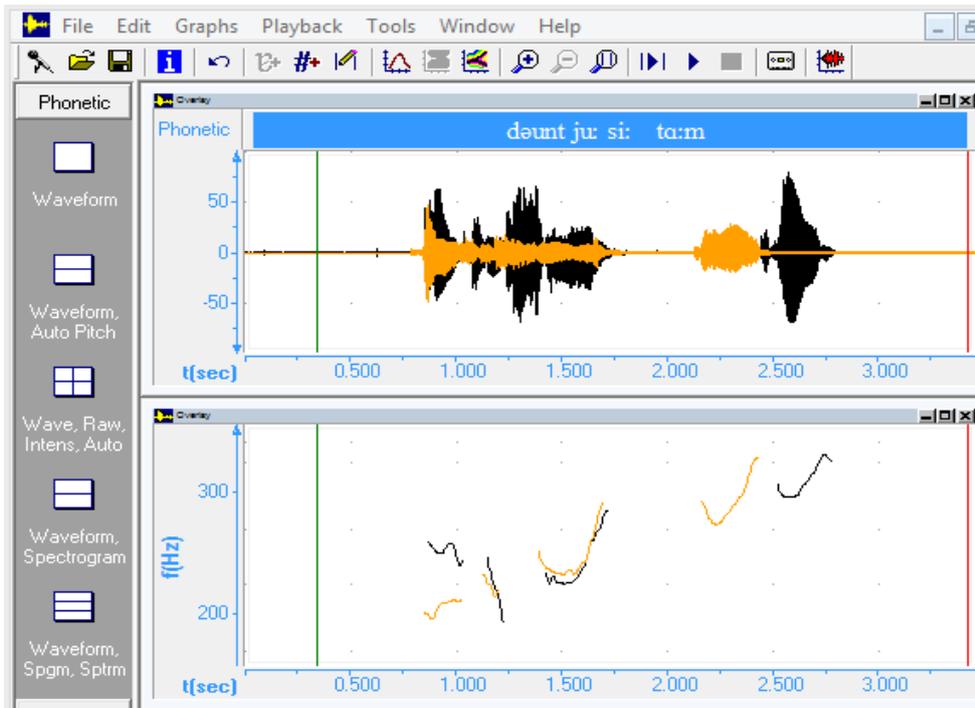


Figure 23

Illustration of Direct Address in A Performed by (1) and (2)

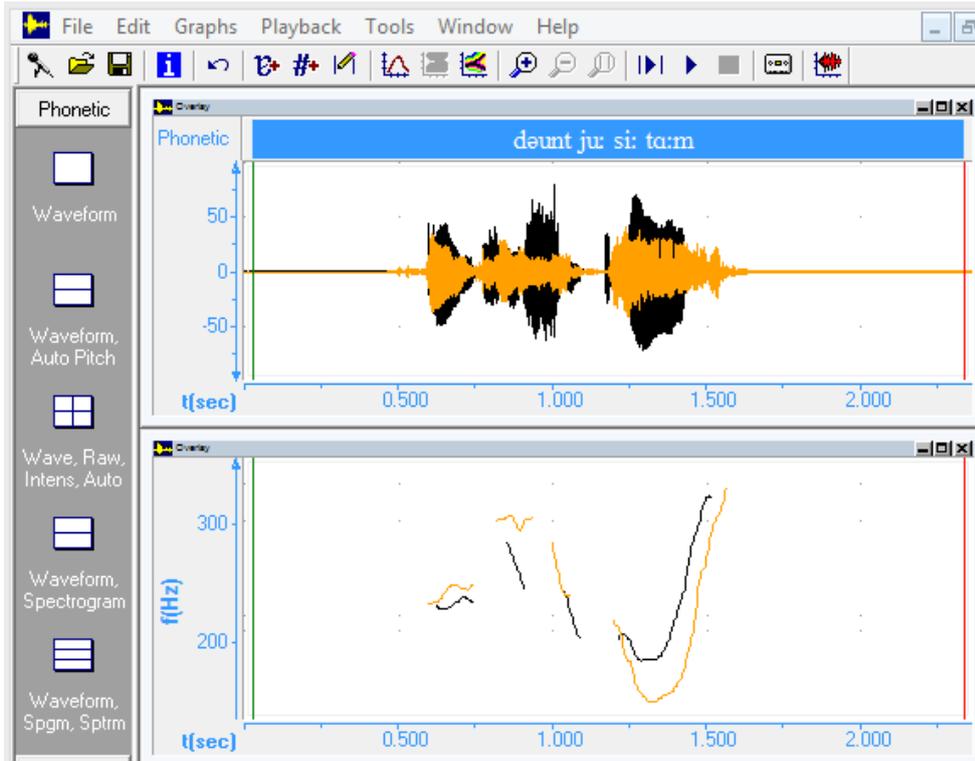


Figure 24

Illustration of Direct Address in B Pronounced by (1) and (2)

4.2.4.6. Statement with different falling pitch levels

One of intonation functions is to express emotions and attitudes. In the following illustration, a simple sentence is performed with different degrees of *fall* to convey particular meanings as in *A* the comment of the speaker is *perfunctory*, however in *B* the dropping pitch from high to low denotes *enthusiasm*, and the flat intonation contour adopted in *C* indicates *sarcasm* from the speaker's part (Celce-Murcia et al., 1996, p. 185).

A. ~~Great~~

B. ~~Great~~

C. ~~Great~~

The overall productions of the Algerian learners' intonation contours of the three statements are considered successful in terms of pitch fall; however, the degree to which the tone drops down in each structure was problematic. The simple statements were not used in particular context while being listened to and visualized acoustically prior to the recording phase, and this confused the learners. Furthermore, the pitch produced by the Algerian participants does not fall as low as the one rendered by the American native speakers (Figure 25, Figure 26, and Figure 27).

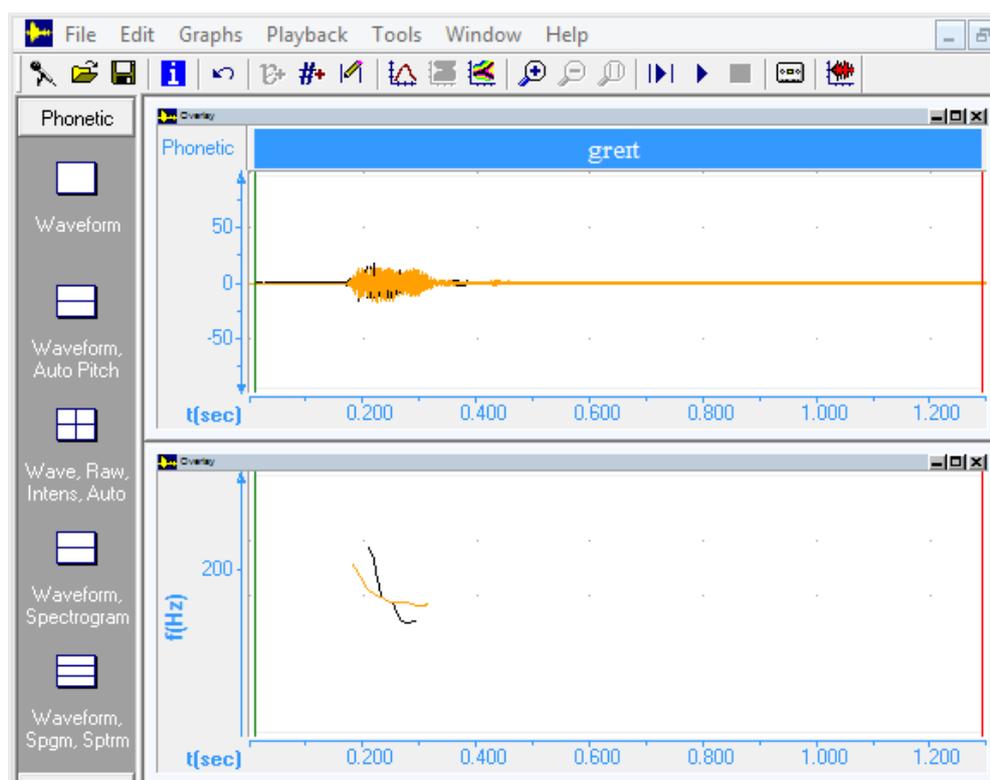


Figure 25

Sample of Statement Conveying Perfunctory Meaning Produced by (1) and (2)

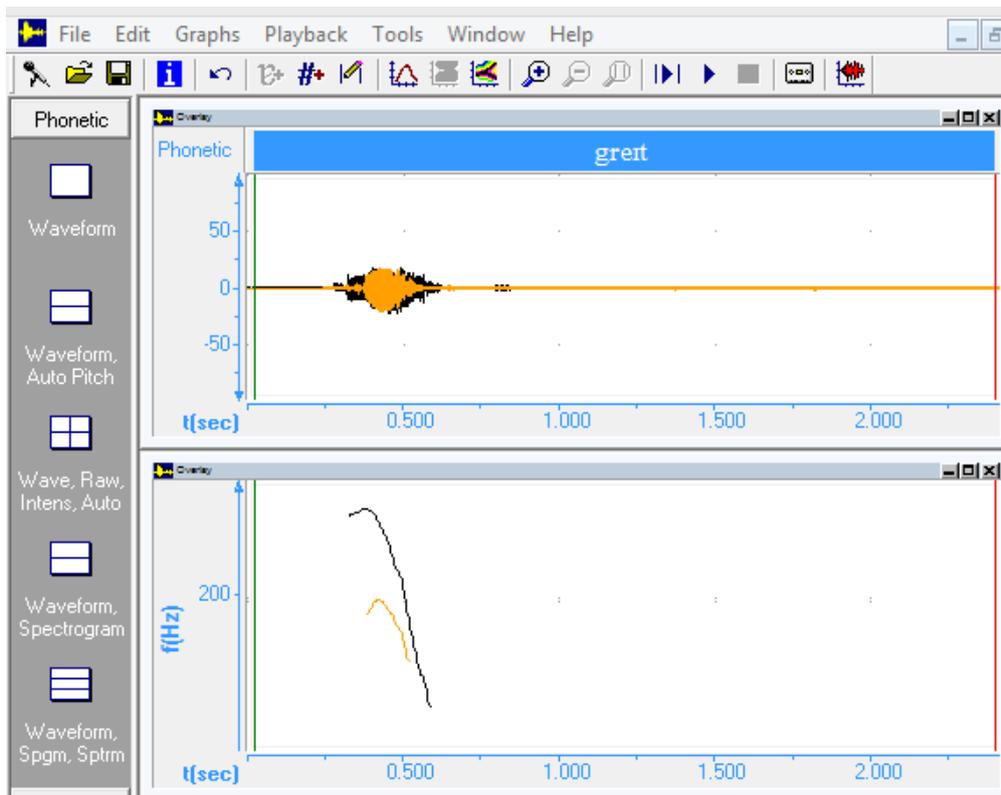


Figure 26

Example of Statement Expressing Enthusiastic meaning Pronounced by (1) and (2)

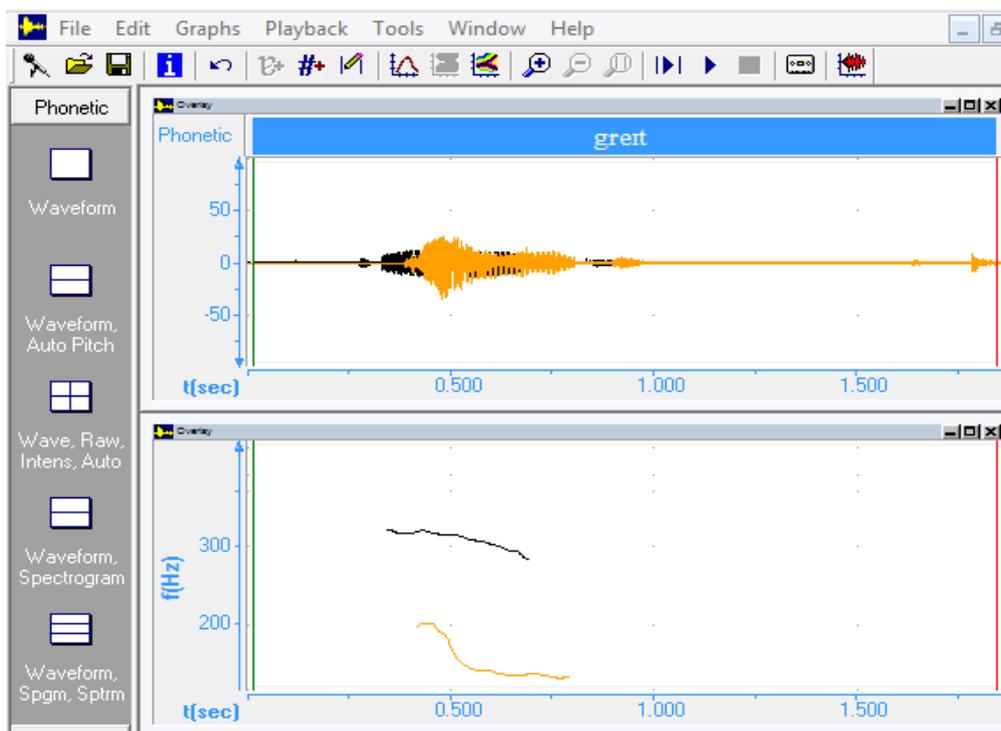


Figure 27

Illustrating Statement that Carries Sarcastic meaning Rendered by (1) and (2)

4.2.4.7. Statement in a question form type

In English, a statement can be used with a rising pattern to indicate disbelief or surprise. The statement is in the form of a question and the tonic syllable is usually the last content word. The following example *B* reveals the difference in meaning dependent on the type of pitch contour (Grant, 2001, p.113).

A) She's a grandmother

B) She's a grandmother? (You're kidding, she looks so young)

The compiled information points out that the Algerian subjects performed this type of syntactic structure with a rising-falling intonation pattern rather than a rising pitch. Expressing the attitude of surprise or disbelief in this context is influenced by the intonational system of Algerian Arabic (Benrabah, 1987, p.83). However, some students fulfilled the task successfully by adopting the rise at the first stressed syllable of the final focus word *grandmother* (Figure 28).

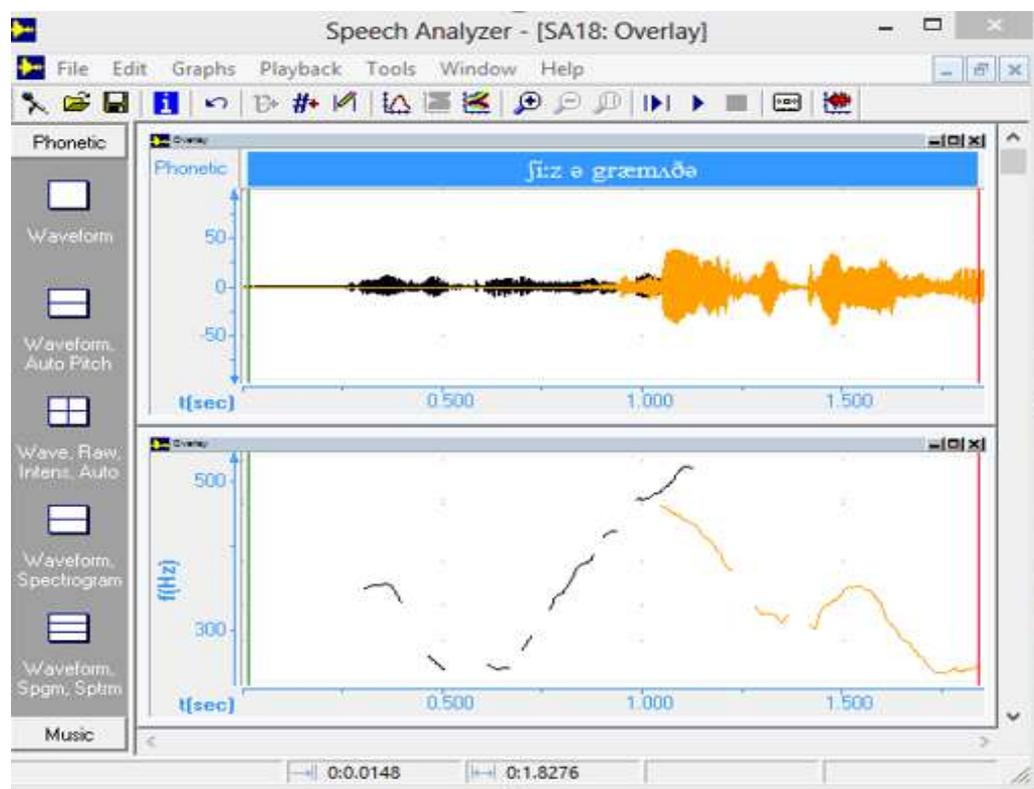


Figure 28

Example of Statement Denoting Disbelief or Surprise Pronounced by (1) and (2)

The present quasi-experimental study permitted to classify the possible sources of the intonational deviations produced by Algerian students and therefore to provide the appropriate corrective feedback. The selected English language structures revealed certain types of intonation errors that may be the result of the mother tongue transfer or related to particular individual intonation mispronunciations. In addition, the experimental group at the posttest

phase achieved better results than in the pretest phase; thus, the audio-representation of spoken English with Speech Analyzer may have helped the Algerian learners to enhance their pronunciations of the selected English language structures.

In discourse situations, foreign accents of intonational compositions are easily observed when Algerian learners render English utterances with inappropriate tonal pattern as the productions of repeated questions, amazement expressions, tag-questions eliciting agreement, echo questions, greetings, direct address, statements with different falling pitch levels, and statements denoting surprise or disbelief. Furthermore, similarities between English and Algerian Arabic in some prosodic structures facilitate the acquisition of some English intonational categories such as declarative statements, requests and commands, tag-questions signaling uncertainty, yes/no questions, and listing items. In this regard, Algerian learners may transfer not only the pitch contour but also the intonational-syntactic structures functionality from their L1 into English as in stressing the interrogative word in English wh-questions following a similar tendency of Algerian Arabic.

Some deviated structures may not be due to Algerian Arabic transfer as these errors may not have a similar form and it may occur in particular discourse situation and not in the other. For instance, Algerian EFL participants used equivalent falling pattern as their American native counterparts when rendering contrastive situations utterances; however, they misplaced the center of the intonation contour and emphasized the numeral first digit or the main verb of the sentence. Additionally, there are some exceptions related to certain tonal patterns that cannot be overgeneralized as the case of alternative questions (closed/open choice) which are usually produced by the students with a rising pitch, but in few cases, some subjects tend to adopt a pitch below middle level. Therefore, we may assume that the Algerian learners' individual differences or psychological state during the experiment stages may have affected their performances resulting in an input that cannot be clearly linked to Algerian Arabic transfer.

The comparison of American native speakers with Algerian non-native speakers' average pitch and intensity values helped to measure the extent of difficulty and success in producing English intonation patterns. The results reveal that the Algerian learners succeeded in performing certain English sentences with the appropriate tonal patterns and they achieved almost equivalent mean pitch and intensity to that of native speakers of English. Speech Analyzer allowed to contrast Algerian students' productions with their native speakers' counterparts as speech synthesis was displayed in one screen window. Praat was used mainly to extract pitch and intensity amounts of the participants' recorded renditions that are estimated automatically (Table 1 and Table 2).

Table 1*Extraction of Pitch and Intensity Values with Praat of Rising-falling and Rising Contours*

Declarative Statements				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	107		79	
Algerian Student	100		75	
Requests and Commands				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	187		79	
Algerian Student	170		62	
Wh-questions Mean Pitch				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	102		76	
Algerian Student	111		74	
Tag-questions Eliciting Agreement				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	198		83	
Algerian Student	205		65	
Tag-questions Signaling Uncertainty				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	142		83	
Algerian Student	208		68	
Yes/no Questions				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	219		73	
Algerian Student	189		69	
Open-choice and Closed-choice Alternative Questions				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	Open-choice	201	Open-choice	79
	Closed-choice	188	Closed-choice	74
Algerian Student	Open-choice	197	Open-choice	77
	Closed-choice	213	Closed-choice	72
Echo Questions				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	244		71	
Algerian Student	201		69	
Repeated Questions				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	307		78	
Algerian Student	180		65	

Table 2*Extraction of Pitch and Intensity Values of Other Intonation Patterns*

Greetings				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	2-3-1 Contour	209	2-3-1 Contour	67
	2-3 Contour	198	2-3 Contour	73
Algerian Student	2-3-1 Contour	258	2-3-1 Contour	64
	2-3 Contour	188	2-3 Contour	69
Exclamations				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	2-3-1 Contour	132	2-3-1 Contour	76
	2-3-4 Contour	178	2-3-4 Contour	79
Algerian Student	2-3-1 Contour	144	2-3-1 Contour	69
	2-3-4 Contour	203	2-3-4 Contour	73
Contrastive Situation Sentences				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	2-3-2 Contour	186	2-3-2 Contour	68
	2-3-1 Contour	172	2-3-1 Contour	68
Algerian Student	2-3-2 Contour	180	2-3-2 Contour	73
	2-3-1 Contour	174	2-3-1 Contour	71
Amazement Expressions				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	225		71	
Algerian Student	199		69	
Listing Items				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	104		72	
Algerian Student	178		65	
Yes/No Questions Type with Listing Items				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	101		72	
Algerian Student	172		60	
Direct Address Preceded by Comma				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	244		72	
Algerian Student	236		64	
Direct Address in Yes/No Question Type				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	211		72	
Algerian non-native speaker	212		60	
Perfunctory Attitude with Statement				
<i>Participants</i>	<i>Mean Pitch (Hz)</i>		<i>Average Intensity (db)</i>	
Native Speaker	209		59	
Algerian non-native speaker	201		57	

Enthusiastic Attitude with Statement		
<i>Participants</i>	<i>Mean Pitch (Hz)</i>	<i>Average Intensity (db)</i>
Native Speaker	263	73
Algerian Student	198	61
Sarcastic Attitude with Statement		
<i>Participants</i>	<i>Mean Pitch (Hz)</i>	<i>Average Intensity (db)</i>
Native Speaker	305	51
Algerian Student	198	63
Disbelief and Surprise with a Statement		
<i>Participants</i>	<i>Mean Pitch (Hz)</i>	<i>Average Intensity (db)</i>
Native Speaker	274	68
Algerian Student	230	67

5. Conclusion

Intonation as an indispensable feature in EFL oral communication and discourse was targeted in this research with respect to the pedagogical use of speech analysis programs Speech Analyzer and Praat. These tools facilitated the synthesis and retrieval of acoustic data and figuring out the areas of difficulty. The Algerian students' misuse of the intonation contours can result in a foreign accent that may cause misunderstanding and communication breakdowns between interlocutors. In this regard, Algerian teachers should attempt to overcome this hurdle by integrating intonation computer-based materials in EFL teaching curriculum and supplementing the traditional techniques of teaching prosody. Moreover, some accented intonation constructions may be the result of other factors besides individual differences and psychological state as the way English intonation is perceived and interpreted by Algerian students. The EFL teacher should address these issues in order to implement appropriate pronunciation instruction that fit Algerian students' needs.

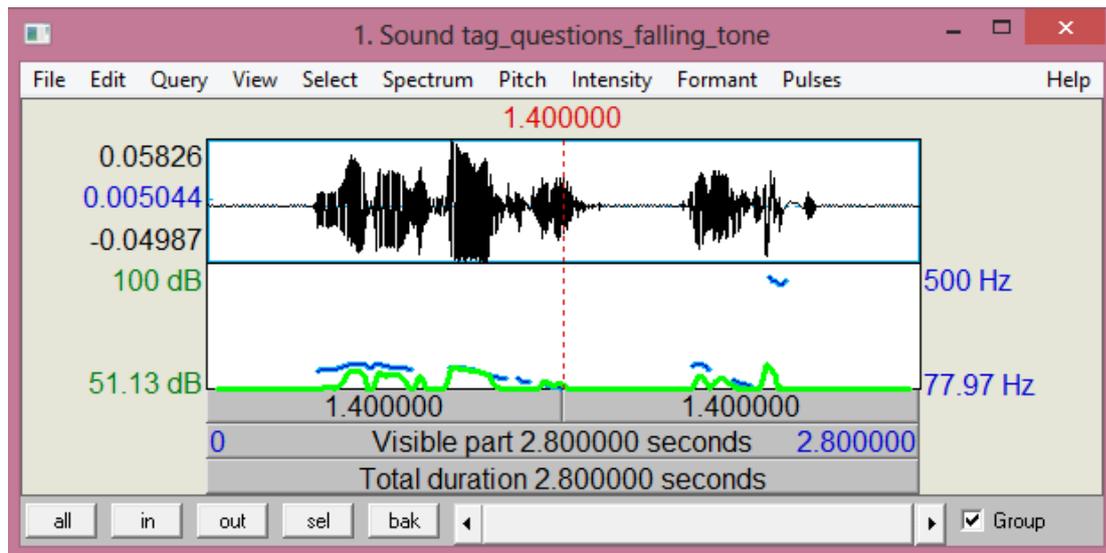
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Appendix A

Praat



Intensity 51.13 dB

Pitch 77.97 Hz



Appendix B

English Speech Corpus

1. Declarative Statement

3

2 My name is Steve

1

2. Requests and Commands

3

2 Be quick

1

3. Wh-questions

3

2 Where did you go?

1

4. Tag-questions Signaling Certainty

3

2 The picture is nice, isn't it?

1

5. Tag Questions Signaling Uncertainty

3

2 The picture is nice, isn't it?

1

6. Yes/No Questions

3

2 Is the test easy?

1

4

2 The plane LEFT already

1

7. Alternative Questions

3

2 Are you going to pay with Master Card or Visa?

1

(Open Choice: Are going to pay with a credit card?)

3

2 Are you going to pay with Master Card or Visa?

1

(Closed-choice: Which credit card are you going to pay with Master Card or Visa?)

8. Echo Questions

3

2 What am I doing? I am going skiing

1

9. Repeated Questions

What's his name?

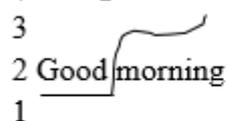
10. Greetings

3
2 Good morning
1



(Falling contour: I am greeting you)

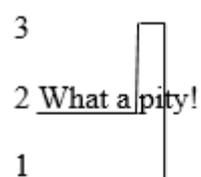
3
2 Good morning
1



(Rising contour: as I greet you, I am acknowledging you)

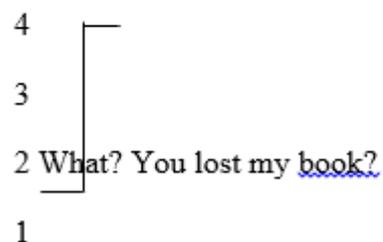
11. Exclamations

3
2 What a pity!
1



(Exclamatory fall: indicates surprise)

4
3
2 What? You lost my book?
1



(Extra high contour indicating disbelief)

12. Contrastive Situations

3
 2 I said forty-five not forty-three
 1

(Falling pitch on the second digit of the numeral)

3
 2 But I have lived in Alabama before I moved to New York
 1

(Falling pitch on the auxiliary verb)

13. Amazement Expressed with a Question

3
 2 Do you really like to eat Chinese food?
 1

14. Listing Items

A) I invited Alex, Jing, Carlos and Michelle

B) Did you invite Alex, Jing, Carlos and Michelle?

15. Direct Address

Don't you see, Tom?

Don't you see Tom?

16. Statement with Different Falling Pitch Levels

Great

Great

Great

17. Statement in a Question Form Type

She's a ~~grandmother~~

She's a grandmother? (You're kidding, she looks so young)

Appendix C

BetterAccent Tutor Linguistic Structures

Chapter: Series of Items

Phrase: I invited Alex, Jing, Carlos and Michelle.

BETTERACCENT TUTOR 2.0

Intonation Intensity/Rhythm

rising tone on *Alex, Jing and Carlos*

falling tone on *Michelle*

Play native Record Student Play student Help

Intonation Intensity/Rhythm

rising tone on *Alex, Jing and Carlos*

falling tone on *Michelle*

Play native Record Student Play student Help

The diagram illustrates the intonation pattern for the phrase "I invited Alex, Jing, Carlos and Michelle." It features a light green background for the text and a light blue background for the lower section. The intonation is shown as a purple line with red arrows indicating the direction of the pitch change. The pitch rises for "Alex, Jing and Carlos" and falls for "Michelle".

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MULTIMEDIA RELATED VOCABULARY LEARNING STRATEGIES AMONG ENGLISH AS FOREIGN LANGUAGE ALGERIAN STUDENTS

Abstract

The focus in the present paper is on the evolution of students' behaviour in terms of Vocabulary Learning Strategies use from Year 1 to Year 3, with special focus on the type of strategies that might be conducive to larger vocabulary size. The study is undertaken with 184 EFL undergraduate students at the University of Algiers 2, and the data collection instruments comprise: the Vocabulary Size Test (VST) (Nation 2007), VLS Questionnaire (Schmitt 1997) and a general vocabulary learning open questionnaire. Findings reveal that the whole population has similar preferences for Determination and Metacognitive Strategies, while Social Strategies are the least frequently used. Besides, analysis of correlations between variables does not demonstrate any significant impact of VLS use on vocabulary size growth, except for the low-intermediate freshers for whom Metacognitive Strategies involving the use of the Internet to search for information or to communicate seem to be significantly correlated to their vocabulary size. These findings have interesting implications for the classroom as they stress the importance of integrating explicit vocabulary instruction as well as strategy training to reinforce the students' vocabulary knowledge and build up stronger learners' autonomy, and it shows the potential support of multimedia related strategies in developing this knowledge.

Keywords: Multimedia, VLS, vocabulary learning strategies, vocabulary size.

1. Introduction

It is commonly agreed that the number of words that a child learns in his mother tongue is a clear indicator of his global linguistic ability (Lee 2011), thus the influence of vocabulary size on the general literacy achievement is also true in the context of FL/SL learning. The fact is that the vocabulary is a dynamic, changing, unstable and limitless component of language because words are in continuous movement and new words are constantly added to dictionaries as a reflection of the evolution of humans and changes in society and the world in general. In this perspective, it would be unrealistic to expect the very large number of words in a FL/SL to be taught within the classroom. Following the shift from teacher-oriented EFL instruction to a learner-focused approach, the priority of teaching has aimed at assisting learners in becoming more independent in their language learning instead of relying on the teacher to provide them with all they need effortlessly. With respect to vocabulary learning, this shift has led to the emergence of many prominent studies in the field of language learning strategies in general, and vocabulary learning strategies (VLS) in particular, to encourage EFL learners to be dynamic and autonomous in developing their lexical knowledge (Oxford, 1990; O'Malley & Chamot, 1990; Cohen, 1998; Schmitt, 2000).

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Different aspects underlying VLS use have been explored to identify what can impact on or assist the efficient use of these learning tools, or what strategies are more conducive to success in overall EFL learning. There have been some studies that investigated the evolution of strategies use and preferences over time, showing that the proficiency levels and EFL experience of learners have an impact on their expectations, choices and results of strategy use (Schmitt, 1997; Wenden, 1998). However, the gradual change or progression in the use of these strategies by learners at different levels of their proficiency in the TL has not been widely researched. Thus, this is an area of research that the present study attempts to contribute to by investigating the evolution of VLSs use by Algerian university learners learning English as a FL from the first to the third year of the undergraduate degree course. Learners' behaviour in terms of VLSs use is also superposed with other aspects of language learning such as their vocabulary size. Besides, given the well-known attraction that young adults have for various multimedia devices, it can be interesting to investigate the extent to which this attraction is reflected in the way these young EFL students learn vocabulary.

2. Review of Literature

2.1. Learners'Autonomy and VLS

Considering the fact that when learning a foreign language the vocabulary component is possibly the most demanding and challenging part (Meara, 1995; Schmitt, 2000; Nation, 2001; Milton, 2009), it is important that the learner is equipped with the necessary lexical competence in order to become proficient in that language. However, foreign language pedagogy has been heavily teacher-oriented for many decades, the shift towards learner-centred instruction has encouraged for more learner autonomy and self-management by the learners themselves in all aspects of the TL, including vocabulary teaching. This shift in teaching ideology has increased the interest in language learning strategies as an area that could explore and solve the vocabulary learning difficulties experienced by many FL/SL learners (Schmitt 2000).

During the past four decades, the flourishing interest given to the area of language learning strategies (Rubin, 1987; Oxford, 1990; O'Malley & Chamot, 1990; Cohen, 1998) has led to various studies classifying the strategies involved in learning specific aspects of FL, including vocabulary learning strategies (VLSs). While some studies investigated the extent to which individual VLSs were efficient (Hulstijn, 1997; Fraser, 1999; Chan, 2012), some others explored the effectiveness of combined use of VLSs by FL/SL learners (Gu & Johnson, 1996; Schmitt, 1997; Fan, 2003). The increasing interest in the field of LLSs in general and VLSs in particular led to many studies offering a number of classifications of these VLSs, each of which had documented the process of vocabulary acquisition (Cohen, 1990; Oxford, 1990; Sanaoui, 1995; Gu & Johnson, 1996; Schmitt, 1997; Nation, 2001).

One of the most comprehensive classifications that has become a well-recognised reference by a large number of researchers is the one developed by Schmitt (1997) which was in its turn inspired by research undertaken by Oxford (1990) and Nation (1990); the thing that has made it popular among researchers in the field. Schmitt (1997) proposed a well-defined taxonomy in which a clear distinction was made between discovery strategies, i.e.; the ones used to discover the meaning of unknown words encountered by the learner, and consolidation strategies, i.e.; the different techniques used to reinforce and remember vocabulary items (Nation 1990). Moreover, he also integrated within this taxonomy the categories suggested by Oxford (1990), namely cognitive, metacognitive, social and memory. He then added the category of determination strategies as a subclass of discovery strategies and which refer to what learners do to discover the meaning of a new word without the help

of another person.. On the basis of his findings in a study with Japanese EFL learners and feedback received from teachers, he developed a taxonomy with 58 strategies categorized under the two headings of discovery strategies and consolidation strategies. The VLSs taxonomy developed by Schmitt (1997) has contributed greatly in developing knowledge about the vocabulary learning strategies used by learners of a FL/SL and has provided a comprehensive framework in which various aspects of vocabulary learning are taken into account. The vocabulary strategies questionnaire derived from his taxonomy had largely been used by researchers investigating the field of VLS use in various FL/SL contexts.

2.2. VLS Use Among EFL Learners

Research investigating the relationship between strategy use and language proficiency has demonstrated that EFL/ESL learners at different proficiency levels have different beliefs and behaviours in terms of strategies which are influenced by their level of knowledge of the TL (Wenden 1998). The more proficient the learners are, the more successful they are in using a variety of cognitively complex strategies, while learners who are less knowledgeable or successful in the TL tend to use a limited number of strategies most of which are usually less demanding cognitively. Thus, the general belief is that the way, frequency and adequacy of strategies use among learners can easily allow for a clear distinction between successful and less successful EFL/ESL learners. (Gu & Johnson, 1996; Schmitt, 1997; Fan, 2003; Tseng & Schmitt, 2008).

One of the major studies documenting this distinction is the one undertaken by Schmitt (1997) with different participants whose proficiency levels ranged from high school, to university students or adult learners in Japan. Schmitt's survey undertaken with 600 Japanese EFL students provided valuable insights about the use, effectiveness, as well as the usefulness of the different VLSs among participants of various ages and educational levels. The participants were asked through a questionnaire to indicate how frequently they used specific strategies and to evaluate their effectiveness from their perspective. On the one hand, results of this survey showed that in order to discover the meaning of unknown words, the most frequently used strategies are the ones related to use of bilingual dictionaries, guessing from context, as well as asking classmates for meaning. On the other hand, to consolidate the meaning of words, the most popular strategies were verbal and written repetition, note-taking and word lists, studying the written or the aural form of the word, as well as pronouncing the new words aloud. Besides, the strategies that were reported to be the least frequently used are the ones related to relating meaning to L1 cognate, using semantic maps, using flashcards, or asking teacher for explanation. Results showed that simple strategies such as word lists, flashcards and repetition are commonly used by learners with a relatively low proficiency, while more advanced learners are able to be more autonomous by using strategies like guessing from context, analysis of word form, or using personal experience to understand vocabulary items, processes that are much more cognitively demanding.

There were many efforts in the literature to identify the individual vocabulary strategies that are likely to lead to efficient vocabulary comprehension and learning. However, the greatly positive effect of using a variety of strategies at the same time instead of individual ones has been largely advocated by researchers in the field of vocabulary learning (Ahmed, 1989; Sanaoui, 1995; Gu & Johnson, 1996; Schmitt, 1997; Fan, 2003; Tseng & Schmitt, 2008). Besides, Schmitt (1997) as well as other researchers such as Ahmed (1989) and Oxford (1989) indicated that age and proficiency levels of the learners can have an impact on the choice of vocabulary learning strategies. In fact, young and low proficiency learners are believed to count on mechanical repetition strategies that are not very cognitively demanding.

As the learners mature and become more proficient in the TL, they start using analytical strategies like analysis of part of speech and guessing from contextual clues (Schmitt 1997).

When learning a target language, learning the vocabulary of this language is one of the things that the learner can undertake individually and independently from the teacher. More specifically, an EFL learner needs a very large amount of vocabulary knowledge to be able to operate efficiently and correctly in the TL, however, such large amount cannot be taught by the teacher in the classroom. Thus, EFL learners are expected to take responsibility of much of their vocabulary learning, which implies the use of conscious strategies. Moreover, the fact that vocabulary is an element of language that constantly evolves and expands, makes the use of strategies very important for the learner in order to cope with this unique changing nature of vocabulary. The strategies that the learner might make use of outside the classroom, i.e., without the teacher's help, are considered by Nation (1990) to be the most crucial in the vocabulary learning process. Identifying the strategies that learners use to expand their vocabulary knowledge is therefore a highly important element that allows a better understanding of the process through which learners acquire the TL in general and the vocabulary component in particular (Sanaoui 1995).

3. Methodology

3.1. Context

This study constitutes one aspect of the researcher's PhD research attempting to investigate the growth pattern of vocabulary size and VLS use, as well as the correlation between the two variables, among a sample of EFL students enrolled at the University of Algiers 2, from the time they join the undergraduate course until they are about to graduate (Talbi-Hassani 2019). In the present paper however, the focus is on the analysis of the students' behaviours in terms of VLS use from one proficiency level to the other, on the students' preferences among the different categories of VLS, as well as on the types of strategies that seem to have a bigger impact on their overall vocabulary size growth.

Among the aspects of language that seem to hinder the learning process of a great number of students, major lexical difficulties and gaps can be noted and they usually prevent them from understanding the classes properly and therefore from achieving successfully at examinations. The four language skills (Listening/Speaking, Reading/Writing) require dense and diversified vocabulary that few students master; this is an observation that probably no language teacher has failed to notice. While this lack of vocabulary mastery can be understandable at the beginning of the academic degree course in Year 1, it can quickly become a hurdle as the students move to upper classes (Year 2 & 3) in which they are required to understand, retain and produce correct and rich language with appropriate vocabulary, more intensely and in all types of courses. These difficulties seem also largely related to their lack of autonomy in language learning, and therefore insufficient or inappropriate use of vocabulary learning strategies as most students would rely entirely on the teacher to teach them all the words needed at degree level, which is of course an impossible mission.

Within the LMD curriculum, there is no direct vocabulary instruction, instead this element is indirectly integrated within the courses of reading/writing and listening/speaking in Year 1 and Year 2 courses. In these courses, students are presented to vocabulary written or spoken content to encourage lexical comprehension in context. Even though these skills courses take into consideration the vocabulary component of language, there is no specific strategy training within the curriculum that teaches students ways to cope for insufficient vocabulary knowledge and encourage autonomous lexical learning. Given the fact that the

undergraduate students are young adults who are probably quite influenced by multimedia in general and the Internet in particular, it is worth investigating whether this expected attraction to these devices has any impact on the way they learn vocabulary outside the classroom and the VLS they might use.

3.2. Participants

This study was undertaken with an overall group of 184 university students enrolled in the English Department of the University of Algiers 2 in which English is taught through a 3-year LMD program; LMD standing for Licence-Master-Doctorat (Bachelor-Master-Doctorate). This study is centred on the undergraduate cycle (Bachelor Degree) covered in three academic years, including participants from each of the three years of the degree course. To reflect the undergraduate students at different proficiency levels, participants were randomly drawn from each stage of the course, from year 1, to year 2, to year 3; and the data was collected around the end of the academic year. For the sake of validity, and in order to give a more complete picture of the process of vocabulary learning and VLS use, a fourth group of freshly-enrolled participants was added to the research sample. This group consists of 30 students -referred to in this study as BAC- who had just enrolled in the first year of the degree course, and the data collection for this group took place before any teaching had started. As such, the population was selected as follows:.

- N= 30 freshly enrolled students (BAC students/ Low-intermediate)
- N= 81 First year students (Pre-intermediate)
- N= 37 Second year students (Intermediate)
- N= 36 Third year students (Advanced).

3.3. Procedures

The data collection instruments comprise:

- The 14000-item (version A) Vocabulary Size Test (VST) (Nation 2007) to measure the written receptive vocabulary knowledge and growth,
- Vocabulary Learning Strategies Questionnaire adapted from Schmitt (1997) aiming at determining the profile of the students in terms of VLS use and awareness from Year 1 to Year 3 of the degree course,
- Vocabulary Learning Open Questions to collect students' thoughts in terms of their overall vocabulary learning habits, preferences and difficulties. The questionnaire also attempted to draw a picture of the participants overall exposure to English outside the classroom, in a foreign language environment like Algeria where English is rarely used outside educational institutions. The subjects were thus questioned about their access and use of English speaking multimedia such as television channels and the internet.

For the sake of validity, the same instruments were used for each of the four sample groups of the study because the aim of the study was to demonstrate the vocabulary knowledge level of participants at specific stages of their learning process using standardized tests. Since the VLS questionnaire was based on Schmitt's taxonomy, the questions followed the same categorization and order of strategies. Thus, the participants were first asked about what they do when they do not know or understand a word, i.e., about Discovery Strategies, then about what they do to reinforce the word and retain it after discovering its meaning, that is Consolidation Strategies. The questions were organized in a table, and the participants had

to indicate the frequency of use of each specific strategy by simply ticking the appropriate box on a four-point Likert scale.

As shown on Appendix 1, item 54 of the VLS questionnaire is related to the use of English-language media (songs, movies, newscasts, etc.). When Schmitt (1997) talks about English language media as a means of improving and consolidating vocabulary knowledge, he meant songs, movies, newscast, etc. However, one has to note that this taxonomy was set up in 1997, a period during which the high-technological devices that we all know and have access to nowadays such as the Internet were for many quite unknown or simply not accessible enough. Therefore, besides keeping the strategy item as mentioned by Schmitt (item 54), for the purpose of this study, the researcher decided to add two other variations to this item: One acknowledging the use of the Internet as a research engine to improve vocabulary (item 54*), and another one about the use of the Internet to communicate with others using the English language (item 54**). It was believed that making this modification in this item would make the questionnaire more realistic to the participants of the study, as all of them were young people and quite dependent on internet in general.

4. Results and Discussion

Results obtained from the various research tools have demonstrated that the vocabulary size did grow from the low-intermediate level (BAC) until the advanced level, but this growth was moderate as it went from an average size of 5924 words for the BAC group, 6410 words for the 1st sample, 7243 for the 2nd sample, and 7500 words for the final 3rd sample. In other words, there was an average gain of 525 words per year over the three years of the course. If this evolution was in average moderate, it was more significant when moving from year 1 to year 2, with a jump of 833 vocabulary gains, which might reflect the impact that the second year instruction had on vocabulary development, knowing that the data collection took place at the end of each academic year. However, one cannot allocate the vocabulary size growth pattern to the English degree instruction exclusively. Indeed, the majority of participants declared having frequent access to internet (up to 80%) and to English speaking TV channels (over 76%), which might indicate that these participants made use of other input sources outside the classroom.

Taking the VLSs in terms of the six categories of Schmitt (1997) comprised in the VLS questionnaire, the low-intermediate, intermediate and advanced sample groups seemed to use Determination and Metacognitive categories frequently, while the Memory and Cognitive Strategies were moderately used, and the Social Categories were the least frequently used. The pre-intermediate participants though had a preference mainly for Consolidation Social Strategies, and unlike the other groups, the Metacognitive Strategies were at the bottom of the six categories. The preference for Determination and Metacognitive Categories is in line with the findings of a large number of studies undertaken in various EFL contexts (Hamzah et al 2009, Gu 2010, Tanye & Ozturk 2014, Mahmoud et al., 2017).

In terms of the nature of the VLS used individually, the results of the present study again show that the participants' behavior seem to be significantly identical. When analyzing the use of various strategies and establishing a top-10 classification of the most frequently used ones, the four sample groups demonstrate the same preferences, reflecting a very limited evolution in terms of VLS choice. To consolidate the meaning of the lexical items encountered, the participants of the present study also have many similar strategies, frequently preferring multimedia related metacognitive strategies, as well as memory strategies implying memorization through the use of word forms (written and aural), personal experience, or already existing cognates. When asked to add any strategies that were not mentioned in

Schmitt's taxonomy, many participants from the four proficiency levels confirm their particular attraction to multimedia devices as supports to improve and reinforce their overall vocabulary learning. Using cell phone applications, movies with subtitles, translations of songs, listening to audio books, or keeping phones and computers in English- when most of these devices are usually in French or Arabic- are some of the metacognitive techniques they stated to use in order to enrich their EFL input outside the classroom. These answers confirm again the strong reliance on multimedia devices that was noticed in the results of the VLS questionnaire, as these strategies were among the most frequently used (in the top-ten) among the participants of all four proficiency levels of the present study. In a FL environment like Algeria where English is used almost exclusively inside the classroom, university students - who are studying English with the purpose of getting an English language related profession - might feel frustrated because of the lack of TL input. Thus, the use of multimedia devices such as internet or English speaking TV channels as a source of authentic input can be a way for them to compensate for the limited exposure they get in the classroom, and it can demonstrate a certain degree of autonomous learning of EFL vocabulary. The fact that all the participants were young adults sharing more or less the same characteristics and evolving in a typically foreign language environment might explain the impact that multimedia and technology-related devices (cell phone, computers, internet, movies, songs) might have had on their overall vocabulary building. This strong reliance on multimedia related strategies of Algerian students is in line with the findings of other studies undertaken with Arabic speaking EFL learners for whom strategies such as watching English speaking TV are quite popular and used as an important source for vocabulary learning (Hamzah et al 2009, Mahmoud et al 2017)

When analysing the correlation between the types of VLS used and the overall vocabulary size of the participants, results show that when taken as a global category, the metacognitive strategies showed only an average correlation with vocabulary size among the BAC sample. However, when taken separately, some metacognitive strategies emerged as having a high correlation and thus explaining significantly the growth of vocabulary size of the low-intermediate participants. Strategies involving the use of internet to search for information or to communicate with others using English seemed to have a significant impact on the vocabulary size growth of the participants who had just joined the university. These results concord with the findings explained above demonstrating that the two strategies labelled Met 54* and Met 54** were among the most frequently used consolidation strategies, along with other multimedia-related devices. These findings are in line with a few other studies in EFL contexts that also found correlation between the use of English-speaking media and the growth of vocabulary size (Hamzah et al 2009, Mahmoud et al 2017).

The average age of the participants in this work ranged from 18.8 to 21.9 years old, and between 66% and 80% of them declared having access to internet at home, but even if multimedia-related strategies were frequently used by most participants, they are conducive to better vocabulary growth only for the low-intermediate students. An important aspect to mention is the fact that this group consists of students who had just joined the university from high school - before any university instruction had taken place - and therefore this strong correlation mentioned above could not have been influenced by the English degree instruction. One possible explanation for that might be that these fresher's come from high school where English instruction is only part of their mainstream education, thus they feel the necessity to cope with lack of exposure to the TL, and therefore -lack of vocabulary knowledge- through the use of multimedia as source of input. Arriving at the university where English becomes their unique subject and language of instruction, except for some courses in

the humanities which are done in Arabic, the input is then supposed to be much richer and diversified. Thus, the motivation that these students come with might have acted as a driving force to enlarge their vocabulary through diversified sources of input, knowing that motivation of the learners plays a crucial role in achieving success in language learning (Ur 2002).

5. Conclusion

One of the key elements that emerges from the VLS use of the young adults EFL students in the present study is the high reliance on multimedia -related strategies and devices as supports to improve and reinforce their overall vocabulary learning; and the use of the Internet seems even to be significantly correlated to vocabulary size growth for the newly-enrolled freshers. The fact that most participants of the present study reported using multimedia devices as a way of improving their understanding and consolidation of vocabulary might be an indicator of another source of input that could have a role in the growth of their overall vocabulary size. In other words, being in a FL environment in which exposure to the target language is limited to the classroom, the participants might be using multimedia resources as other sources of input to gain more vocabulary. Findings of the present study also demonstrate that the metacognitive strategy involving the use of internet to search for information or to communicate had significant correlation with vocabulary size growth among the low-intermediate students who had just joined the undergraduate course. It would therefore be interesting to encourage the students at different proficiency levels to use such multimedia devices to improve their vocabulary knowledge outside the classroom. Given that most students declared having access to internet and English language TV channels, teachers might for instance consider giving them assignments in which they would summarize what they saw on TV, asking them to watch a specific TV show at home and discuss about it in the classroom, listening to specific songs and focusing on the vocabulary in the lyrics, listening to the large number of free recordings available online and that are created for English language learning, etc. The fact that the students are young adults who are usually very much interested and motivated by multimedia and social networks, finding ways to use these tools in a way that serves vocabulary learning would be worth considering. For example, the teacher can ask the students to allocate a specific amount of time on social media to converse with other EFL learners worldwide in order to diversify their input and practice more social strategies, as this category of strategies is reported by the students to be the least frequently used. If supervised by the teacher and used with the purpose of learning, such tools can be very beneficial in diversifying and developing the vocabulary knowledge of the EFL learners.

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Appendices

Appendix 1

Schmitt's Taxonomy of Vocabulary Learning Strategies (Schmitt 1997 – pp.207-208)

Strategies for discovering the meaning of a new word

Strategy Category	Item number	Strategy Description
Determination	1	DET Analyze part of speech
	2	DET Analyze affixes and roots
	3	DET Check for L1 cognate
	4	DET Analyze any available pictures or gestures
	5	DET Guess from textual context
	6	DET Bilingual dictionary
	7	DET Monolingual dictionaries
	8	DET Word lists
	9	DET Flash cards
Social	10	SOC Ask teacher for L1 translation
	11	SOC Ask teacher for paraphrase or synonym of new word
	12	SOC Ask teacher for a sentence including the new word
	13	SOC Ask classmates for meaning
	14	SOC Discover new meaning through group work activity

Strategies for consolidating a word once it has been encountered (to increase voc size)

Strategy Category	Item number	Strategy Description
Social	15	SOC Study and practice meaning in a group
	16	SOC Teacher checks students' flashcards word lists for accuracy
	17	SOC Interact with native speakers
Memory	18	MEM Study word with a pictorial representation of its meaning
	19	MEM Image word's meaning
	20	MEM Connect word to a personal experience
	21	MEM Associate the word with its coordinates
	22	MEM Connect the word to its synonyms and antonyms

	23	MEM Use semantic maps
	24	MEM Use "scales" for gradable adjectives
	25	MEM Peg Method
	26	MEM Loci Method
	27	MEM Group words together to study them
	28	MEM Group words together spatially on a page
	29	MEM Use new word in sentences
	30	MEM Group words together within a storyline
	31	MEM Study the spelling of a word
	32	MEM Study the sound of a word
	33	MEM Say new word aloud when studying
	34	MEM Image word form
	35	MEM Underline initial letter of the word
	36	MEM Configuration
	37	MEM Use key word Method
	38	MEM Affixes and roots
	39	MEM Part of speech
	40	MEM Paraphrase the word's meaning
	41	MEM Use cognates in study
	42	MEM Learn the words of idioms together
	43	MEM Use physical action when learning a word
	44	MEM Use semantic feature grids
Cognitive	45	COG Verbal repetition
	46	COG Written repetition
	47	COG Word lists
	48	COG Flash cards
	49	COG Take notes in class
	50	COG Use the vocabulary section in your textbook
	51	COG Listen to tape of word lists
	52	COG Put English labels on physical objects
	53	COG Keep a vocabulary note book
Metacognitive	54	MET Use English language media (songs, movies, newscast, etc.)
	54*	MET Use English Internet to search for information using English language
	54**	MET Use English Internet to communicate using English language (emails, social networks)
	55	MET Testing oneself with word tests
	56	MET Use spaced word practice
	57	MET Skip or pass new word
	58	MET Continue to study over time

Items in red were added by the researcher for the purpose of the present study

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SECONDARY SCHOOL TEACHERS' PRACTICES TOWARDS THE USE OF COMPUTERS IN TEACHING ENGLISH AS A FOREIGN LANGUAGE IN ALGERIA

Abstract

New technologies are breaking down borders and barriers at a faster rate and have made the 21st century society technologically more dependent than ever. Unexpected encounters with other languages and cultures confront the new society with new choices, opportunities and challenges. Therefore, it has become a common trend that educational policy makers require the implementation and integration of new information and communication technological gadgets like computers across curricula in order to enhance teaching efficiency. This paper aims to examine teachers' practices towards computer use in teaching and learning English as a Foreign Language (EFL) in some secondary schools in Algeria. The study was carried out by using a qualitative method: semi-structured interview protocols, discussion and practical observations as instruments for data collection. The objective was to investigate teachers' knowledge on the use of computers in teaching and learning and to examine their performance in classrooms. Accordingly, a total of 43 teachers from 11 secondary schools in the case study town offered their thoughts on the subject. Findings from the study showed that most secondary school teachers lacked the proper knowledge of using computer facilities in teaching and learning English. Besides, they faced many challenges that demotivated them from using computers. Although there were few facilities in the visited schools but they were not used by all the presented number of teachers. The study concludes that, the effective use of computers in teaching and learning English in secondary schools can be achieved through training especially to promote teachers' knowledge on the use of ICT facilities that should be provided adequately.

Keywords: Computers, EFL, ICT, integration, technologies.

1. Introduction and Background

Generally speaking, choosing teaching materials determines the running of the course and underlines its content. It may happen that learners' needs and expectations are not met due to the wrong choice of materials. Therefore, good material should help a lot in organizing the course or what is more; it can function as an introduction into the new learning techniques and support teachers and learners in the process of learning. It is also a kind of teacher reflection which does not teach but encourages the learner to learn (Hutchinson and Waters, 1992, p. 107). The application of ICTs, as teaching materials, in English learning and teaching has become very popular and it has created wide opportunities to enhance learning. For example, Gregori Signes (2014) and Robin (2016) noted that one of the strategies used in order to promote learners' knowledge is based on projects. More specifically, they refer to digital storytelling which helps to improve traditional skills development, mainly speaking

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and writing along with researching and collaborative tasks and working with computers. According to them, only through this learners get accustomed to technology and they are trained on how to interview people, conduct research and apply several strategies to solve their problems.

However, the findings from the literature (Bingmlas (2009), Gray and Souter (2000); Farrell et al. (2007) and Tedla (2012)) indicated that there were scarcity of ICT facilities in schools which hindered its application in teaching and learning. Infodev (2010) reported that, developing countries depend solely on old ICT facilities like radios, televisions and printers compared to developed countries. Gulbahar (2005) discovered that one of the factors influencing teachers' decision on classroom teaching is the availability of ICT facilities and the lack of these leads to ineffective teaching. Balanskat et al (2006), Stienen (2007) and Kasoko and Tella (2010) found that teachers' use of ICT facilities depends greatly on their knowledge, proper training and appropriate practice. All of these authors praise the insertion of ICT in learning and teaching processes.

Therefore, a definite line has been drawn to define whether ICT is a separate subject to learn or a supportive pedagogical facility to be used. For that, there are two main aspects: ICT is used as a tool for teaching English; English is taught via ICT. In the former aspect, teachers and learners of English are aware that they use ICT, particularly computers and network communication, to support teaching and learning. Meanwhile, a wide range of other applications are used as tools such as: the use of Word processor; the use of PowerPoint (PPT), Flash and other software equipments. Under this condition, attention is paid to ICT itself and its related knowledge for it becomes a millstone that leads teachers to feel inadequate. In the latter aspect, ICT facilities become the environment in which English is taught. It doesn't necessarily take into account what software what software or hardware is needed to process the language materials. Teachers focus rather on the language itself. Using ICT facilities in real contexts enables teachers and learners to feel more confident and interested in the process of teaching and learning. For example, when learners read English newspapers online, watch videos or direct project works on computers, these materials become their only focus and ICT facilities become pedagogical and environmental agents.

As an ICT facility, the impact of computer access is apparent as teachers can now use a device that has previously been much harder to get hold of. Meanwhile, Internet makes it possible for computers to access an infinite storehouse of multimedia resources and encyclopaedias. For example, teachers can show clips of accents found on YouTube, find available reading passages or give examples of data show. As has been mentioned before, computer Micro Software (MS) processing programs like Word and **PPT** make it possible for learners to study in a novel fashion. MS Word software is an attractive tool for any written assignment as it not only comes with a proofreading system but also with a built-in dictionary **to enable correcting and redrafting**. It becomes an excellent tool for learning, writing and research and forms. Students with learning disabilities benefit greatly from computers as the software checks grammatical errors by highlighting and explaining them. Furthermore, Computers have access to information that cannot be found in textbooks. In other words, the available data on computers is general and invites the world as a whole into the classroom.

A study conducted by Rastogi and Malhorta (2013) found that 84% of secondary school teachers in India were knowledgeable and competent in the use of MS Word while 72% were knowledgeable and competent in the use of MS **PPT** presentation. The same study indicated that the practice of the use of ICT helps teachers to become more effective, to become successful facilitators in their teaching and to create collaborative learning between students

within the class. However, the range of software possibilities and tools available are not always fully utilized by all secondary school elements. We find it problematic that students use computers more often in the classroom than their teachers who feel uncomfortable using them, stating that they, themselves require an ICT education. Moreover, time constraint is always a burden that faces the accomplishment of learning tasks. In addition, Internet access requires a wide network connection, which can be expensive and schools may not be able to afford it.

A number of earlier studies investigated further reasons on why teachers do not use computers in their teaching (e.g. Winnans and Brown, 1992; Dupagne and Krendl, 1992; Rosen and Weil, 1995) and found a list of inhibitors such as lack of teaching with ICT experience, lack of onsite support for teachers to use technology, lack of help in supervising learners when using computers, lack of ICT specialist to teach teachers computer skills, shortage of computers, lack of the time required to successfully integrate the technology into the curriculum and beyond all the lack of financial support.

A recent study done by Shah and Kandasamy (2013) in Malaysia indicated that unlike developed countries, teachers in developing countries were less knowledgeable about the use of ICT facilities. Another study done by Tedla (2012) in East Africa indicated that one of the challenges facing the whole process of teaching and learning is the teachers' lack of knowledge about the use of ICT facilities. Hence, teachers' development of ICT literacy has been first revealed by educators and experts, such as Jung (2003), Kirschner and Davis (2003) and Downes (2001) and in recent years emphasized by government initiatives involving increasing investments in ICT facilities and professional training projects.

Algeria is one of the developing countries that have placed weight on the development of ICT-related human resources. As reported in Infodev (2007), it is encouraging and fostering the use of technologies to enhance the development process in general and the development of the educational system in particular, paving the road for an ICT policy framework along with its implementation. In light of the globally emerging knowledge and information society, Algeria has formed a committee in charge of defining the elements of Algerian national information society strategy. It is anticipated that the committee will work on creating synergies among the different sectors in the area of infrastructure, training, and research as well as information systems. The committee will identify a national working group, which will be charged with formulating short, medium, and long term action plans for ICT. The government is, thus, committed to set forth a policy for the integration of technological equipment within the educational system. Prior to this, the reform of the educational process and inclusion of ICT with a set structure was formally included in the country's formal policy in June 2002 with an allocation of three billion dinars. To facilitate the entry of Algeria into the information society, ICT initiatives have been designed in the project of the Ministry of Education to equip all schools with computers by 2005.

Algeria has placed considerable emphasis on the importance of developing a national ICT strategy for education and training. The Ministry of Education has taken steps to support the implementation of this strategy either by direct action or through the various institutions and agencies that have a partnership with the ministry, such as UNESCO, the EU, and different UN agencies. And within the framework of enhancing the level of penetration and usage of ICT in education, the government has signed a number of agreements with these organizations. For example, UNESCO is undertaking a number of initiatives for the proper integration in the Algerian education system, and the Japanese government has provided funding for teacher training programs amounting to USD 750, 000.

In addition, all education institutions deliver the same curriculum as designed by the Ministry of Education. The plan is to integrate ICT within the different school subjects to enhance learning and education. It therefore becomes a process of learning through the use of technology rather than learning about technology. However, the program of ICT training for teachers has been limited to basic information, with most receiving 30 to 60 hours of training. Although 100% of secondary teachers and 60% of middle school teachers received the basic training, this has to count to be a very little impact on the quality or method of delivery of education in the classroom.

Meanwhile, the Ministry of Education is working on building the infrastructure for enabling the ICT environment. All secondary schools were equipped with computer labs (15 computers: 10 for students, 5 for teachers) connected to the Internet through ADSL, and 30% of this foundation had Internet access via cable modem.

2. Research Methodology

2.1. Statement of the Problem

Being born in a world conquered by technology, our students have become digital learners; that is why teachers and schools cannot turn their backs on new cultural forms related to communication that digital technologies are engendering within our society (Soler-Pardo, 2014). There are numerous studies done on the use of ICT in teaching and learning in general (e.g. Kalinga, 2008; Nihuka, 2010; Mwalongo, 2011) and the use of computers as a means of information technology in particular. These studies found that there was a need to increase ICT facilities in teachers training colleges in order to raise teachers' awareness towards the use of these facilities. Many teachers have been trained over the recent years in how to use computers to teach English (Ya'acob, MohdNor and Azman, 2005) as well as other subjects for example Mathematics and Science. Thus, many secondary schools are supplied with computers, notebooks, LCD projectors and software to enable teachers to bring technology into classrooms.

As there are challenges related to the lack of teaching and learning materials including books and other facilities; lack of ICTs' use, namely computers, in the schools has resulted in the dominance of the use of chalkboard as the only means of teaching. Thus, this study tried to investigate the current teachers' knowledge and practice towards the use of computers in teaching and learning in order to raise community awareness of its importance to help students to understand the lesson clearly. In the present study, the focus is on the use of computers in teaching English in some secondary schools in Algeria. The following research questions guide to this investigation:

1. What are the teachers' attitudes towards teaching English using computers?
2. What are the challenges faced by teachers in using computers to teach English?
3. What are the teachers' suggestions in order to overcome these challenges?

2.2. Objectives of the Study

The main objectives behind the present study were:

- a) To investigate the teachers' knowledge about the use of computers in secondary schools' teaching and learning.
- b) To examine the teachers' practice regarding the use of computers in classroom.

2.3. Methodology

The respondents in the present study consisted of 43 secondary school teachers who teach English in public schools in a town situated in the North West of Algeria. Most of the respondents were university graduates and had at least 5 years of experience in teaching the

English language. A questionnaire was used to collect responses from these teachers. The questionnaires were distributed to the respondents and they were given enough time to complete them. Table 1 shows the main sections of the questionnaire and the information requested through these sections.

Table 1

Main sections of the Questionnaire

Sections	Requested Information
Section 1	Teaching experience, ownership of a personal computer at home.
Section 2	Frequency in using the computer to teach, training courses attended, Sufficiency of courses, duration of training, confidence in using the computer to teach, software used in school, usefulness of the computer to teach.
Section 3	Possible reasons that could have discouraged teachers from using computers to teach English in classrooms.
Section 4	Suggestions on what can be done to encourage teachers to use the computers to teach.

Data were also collected through the use of interview, discussion and practical observations. Table 2 shows these data collection tools and the kind of information collected through them.

Table 2

Tools and Kinds of Data Collected

Sample	Tools for data collection	Data collected
Heads of Schools	Interview	ICT facilities and practice of teachers towards the use of these facilities.
Teachers	Practical observation checklist and interviews	Practice of teachers towards the use of computers Frequency use of computers Attitudes toward the use of computers

3. Main Findings and Discussions

3.1. Discussion of the Questionnaire Findings

The majority of the teachers, twenty five (58%), had at least ten years of experience which showed that most of these teachers were very experienced. The remaining eighteen (42%) teachers had less than ten years of experience. All of them (100%) owned computers at home. The results indicated also that only three (7%) teachers use computers for teaching English in classrooms; while forty (93 %) teachers did not use them at all.

As to the duration and adequacy of training that they had undergone, all teachers stated that the training on computers was deliberate and done on Saturdays all day for three to four months. They started going but they gave up. They justified their unavailability to take the course due to the fact that it was scheduled on the weekends. They stated also that the courses they had attended were not adequate to equip them with the necessary knowledge on how to use ICT in general in an English classroom. One possible explanation why this happened may be due to inappropriate training style that had led to very low level of usage of computers by the teachers or their acceptance to use them.

When informants were asked when using whether they were confident about computers to teach, the obtained results asserted that three (7%) teachers were confident, ten teachers (23%) were not so confident and thirty teachers (70%) were not at all confident in using computers in their English classes. It is interesting to note that when comparing the results, we can see that although ten teachers had little confidence in using computers, they did not use them at all.

Regarding the computer software that the participants should use in school, there were some available, such as Microsoft Word and PowerPoint (PPT). The teachers were actually expected to have at least a fair idea how to use some features on Microsoft Word, for instance. One main reason why they should do so was because all test worksheets; exam questions, monthly report cards, and analysis of results for term examination must be processed using the computer. Unfortunately, not all the teachers knew how to type using Microsoft Word. Most of them revealed that they asked those who knew to do so instead. As for the PPT to make LCD projections, three teachers (7%) rarely used it in presenting lessons or projects that demanded data show; however the remaining number (93%) preferred sticking to the traditional to the traditional way in presenting their lessons because they believed that spending time on high-tech facilities may interfere with finishing the school curriculum.

As regards the usefulness of computers in teaching English, again three respondents (7%) fully agreed that using computers had improved their presentation in teaching. Twenty eight (65%) agreed with this statement and twelve (28%) disagreed with it. All of the questioned number, which totaled up to forty three, agreed on that using computers made lessons more enjoyable, diverse and interesting for students. Teachers were well aware that computers did help in improving their presentation and made lessons more enjoyable, diverse and interesting for students, however they were reluctant in using them. As a matter of fact, in accomplishing the school program in the allocated time, again three teachers when asked whether using the computer was time-consuming were for; however forty were against.

The next section of the questionnaire investigated the main challenges when using the computer to teach English. The findings indicated that two possible reasons could have discouraged the present work respondents from being computer users to teach English in classrooms. Thirty (70%) teachers strongly agreed that using the computer made their lessons more difficult; ten (23%) teachers agreed on that; however three (7%) teachers, those who were for using them, disagreed with this point.

The next challenge faced by teachers of English was the content of the lessons. Thirty (70%) teachers believed that using the computer to teach restricted the contents of their lessons. The reason could be because they had to prepare materials for teaching that follow the syllabus closely. Thirteen (30%) teachers also agreed on the fact. All of the teachers believed that using the computer to teach in the classroom would be difficult without good technical support from technicians. It seems that teachers were discouraged to use the

computer to teach if they had to solve technical problems by themselves. And even waiting for the technical problems to be solved is in itself a waste of time for them.

Other challenges encountered by the teachers, that could prevent them from using computers when teaching English, were as follows:

- a. availability of limited internet in the school;
- b. setting up the computer and LCD projector themselves before each lesson as well as putting them away properly after each lesson lead to a waste of time;
- c. being stressed to use computers to teach English as they had difficulties locating the teacher in charge of the computers whenever they wanted to use them, and
- d. malfunctioning of the computer which would distract students' attention and disrupt lessons.

The last section of the questionnaire required teachers to give suggestions on what can be done to encourage them to use computers to teach English in the classroom. Almost all the teachers but one suggested having a reserved computer lab or a resource center where all the computers, LCD projectors, CDs as well as all other computer peripherals could be stored and available at all times. Other suggestions are listed below:

- a. It would be good to have a special resource room with a full-time teacher operating the computers. The teachers' comments suggested that if access to the technological resources were difficult, it would form a barrier for the teachers to use them in the classroom.
- b. It would be useful and convenient if there were technical support at hand. The majority of the teachers welcomed a permanent maintenance element at the resource room at all times. He/she would be able to provide any technical assistance needed by teachers including the setting up of computers.
- c. There should be practical courses whereby teachers would be taught how to incorporate the use of computers in their teaching.
- d. During the holidays, teachers should be sent for practical computer courses and trainings in other towns.

3.2. Discussion of Interview and Observation Findings

3.2.1. Availability of ICT facilities in secondary schools

An attempt was made to explore the availability of ICT facilities in secondary schools in the involved place of research. The findings from observation checklist showed that all eleven secondary schools involved in the study had ICT facilities. The facilities found in the schools are computer lab, computers, CDs, LCD projectors and printers. Although all secondary schools involved in the study were equipped with ICT facilities namely computer labs (15 computers: 10 for students, five for teachers) connected to the Internet through ADSL, these were not enough compared to the number of teachers and students in each school. Therefore, this study is in line with the findings from the literature which has revealed the scarcity of ICT facilities in schools as compared to teachers' and students' ratio. Students-computer ratio in the visited schools which is 1:50 implies that 50 students were able to use 1 computer at a time. This ratio is very high regarding the practical requirements in using computers. Besides, teachers-computer ratio in each school was 1:5, where five teachers share one computer at a time (not only teachers of English used computers). This implies that there was an inadequate number of computers in secondary schools. This was also explained by heads of these schools during the interviews. Even teachers, who favored the use of computers, argued that they were always lost in finding at least cables for connection. Therefore, a comeback to the traditional

way would be better. They explained that there were no enough ICT facilities in their schools which hindered the effective use of technology in teaching and learning.

3.2.2. Secondary school teachers' knowledge of ICT facilities

The investigation of secondary school teachers' knowledge of ICT facilities in the whole process of teaching and learning revealed the contrary of what was expected. Out of the interviewed 43 secondary school teachers, 7 (16%) showed to understand what ICT means and 36 (84%) did not have any idea about what ICT means. The teachers who did not have the right idea about ICT had to say that they knew nothing about ICT terminology because that was new to them and they had never come across before. During the interviews, they hardly mentioned the ICT facilities they knew and which ones were available in their schools. The most known ICT facilities to the teachers were computers, mobile phones, projectors and printers. Once more, the study at hand is in line with the findings and observations from the presented literature, which revealed that there is lack of teacher's knowledge on the use of ICT facilities and lack of specialized ICT teachers as well.

3.2.2.1. Teachers' practice on the use of ICT as a tool in teaching and learning

This section presents the results regarding the secondary school teachers' practice on the use of ICT facilities in teaching and learning. The use of two ICT facilities were sought to be investigated in the study: computers and projectors.

3.2.2.2. Teachers' use of computers and projectors

Computer technology is one of the best tools of teaching and learning. The findings from practical observation checklist and interviews indicated that only three (7%) teachers were using computers but not so often in classroom teaching, while forty (93%) teachers were not using this technology in classroom teaching at all. This shows that many secondary school teachers kept using chalkboards instead of relying on computers in teaching.

Similarly, the use of data projector is one of the modern ways of teaching which reduces teachers' practice of elaborating many concepts. However, the data from practical observation checklist and interviews revealed that, out of 43 teachers observed, only three (7%) teachers were using projectors in the process of teaching and learning while the remaining forty (93%) teachers were not. During discussion, many students inserted that they could understand better when their teachers use computers and projectors. That would eliminate boredom in classrooms and touch many senses like hearing, seeing and increasing interest at the same time.

3.2.2.3. Teachers knowledge on the use of computers

This study investigated 11 secondary school including 43 teachers through practical observation checklist to find out their knowledge on the use of computers. The observations incorporated practical activities of putting ON and OFF computers and the knowledge of the use of Micro software programs like: Word, PPT, Excel and Access. Among the 43 teachers observed on their ability to put ON and OFF computers, 33 (77%) could do that rightly, while 10 (23%) of them could not. The observations showed that 30 (70%) teachers were able to use 'Word' processor; however 13 (30%) were not. Again 30 (70%) teachers were able to open the program and type a text but without editing and formatting it. The remaining 13 teachers who failed to run Word explained that they had never studied computer applications. When they wanted to type a text or a test sheet for student, someone else who knew computer applications properly worked on their behalf. 'Excel' offers a lot of benefits to teachers and students during teaching and learning. However, the findings indicated that only 6 (14%)

teachers were able to run Excel not very properly. Those teachers who were able to use this application said that they use it only when preparing exam results because it facilitates calculation. Making tables in the whole process of teaching and learning was not their concern. The remaining number 37(86%) teachers just entered students grades on Excel files given by their school administration. ‘PPT’ is an electronic slide that helps teachers a lot to embed files such as texts, music, pictures, and diagrams during teaching. However, only 3 (7%) teachers were observed to be able to use the application. They reported to have been using it in assisting themselves to teach using visual images, audio images, and texts in class using a data show. ‘Access’ is another computer application used for preparing the students attendance and for registration purposes. Among the 43 observed respondents, no (0%) teacher was able to use the application. Those findings showed that many teachers were able to open and shut down the computer but could not use the computer applications effectively. Word application is the most used program compared to other programs followed by Excel, PPT while Access was totally absent in the visited schools.

All in all, this study found that most teachers ignored the effective use of ICT facilities in their teaching.

4. Conclusion

The present study was carried out in 11 secondary schools in the North West region of Algeria. The same results may not be obtained in other schools in the same (or other) regions of the country. They may not be even found in middle schools of the same region (similar research was done on middle schools in the same region but with different results). Therefore, the obtained results may not be generalized to all schools in Algeria.

This study concludes that there are many challenges associated with the use of technology, mainly computers, in teaching English for secondary school learners. It demonstrates also that there is a lack of ICT facilities and a lack of teachers’ knowledge on the use of technology in the classroom as well.

The investigation of first research question of the study “What are the teachers’ attitudes towards teaching English using computers?” showed that most of the teachers did not use the computer to teach English. One major reason was that they were not trained to use the computer to teach. Most of them were not very confident to utilize the technology in their teaching because they felt that using computers in the classroom made their lessons difficult, restricted as it was a waste of time. Generally speaking, teachers were unconfident and uncomfortable when handling the computer in the classroom due to insufficient knowledge of ICT. That was the reason to have a negative attitude towards the insertion of technological equipment in teaching. Another reason for this attitude was that secondary school teachers were not guided and trained to use technology. All of these reasons made teachers demotivated to use computers although they knew very well about their advantages.

As for the second research question “What are the challenges faced by teachers in using computers to teach English?” It was found that English language teachers in the case study secondary schools faced many obstacles that deterred them from utilizing computers. These were the lack of availability of software facilities and lack of knowledgeable technical support.

Suggestions from the English language teachers for improving the situation were in the third research question. The outcome was to include a resource room or center that should be manned by full-time existing and trained personnel to teachers when needed. It was also suggested practical training courses on computers. As further research, a nationwide study

involving more secondary schools teachers should be carried out to see whether the Algerian government has achieved its objective of encouraging and fostering the use of technologies to enhance the development of the educational system and paving the road for an ICT policy framework along with its implementation or not.

Suggestions

The study findings revealed that there is a lack of ICT facilities and a lack of teachers' knowledge and practice on these facilities, namely computers, in teaching and learning. Thus, based on these findings and adding to what was proposed by teachers, some multimodal suggestions should be brought into stage.

Teachers' knowledge on the use of technology or ICT literacy is at first the main aspect to be taken into consideration. Most ICT training projects accentuate teachers' development in technical capabilities but ignore integrating ICT in teaching and learning curricula. In order to balance teachers' confidence with ICT as a technological and as a pedagogical tool for quality teaching and learning, teachers should be placed in an ICT environment. When teachers as competent and confident work out pedagogical contents and methods using ICT, they all can construct their individual subject matter literacy upon their prior knowledge and their personal and professional experience. In turn, teachers' experience and knowledge are two most important factors toward the construction of their pedagogical beliefs. These beliefs will justify their decisions on the role of ICT in language teaching and learning and eventually will lead to changes in their instructional practices and increase their technical capabilities. Once their technical capabilities increase, they need to blend their experience with these capabilities and apply appropriate ICT to their pedagogical approaches and hence they are more likely to contribute efficiently to English teaching. Therefore, the quality of teachers depends on training especially on the use of modern technology in teaching and learning. This can be reached only with the availability of teacher in-service compulsory training program on the better use of ICT. Moreover, heads of schools should work in collaboration with various organizations that deal with ICT training to improve teachers' practices and their knowledge in the field.

The adequacy of ICT facilities is the second main aspect to be taken into account. There should be an increase of these facilities in schools to meet the number of teachers and students. This will ensure enough access to computers and thus result in better performance and increase the quality of secondary school teaching and learning. Accordingly, the Government is required to ensure the adequacy of computers and all what goes with as peripherals and equipment. It is also required to ensure teacher and students access to these facilities. This will help all secondary school teachers to teach effectively. The program of ICT training for teachers should be fostered rather than being limited to basic information.

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Appendix

Please indicate your Level in English Language Skills by ticking the appropriate number: 5=strongly agree 4=agree 3= neutral 2=disagree 1=strongly disagree					
Tick the Suitable Box with the Appropriate Number	strongly disagree	disagree	neutral	agree	strongly agree
Statements					
✓ Computers have improved presentation of teaching.					
✓ Computers help to make lessons more enjoyable, diverse and interesting for learners .					
✓ Computers save time in teaching.					
✓ Using the computer to teach made the lessons more difficult.					
✓ Using the computer to teach restricted the contents of the lessons.					

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THE EFFECTIVENESS OF EFL STUDENTS' USE OF ICT ON DEVELOPING THEIR AUTONOMY

Abstract

Learner autonomy has received its due amount of attention in the literature of foreign language teaching. The concept has come to life since the 1980s. Learner autonomy has been considered as a goal of education, which ICTs, when used appropriately, may help in fostering. As such, the present study has continued that very focus by investigating the degree of autonomy that Moulay Ismail University EFL students enjoy and the extent to which they use ICTs for their learning. In essence, the study aimed at investigating how ICT's use and learner autonomy are related. A cross-sectional quantitative design underpinned the study. A self-completion questionnaire was thus employed as an instrument to collect the data. As such, a total of 109 EFL undergraduate students took part in the study. A questionnaire was administered to the respondents to find out their level of use of ICT as well as their level of autonomy. Findings revealed that the students used ICT to a large extent, and their level of autonomy was shown to be high. It was, thus, found that their use of ICT level and autonomy were significantly related.

Key words: EFL, ICT use, learner autonomy.

1. Introduction

English language teaching and learning has gone through drastic changes in the past few decades. These changes are reflected in the theories and methodologies underlying the teaching practices. Behaviourism as a theory of learning that shaped the audio-lingual method in ELT has been subject to harsh criticisms by other approaches which reconsidered the status of the learner in the teaching-learning process. Communicative language teaching is, here, a case in point. The latter approach is believed to encourage learner autonomy. Indeed, learner autonomy has been an essential debate in language teaching and learning. A report on 'Autonomy in language teaching' written by Holec (1981) marked the real beginning of the debate (as cited in Benson, 2011). It is considered the ultimate goal of the educational programs (Grabbe, 1993, as cited in Benson, 2011); Ouakrime, 1988). As such, it has been supported that the use of information and communication technologies (ICTs) play an important role in developing autonomy in learning English as a foreign language.

This is a contemporary demanding era. Citizens are required to be equipped with necessary skills to cope with the various requirements of the learning journey. Learners now are obliged to live in a digital era in which they have to be independent. This calls for new approaches to language teaching and learning that would encourage a life-long learner. The existing literature (Benson & Reinders, 2011; Reinders & White, 2011) shows that learners have always a desire in shaping their learning process. Moreover, studies have discussed the role of ICT usage in teaching and learning English as a foreign language. Few researches, however, discussed ICTs in relation to the development of learner autonomy, which made the present study an attempt to fill this gap by investigating whether there is a relationship between EFL learners' use of ICTs and their degree of autonomy in learning English as a foreign language in the Moroccan context.

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In this respect, the present study attempts to provide potential answers to the questions about the extent to which EFL students use ICTs and their degree of autonomy. Therefore, the main purpose of the study is to investigate whether there is a relationship between learner autonomy and students' use of ICTs. It, thus, seeks to investigate the following objectives:

- a) To find out the extent to which EFL students are autonomous language learners.
- b) To explore the frequency of their use of ICTs for learning purposes.
- c) To investigate whether there is a relationship between students' use of ICTs and their degree of autonomy.

In an attempt to achieve the above stated objectives, the present study seeks to provide possible answers to the following research questions:

- a) To what extent are Moulay Ismail University EFL students autonomous?
- b) What is the frequency of these students' use of ICTs?
- c) Is there a relationship between the students' use of ICTs and their actual degree of autonomy?

Accordingly, the first two questions do not lend themselves to hypothesis testing, and, hence, the following constitutes an overall hypothesis:

- a) There is a relationship between learners' use of ICTs and their degree of autonomy.

2. Review of Literature

The discussion over the role of autonomy in education has long been discussed in the literature of EFL and ESL teaching and learning (Benson, 2011; Benson & Voller, 1997; Little, 1991; Ouakrime, 1988). This tendency towards autonomy parallels the shifting winds of approaches from teacher to learner-centeredness. The latter changed the teachers' roles into those of facilitators and monitors, allowing more freedom for learners to construct their own learning (Nunan, 1988). In addition, since the integration of ICT in education took place, the learners started to become more autonomous as they have a wide range of tools at their disposal (Rodrigues, 2003) to make use of whenever and wherever they like.

2.1. Learner Autonomy

2.1.1. Definitions and dimensions

As the arena of English language teaching (ELT) has opened a new page of the concern in the past few decades, one of its main tenets and, hence, goals is to raise lifelong and autonomous learners. Clearly, the term 'learner autonomy' has received much attention. This is manifested in many books and articles wherein scholars have provided a number of definitions and descriptions of the term. The advocates of autonomy go even far to state that autonomy is a prerequisite for effective learning to take place, explaining that when developed, autonomy increases good language learners who thus will assume more responsibility (Benson, 2011). Defining the concept, Holec's (1981) notion of autonomy is deemed one of the influential and, therefore, most cited definitions in the literature of learner autonomy in language teaching and learning. He defined the term as "the ability to take charge of one's learning" (as cited in Benson & Voller, 1997, p.1). According to Pichugova et al. (2016) interpretation of the definition, Holec points to the responsibility concerning determining objectives, having a choice over the content to be studied, selecting learning strategies as well as evaluating learning.

Throughout Holec's report, he never states that the 'capacity' for being an autonomous learner is inborn. He rather contends that it 'must' be developed with the help of a more knowledgeable person (Little, 1991). This goes hand in hand with the 'mediated learner' described by Vigotsky as a learner "who develops self-regulation through mediation ...

[which is] provided in the form of spoken dialogues with a more capable other, who might be a teacher, a parent, or a more advanced peer” (as cited in Oxford, 2017, p. 66). According to Moll (2014), Vygotsk’s model of mediated learning involves three stages, namely ‘social speech’ (engaging in interaction with others), ‘ego-centric speech’ (learners talking to him/herself), and ‘inner speech’ (guiding one’s own action)(as cited in Benson, 2011). The latter stage, according to Benson, is said to be largely related to learner autonomy.

Along the same line, subsequent writers and researchers have defined the term in different ways. Young (1986) provides a broad view, stating that autonomy takes place when one authors his/her own world with the absence of others’ will (as cited in Pennycook, 1997). Dickinson (1987) defines autonomy as a state where a learner is ‘completely’ responsible for the decisions taken about learning as well as for the employment of those decisions (as cited in Orakci & Gelisli, 2017), a definition shared by Little (1991). The concept, according to Ouakrime (1988), marks the shift from the focus on the problems of teaching in general to those which concern the learner himself. What follows constitutes some dimensions of the concept.

Learner autonomy is “a construct of constructs, entailing various dimensions and components” (Tassinari, 2012, p. 28). Considering the dimensions of learner autonomy embodied in Holec’s 1981 definition, he, according to Benson (2011), did not delve into the cognitive abilities which are actually essential for self-management of learning. Therefore, although the definition gave a hint about the *cognitive dimension*, explicit importance of the aforementioned dimension was not given. Another dimension that has been drawn from Little’s definition of autonomy, according to Benson, has been the *psychological dimension*. Benson, in relation to this dimension, states that the psychological dimension underlies what he calls ‘effective self-management of learning’.

2.2. Information and Communication Technology in Education

2.2.1. Definitions of ICT

The approaches to language teaching, or more precisely, English language teaching have veered towards focusing on the learner. This shift has come to life so that new horizons and more promising conditions for students’ learning journey can occur, not only on a classroom level but also on a life-long level. This, however, does not mean that the role of the teacher is dismissed; he/she is rather more of a facilitator. Given that people, or more precisely, students change generation after generation, language teaching has to adjust to these changes. In this regard, one of the solutions to adapt to this change is provided through the use of ICT, which has influenced, to a great extent, the teaching and learning process (Cornu, 2010).

In this respect, according to Blurton (1999), ICT is defined as a “diverse set of technological tools and resources used to communicate, create, disseminate, store, and manage information” (p. 63). Similarly, Postholm (2006) considers ICT “as a tool for finding information and communicating with others” (as cited in Kerouad et.al, 2013, p. 63). These definitions may seem broad and hence include general aspects of ICT. For the scope of and, hence, the purpose of the present study, some specific tools of ICT are generally the focus of this study. These include, among others, the use of computer, smartphone, tablet and electronic dictionaries which are believed to prove useful. Moreover, internet-based aspects such as the use of websites, e-mail and electronic libraries also help learners develop their English language skills (Kenworthy, 2004). Other types would include some social networking sites such as Facebook, Whatsapp, Twitter, and Instagram, where, as Cheng

(2012) states, students have the opportunity to organize discussions collaboratively, exchanging their opinions and develop critical thinking (as cited in Tri & Nguyen, n.d.).

2.2.2. ICT and the accessibility of education

Undoubtedly, ICT provides tremendous opportunities for raising and enhancing the quality and accessibility of education. Indeed, according to Akinsanmi (2005) and Kumar and Pasricha (2014), ICTs help widen access to education, and they give rise to more flexibility and accessibility of education for learners so that they can have access to knowledge and information anywhere and anytime they wish. They influences the way students learn, increasing lifelong learning as well as improving education quality (Davis, 2005). In addition, Moore and Kearsley (1996) state that students with special needs will find it easy to access knowledge in the ICT driven educational programs with less constraints (as cited in El-Ayachi, 2013).

2.2.3. ICT and autonomy

Clearly, ICT has influenced education, resulting in affecting teaching and learning (Yusuf, 2005). Indeed, it, as is believed by a number of researchers (Davis & Tearle, 1999; Lemke & Coughlin, 1998, as cited in Mudasiru, 2005), has the capacity to change the way students learn. That is to say, it adds to their motivation, skills and engagement in the learning process. Similarly, Cuban (2001), Larouz & Aqachmar, (2013) and Larouz and Fatmi (2014) contend that these technologies largely promote teaching and learning. In addition, Dudeney and Hockly (2012) argue that interactive whiteboards (IWBs) have the potential to improve student learning, and they help learners be more engaged in their tasks. Traditionally, teaching favoured content over process. It was done in the form of lectures and presentations with the emphasis on the activities which enhance content learning. Now the world has changed, and, hence, the job of teaching and learning has to meet this change. In an attempt to achieve this, reforms have been made on the curriculum. That is, communicative language teaching has been adopted and has geared towards ‘how’ rather than only ‘what’ information is to be used.

In addition, in the last few decades, learner’s contributions to the learning process have been recognized. This is, according to Reinders and Hubbard (2013), a good sign for and step into the fruitful development as learning is not confined to the classroom, but it takes place outside its walls. ICT, indeed, “provides students with individual learning episodes” (Rodrigues, 2003, p. 275), although these episodes can be limited if the classroom culture does not adapt to them. Thus, technology plays a crucial role in providing tremendous support for learners to be autonomous (Beatty, 2010). The potential support that technology provides lies in its capacity to help both “learners to gain more control over the learning process, and for teachers to have more ways to connect with learners both in and outside the classroom” (Reinders & Hubbard, 2013, p. 360).

3. Methodology

3.1. Context

The present study was carried out in in the department of English studies at the University of Moulay Ismail. The purpose was to investigate undergraduate EFL student’s degree of use of ICT and the latter’s relationship with their level of autonomy.

3.2. Participants

A sample of 109 Moulay Ismail University, School of Arts and Humanities, EFL students participated in the study. They are 49 female and 60 male students with the age ranging from 20 to 29 years old up. These participants completed fully all the items, leaving

no room for missing data, which is undesirable. The type of the sampling strategy was a non-random convenience sampling.

3.3. Procedure

The study at hands employed a questionnaire to collect data about EFL students' use of ICTs and their degree of autonomy in learning English as a foreign language. There are many reasons behind the employment of such an instrument over other methods. These include the opportunity to administer the questionnaire to a large sample of respondents from different locations. It also saves time, cost and energy; the very important tenets to be considered when doing research. Another very important benefit, unlike the case with other types of instruments, lies in its assurance of anonymity. Also, as Munn and Drever (1990) argue, respondents are more likely to be honest when they are left to answer alone or anonymously (as cited in Kerouad, 2019).

In essence, the questionnaire consisted of three main parts. The first part was devoted to the collection of data on what Dornyei (2010) calls 'factual questions' aiming at gathering information about some demographic characteristics, namely, for the present study, gender and age of the informants concerned. The second part, 'entitled learner autonomy', contained 14 items in the form of statements. The scale was adopted from Orakci and Gelisli's (2017) scale. Finally, the third part is about students' use of ICT, which included 15 statement items was adopted from Missoum's (2016) scale. These two researchers gave their full consent to the researcher of the present study to use the scales for and only for research purposes.

4. Results and Discussion

4.1. Demographic Characteristics

The following table illustrates the number and the corresponding percentage of male and female students.

Table 1
Descriptive statistics of students' gender

Gender	Frequency	Percent
Male	60	55%
Female	49	45%
Total	109	100%

As it is shown in the above table, the distribution of gender was not that balanced with male informants representing 55% and female respondents representing 45%. What follows is a table demonstrating the age groups of the participants in terms of frequency along with its corresponding percentage:

Table 2
Descriptive statistics of the age groups

Age groups	Frequency	Percent
20-23	65	59,6%
24-28	38	34,9%
29-up	6	5,5%
Total	109	100%

The table above shows that the dominant age group varies between 20 and 24 years old with a percentage of 59,6%. The second group occupies its due space too, comprising 34%. The last group is shown to be the lowest frequent one, consisting only of 5,5% participants.

The following figures are designed as a summary of the two variables in question. In other words, the continuum of the degrees of agreement and disagreement has been summarised into three categories as is going to be shown.

4.2. Research Question One: what is the degree of EFL students' autonomy in learning?

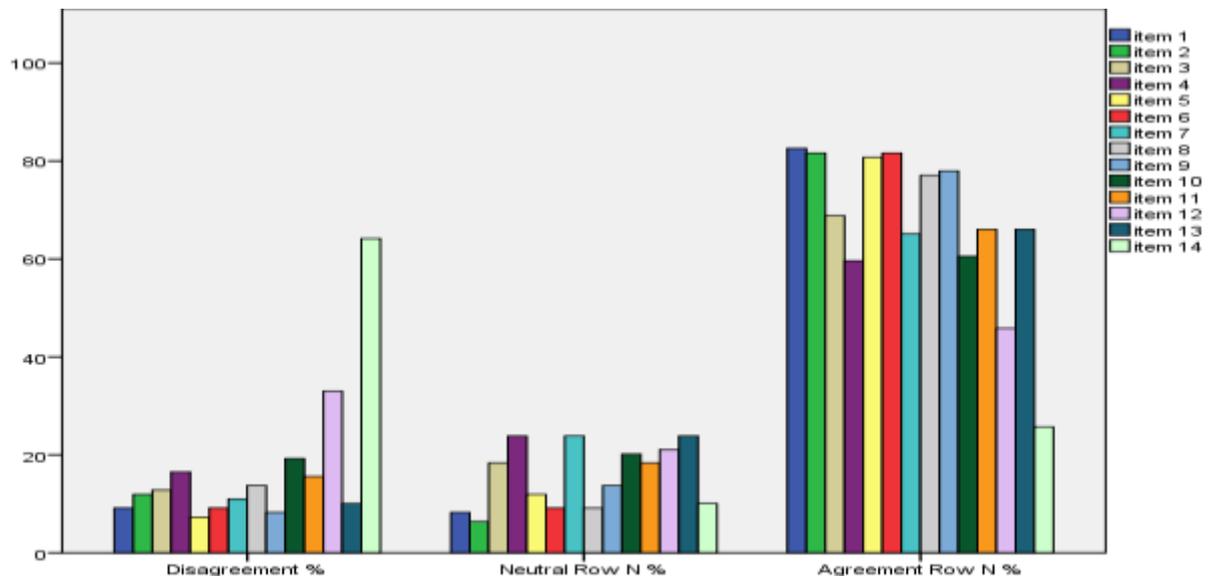


Figure 1

The degree of learner autonomy in terms of Disagreement, neutrality, and agreement

Overall, the respondents showed some degree of autonomy to an extent. The figure above was created to summarize the results obtained for the five categories. Thus, they were reduced to three categories so that the overall picture of the degree to which students are autonomous is drawn. Indeed, as is shown in the figure above, the participants have shown an agreement rate which is higher than disagreement. It can be seen that items 1 “I can set learning goals for me”, 2 “I can learn with and from others (e.g. fellow learners, teachers)”, 6 “I can select and use different materials and resources to study English at home”, 5 “I can identify my strengths and weaknesses while learning English”, 9 “I can motivate myself (in a way relevant to me) for my learning”, and 8 “I encourage myself to speak in a foreign language, even though I am afraid to speak or make mistakes” received higher rates of agreement response. The percentages for these items are: 82,6%, 81,7%, 81,7%, 80,7%, 78%, and 77,1%, respectively.

However, the responses correspond the ‘disagreement’ response yielded very low rates. An exception here is in the item number 14 “I do not try to improve my weaknesses”. Obviously, this is a negatively worded item, contradicting with the concept in question. It is thus reverse coded. Accordingly, 64,2% disagreed with the item, meaning that this number of the respondents actually try to improve their weaknesses. Evaluating one’s progress in learning English receives the rate of disagreement which reaches 33%.

For the neutrality response, the rate was not high. Items 4 “I can use effective time management for learning”, 7 “I know the Websites and online resources that are useful for my learning”, and 13 “I would like to have a say in the choice of learning activities” all share the same number of students who remained neutral with a percentage of 23,9% for each of the aforementioned items.

4.3. Research Question Two: To what extent do EFL students use ICTs in learning English as a foreign language?

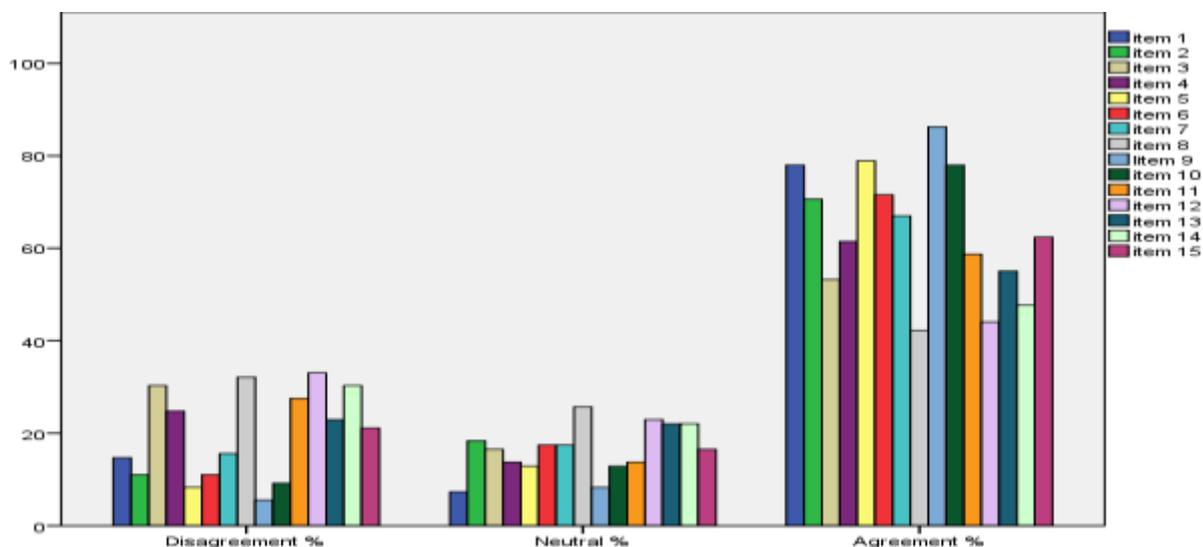


Figure 2

The degree of ICT's use in terms of disagreement, neutrality, and agreement

As the figure clearly displays, the respondents showed a degree of use of ICTs that is high to an extent. Item 9 “I watch videos (from YouTube, etc) explaining concepts / knowledge related to my studies” was the highest rated item concerning the agreement response, with a percentage of 86,2%. This is followed by other higher degrees of use of ICTs displayed in items 5 “I search for information / documents I need on the Web”, 1 “I use the Internet to connect with other learners for learning”, 10 “I look up new words in electronic dictionaries”, 6 “I chat with other students about learning assignments, etc”, and 2 “I download books/ lessons and read them”, the percentages of which were 78,9%, 78%, 78%, 71,6%, and 70,6%, respectively.

4.4. Research Question Three: Is there a relationship between Students' degree of autonomy and their degree of use of ICTs?

To test whether learner autonomy and use of ICTs are associated, the data was submitted to Chi square test (test of independence). This statistical procedure runs as follows:

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36,851 ^a	16	,002
Likelihood Ratio	27,888	16	,033
Linear-by-Linear Association	12,301	1	,000
N of Valid Cases	109		

a. 20 cells (80,0%) have expected count less than 5. The minimum expected count is 11.

Based on the table of the chi square test (X^2) above, the level of significance is 0,002, which is a value that is less than 0, 05. That is to say, there is a statistically significant relationship between learner autonomy and students' use of ICTs. Therefore, it can be concluded that the null hypothesis is rejected, and, hence, learner autonomy and students' use of ICTs are associated. So far, the results are displayed in tables and figures along with their corresponding descriptions. The following section will be concerned with a brief discussion of the findings obtained above.

Based on the findings found above, the tendency is more directed towards setting goals (82,6%). This may indicate that these EFL students have clear objectives and goals to achieve in learning English. Goal setting is also found to be the most valued aspect of autonomy by Vietnamese students (Tin, 2012). This is followed by another aspect of autonomy which concerns the ability to learn from others. That is to say, 81,7% opted for agreement with the aforementioned characteristic of autonomy. This ability and, thus, behaviour of learning from others may be enhanced by such networking sites such as Facebook and instant messaging as is already stated in the literature review.

Moreover, these EFL students seem to have self-esteem. In other words, the affective aspect of autonomy is dealt with. This is apparent in 77,1% of the students who state that they encourage themselves to speak English even when afraid to make mistakes. This percentage was really expected especially at the university level. This self-confidence may positively affect and, hence, enhance their participation in class, which in turn may result in fostering the process of learning, especially the speaking skill. This self-confidence is probably enhanced thanks to their use of ICTs. In this regard, as is already stated in the literature, the internet and other types of media sources empower learners by equipping them with tools to take the advantage of and hence opportunities for using English are increased.

For ICT's use, the tendency is directed more towards YouTube videos explaining concepts related to their learning with a percentage of (86,2%). This may be due to its popularity among the university students. In addition, 78% of the respondents use the internet. Almost the same number was found in a study by Kerouad and Fagroud (2013), in which 70% of the respondents were reported to use the internet. The respondents also opted for agreement concerning the use of electronic dictionaries with a percentage of 78%. This percentage indicates that the participants opt for such electronically based dictionaries more than the printed ones. In fact, based on a personal ad hoc observation, EFL students are more inclined to such dictionaries than the printed type. This is because electronic dictionaries are easier to use than the printed ones. This high degree of ICT use is a result of the common positive attitudes of students towards it.

5. Conclusion

The present study concludes that the students are autonomous language learners. Drawn also from the findings is the extent to which these students use ICTs for their learning, which is high. That is to say, the higher the level of ICTs' use of the students, the higher the degree of their autonomy is reported. Thus, it was revealed that the use of ICTs and learner autonomy were significantly related. In more concrete words, the vast majority of the students showed a high rate of use of internet-based ICTs to engage in self-studying, which resulted in increasing their autonomy. Therefore, it is concluded that, based on the findings, the hypothesis that undergraduate EFL students' use of ICT and their level of autonomy are significantly related is confirmed.

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8	I encourage myself to speak in a foreign language, even though I am afraid to speak or make mistakes.	1	2	3	4	5
9	I can motivate myself (in a way relevant to me) for my learning.	1	2	3	4	5
10	I know the method and strategy which suits me best and use it.	1	2	3	4	5
11	I can determine my own learning needs.	1	2	3	4	5
12	I can evaluate my progress in English by myself.	1	2	3	4	5
13	I would like to have a say in the choice of activities.	1	2	3	4	5
14	I do not try to improve my weaknesses.	1	2	3	4	5

Section 3: Students Use of ICTs for English language learning

Please, put a circle on the box that best describes your degree of your use of technology.

order	Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	I use the Internet to connect with other learners for learning via computer/mobile phone.	1	2	3	4	5
2	I download books/ lessons and read them.	1	2	3	4	5
3	I use computer/mobile phone to write my homework / papers.	1	2	3	4	5
4	While writing on the computer/mobile phone, I use automatic error detection (grammar and spelling check) to correct language mistakes.	1	2	3	4	5
5	I search for / find information / documents I need on the Web.	1	2	3	4	5
6	I chat with other students about learning assignments, etc.	1	2	3	4	5
7	I practice English using websites.	1	2	3	4	5
8	I do exercises assigned and not assigned by my teachers from the Web.	1	2	3	4	5

9	I watch videos (from YouTube, etc.) explaining concepts /knowledge related to my studies.	1	2	3	4	5
10	I look up new words in electronic dictionaries.	1	2	3	4	5
11	I record lessons / lectures and listen to them (for revision).	1	2	3	4	5
12	I ask for feedback / advice by email from my teachers and supervisors.	1	2	3	4	5
13	I do quizzes and tests from the Web for practice.	1	2	3	4	5
14	I record myself (audio or video) to find out what I need to improve in my English speaking / presentation skills.	1	2	3	4	5
15	I use text messaging (SMS) to stay informed about my classes, exams, etc.	1	2	3	4	5

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SHARPENING STUDENTS' 21st CENTURY SKILLS THROUGH PROJECT BASED
LEARNING IN AN EFL CONTEXT AT ABDELHAMID IBN BADIS UNIVERSITY,
ALGERIA

Abstract

In a fast-changing and dynamic world, students are bound to acquire core competencies to be able to function effectively in the 21st century. This research targets the implementation of Project based learning that aligns with the demands of the new technological-oriented era. The study's foremost objective is an attempt to gauge the impact of such innovative model on students in tertiary level along with the articulation on motivation and autonomy's development. To this end, a mixed method was used to conduct the research by using a self-assessment grid for the 46 participants and interviews for teachers who took part in the experiment. The findings show that the autonomy was at the heart of the project in terms of several aspects such as peer-coaching, peer-correction and self-teaching. It also gives insights on the wide spectrum of the skills developed along the application of the PBL project. Students were, therefore, able to function independently in a real-world context all the while nurturing and honing, to varying degrees, high order academic and professional skills ranging from leadership, collaboration, designing, to problem- solving and solution-suggesting. The unexpected element that emerged in the findings showcase the fact that the PBL project brought students together i.e. it humanized the environment.

Keywords: 21st century skills, autonomy, EFL, Project-based learning.

1. Introduction

Today's world is in a constant dynamic of change, especially with the advent of technology, where new needs have emerged. Some instructional models have arisen in response to these new realities. However, the actual educational system is still holding on to traditional teaching methodologies. In this regard, Project-based learning (henceforward PBL) is a teaching approach that is gaining ground as it supports sound pedagogical practices that aligns with the 21st century demands. It, therefore, assists students substantially in developing pragmatically their professional and academic skills through immersing and engaging them in highly personalized learning environment.

Students in Master cycle spend about five years of instruction in relation to their subject's content. Yet, it is very unlikely for them to come across opportunities where they can apply what they have learnt all along. This factor led, certainly, to academic community which lacks many skills that are vital in this technologized-era. In other terms, due to an old-fashioned instruction model, professional skills are not nurtured, developed and sharpened in the tertiary level, which can be very threatening for students' vocational career.

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With this logic in mind, the PBL approach portrays a potential solution for this current issue. This instructional design can bring about infinite possibilities to enhance their skills and apply their content-knowledge in real-world contexts. Not only it does improve students' capabilities but it engages them in social activities that will, surely, nourish the spirit of citizenship. In light of this reasoning, the present research is to be carried out so as to answer the following issues:

1. To what extent does PBL help students attain autonomy?
2. Does PBL prepare students for the demands of 21st century by developing the adequate life-coping skills?

Before delving into answering these questions, we hypothesize that PBL can assist Algerian EFL students to varying degrees and therefore develop their autonomy as it is a modern instructional model that has the potential to develop key 21st century skills needed to perform and function effectively in their professional journey. What's more, the research work will also demonstrate extent to which PBL can assist students to apply their content knowledge by leading them to be producers rather than consumers.

We estimate that this investigation will shed light on the PBL instructional model that aligns to the 21st century's demands. In this study, we are to denote the development of the PBL's implementation all the while beholding its impact on the EFL learning community. All through the research, we will investigate what personal and professional skills students can develop that, certainly, will be of significant input to the study overall.

This research lays focus on the impact of implementing PBL on EFL context and the extent to which it aids students reach autonomy whilst operating independently outside the classroom walls. In tandem with the manifold benefits this project-based model brings about to the learning community, this research explores the different skills to be enhanced during the realisation of the PBL project. In addition, this study is to highlight that learners are to function practically as advanced problem solvers by applying their background knowledge and, crafting, by the end, an artefact that will constitute the students' product.

2. Project Based Learning : Overview

The concept of project in the instructional framework is not new. As matter of fact, Beckett (2002) as cited in Simpson (2011) confirms that it was coined by David Snedden, in mid-1800s, who was a science teacher in American agriculture classes. Afterwards, in the early 1900s, William Heard Kilpatrick, John Dewey's student, introduced "*the project method*" that was articulated around children-centeredness. However, owing to the lack of succinct definition, the method was subject to controversy via-à-vis its appropriateness in academia (Lynn, Mark, Orthwein and Kelton, 2013). With the translation of Vygotsky's work into English, in the 1970's, this instructional paradigm was quickly adopted as an effective method of teaching (Aimeur, 2011). It was subsequently named PBL as it followed a certain frame of reference that sets it apart from the aforementioned method. PBL is an instructional practice that reflects the demands of the 21st century (Boss , 2012).

PBL is a student-centred approach that induces learners to operate collaboratively in a long-term project so as to solve a real-world problem or develop a product (Cavanaugh, 2004). It gives students the opportunity to function autonomously by seeking and searching for the pertinent information from various sources in order to analyse and synthesize it and therefore derive knowledge from it (Srikrai, 2008).

Thomas (2000) gives an exhaustive definition by describing PBL as:

Complex tasks, based on challenging questions or problems, that involve students in design, problem-solving, decision making, or investigative activities; give students the opportunity to work relatively autonomously over extended periods of time; and culminate in realistic products or presentations (p. 1).

PBL environment enables students to operate in a frame of reference that aligns with the demands of the 21st century as it hems in an exhaustive skill-set to be developed and strengthened namely, problem-solving, decision-making, planning, reasoning, creativity and social responsibility. These capabilities are like pieces of puzzles that come into play to shape students with pertinent skill-set that underscore the practical application of the theoretical notions that have been studied beforehand.

Accordingly, Moss and Duzer (1998, p. 1) defined PBL as “*an instructional approach that contextualizes learning by presenting learners with problems to solve or products to develop*”. In other words, the project approach created a practical platform for enhancing learning by involving students in hand-on experiments and more importantly, deploy strategic methods where students have to create and design a product or deliver a presentation to an audience.

3. Methodology

For the completion of the PBL project study, an action research methodology was chosen alongside two types of data collection tools namely self-assessment grid for students and interviews for teachers. Therefore, both quantitative and qualitative methods were applied to gather data. These instruments will gather data from different sources for the purpose of having an in-depth overview of the whole PBL project process whilst laying focus on the elements put forward in the hypotheses.

3.1 Context

This research seeks to uncover the effects of the PBL instruction at the University of Abdelhamid Ibn Badis, in the department of English language, with reference to second year master in applied linguistic discipline.

In addition, as far as the application of the project in real world is concerned, master students need to deliver the lessons they designed in high schools. For this reason, ten secondary schools, in the wilaya of Mostaganem, were selected for the realization of the practical part of the project. It is also important to mention that most of the master students are to be directed to the teaching profession.

3.2 Participants

Different participants took part in the experiment: First, the university teacher who supervised the project, second, the students who worked on the PBL project, third, the high school teachers who welcomed students in their classes to deliver a lesson to, fourth, the pupils.

a. Learners

For this study, 46 participants who belong to same Master’s specialty and represent all the cohort. The sample consists of 9 males and 37 females. The population’s age ranges from 21 to 28 years old. Pupils are the audience population that students are to present their work to in different high schools. The number of the high school students is different from one class to another but this detail is not of significance for this study.

b. Teachers

The university teacher or lecturer who is responsible for the e-learning module, in which the PBL project was supervised, will provide a holistic perspective on the merits and the challenges of this kind of instruction. Three high school teachers will be, also, interviewed so as to give their remarks on how well – or how poorly- master students performed in their respective classes. Naturally, they will also emphasize the importance of such training and the consequence it has on their future carrier.

3.3 Data Collection Tools

The instrument of data collection is used to carry out the research include self-assessment grid to evaluate the extent to which students have achieved the required objectives by the end of the project. The second tool is interviews with high school instructors so as to collect the feedback related to the PBL project implementation.

3.4 Procedure

The experiment consisted in the implementation of a project-based learning approach in an EFL context, more precisely in the E-learning module in which students were taught how to leverage ICTs in educational context. The general goal, therefore, is to redesign the third unit of third year high school, foreign language stream by incorporating technology as it was the core of the module. The cohort was divided into 8 groups, that involved five to six students, and each of them had a part of the project to work on. Each group nominated a leader to facilitate the communication process. Afterwards, each group was assigned a part of the language skill to work on the ultimately design a lesson plan for it.

Second, the end-product will be a set of lesson plans that reflect the creative and research-driven process they went through all along the achievement of this project. Finally, in the practical part of the project, each group will be split in half giving birth to two sub-groups which will be oriented to different high schools so as to have more opportunities to test their product.

4. Results

A mixed method was conducted serving to collecting data during and after the execution of the PBL project. The quantitative data collected from the self-assessment grid were computed statistically in order to obtain accurate results while the qualitative data, was collected from the interviews.

4.1 Self-assessment Grid

The analysis of the obtained results is structured in three axes so as to give a clear understanding of the process.

4.1.1 The individual and collaborative work

One of the key factor and significant predictor of the project's success is the level of collaboration among team-members in every group.

Figure 1 shows that the overwhelming majority of students, that is 89.1%, worked in collaboration all through the project. Only a minority of 10.9% of students admit that they did not operate in cooperation with their team. In this sense, more than half students (60.6%) affirm that they held meetings during the off season in which is it challenging to do, giving the fact that a considerable number of students live outside of the wilaya of Mostaganem. That is why 18 out of 46 students could not meet their team-members in the holidays. To

solve this problem of physical meetings, the majority of students used technological tools to communicate and interact with each other. In this regard, 73.9% of students confirm that they met virtually in their respective Facebook groups that were created solely for the sake of the project. Unfortunately, nearly quarter students (23.9%) could not use this solution as they did not have access to internet.



Figure 1:

Collaborative meeting of students for the PBL project

An individual work had to be done during the period of investigation whereby each student had to explore many sources information to be able to develop ideas for his part of work.

The following figure (2) accounts for the peer-correction practice that some students went through. Indeed, it spots light on the fact that half the informants (50%) corrected their team-members’ work. This procedure not only strengthens the cooperative work amidst the group but also benefit, as much the corrector by taking a look on what his friend had designed, as for the one being corrected by having peer’s feedback for him/her to be able to bring about the adequate modifications to the product.

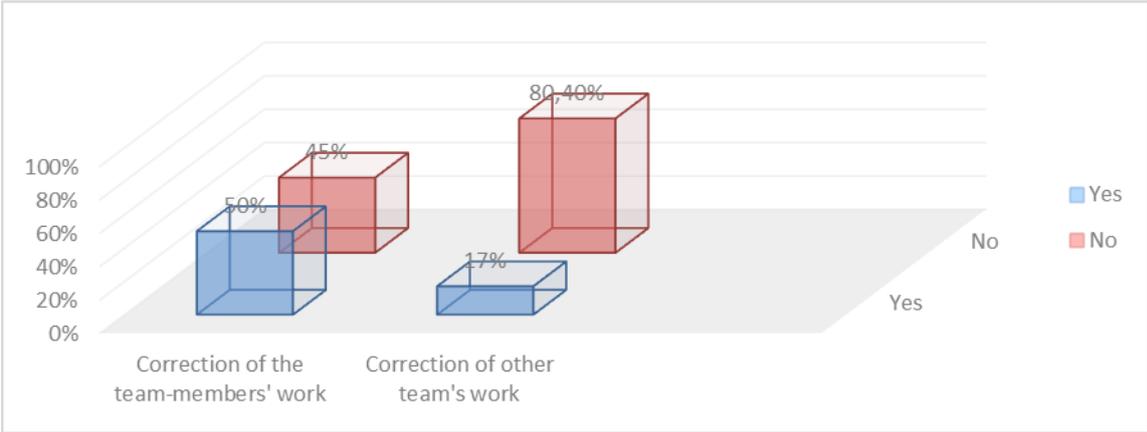


Figure 2:

Graphic representation of the peer-correction process

Furthermore, the figure (02) delineates that only a minority of the informants (17%) have corrected other team’s work. This result is quite normal because most of the informants operated substantially within the bounds of their group. This objective targeted specifically the leaders of the groups who were having meetings in a regular basis.

4.1.2 The product's application in the real-world

From another angle, the end-product has some features which are determined right from the start and students are asked to conform to these norms. The figure (07) below illustrates that 87% of the informants proposed exercises related to the unit of Education of the third secondary year. This was one of the characteristic that all products should abide to. In juncture with the latter, worksheets were to be conceived to support the exercises they devised. In addition, it reflects the fact that 38 respondents out of 46 (or 86.6%) put together worksheets for their respective exercises. 15.2 % did not prepare any worksheet for the simple reason that it was optional.

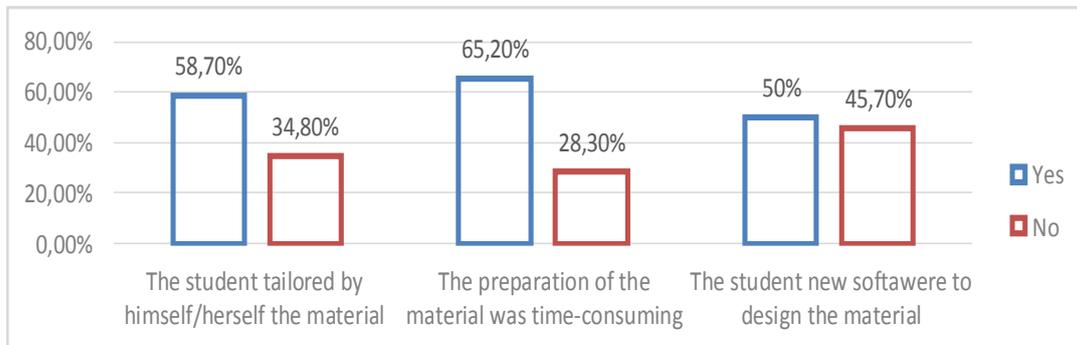


Figure 3:

Representation of the end-product's features

After meticulously conceiving the lesson plans, which constitute the end-product, students were to delve into the practical phase of the project. They were asked to go to the assigned high school where they could present their product to an audience whilst supervised by the host teachers. But before doing so, they had to confer with the high school teachers about the lesson plans they prepared to benefit from their experience.

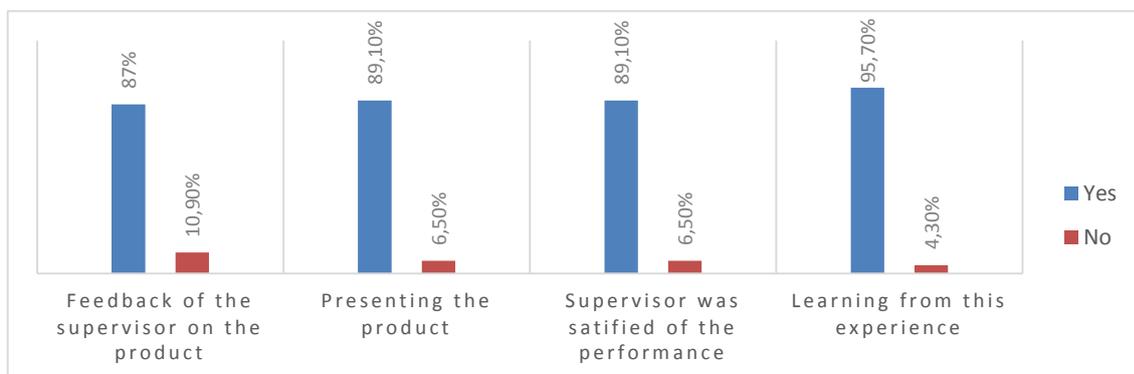


Figure 4:

Feedback before and after the performance

The constructive feedback plays an important role in scaffolding students learning process. Prior the presentation, students were asked to consult with the host teacher and take his/her feedback under careful consideration. This point is highlighted in item 28 where 87% of the informants declared having sought the instructor's opinion as far as the product is concerned. Item 29 proves that 89.1% of the population have performed in high school classes under the supervision of an experienced teacher. The figure (04) stresses that the same rate of informants stated that the teachers were satisfied with the overall presentation. Finally, it reinforces the idea that the experience was very advantageous as 95.7% of the respondents attest that they have learnt a lot from this experience in general.

4.1.3 Professional skills development

This section of the questionnaire tackles the academic gains this project yielded for students. In fact, they have developed a set of skills that will help them be better in their future professions. First, the analytical skill was enhanced as 82.6% of the informants affirm it (figure 05), because the very initial step to do when giving a lecture to an audience, is observing and analysing the learners, checking their understanding and every other relevant element that may influence the teaching/learning process. Second, this experience developed to a certain extent the public speaking skills as the trainees perform in front of the learners to present their product. In this sense, 89.1% of the informants assert that it aided them to develop this skill. Furthermore, when one is on the stage, time is of the essence, that is why 76.1% of the respondents claim that their time management skill was fostered as they had to discretely manage their time in presenting each element in their lesson plans. Otherwise, the lesson will not be completed. Fourth, the lion's share of the informants maintains that their leadership skill was fostered, as every group has its leader and sub-leaders who replace the group-leader when s/he is absent. Uniquely, in the practical part, every group was split into two, which gave birth to leaders of sub-groups. In this aspect, a considerable number of students were able to portray the role of a leader that is why, the informants are positive on how helpful this experience was in building up this skill. This latter goes hand in hand with the interpersonal skill because if one is to be a valuable leader, there is no doubt that he has to master the art of managing people. In this perspective, the figure clarifies that 39 out of 46 informants (or 84.4%) praise this experiment for having assisted them in growing their interpersonal skills mainly in solving problems that occurred and hence, bringing together all the group to perform the tasks collectively.

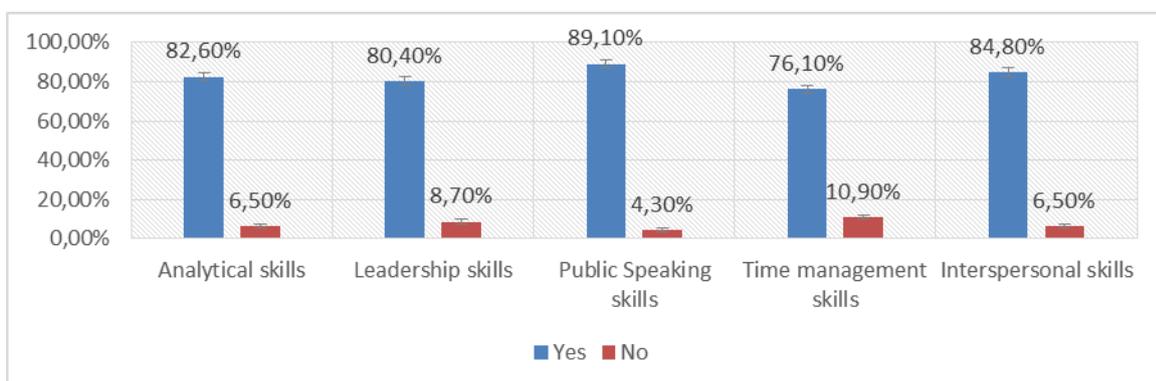


Figure 5:

Graphic representation of the skills' development

4.2 The interviews

This stage was an in-depth analytical process through which we tried to correlate the different pieces of information and constructed meaning out of them. These interviews were conducted with three high school instructors under which a parcel of the PBL project was implemented and the university teacher who supervised the project overall. This analysis will spot light on the different prominent elements that were stressed on and pointed out by the teachers.

The very first question centered upon the general impression of the teachers on the work performed by students. The answers were very satisfying as the lecturer comments that they were promptly positive stating “*they were amazing*” and praising their “... *good collaborative work*” whilst highlighting the necessity of integrating technology in the classroom. Two high school teachers even claim that they themselves learnt from what was presented.

The reflection of the university teacher touted the whole cohort’s efforts as they “... *shown a great deal of enthusiasm and amazing capacities*” alongside “... *a strong and exceptional passion for teaching*”. It is obvious that students were really excited to work on the project which has put into use their content knowledge and developed, therefore, their skills. She suggested that their leanness toward the teaching profession might have been one of the reasons behind their achievements.

The second question dealt with lesson plans (end-product) designed by students and whether they met the general standards. All teachers described the lesson plans with more than one adjective ranging from “*relevant, updated*”, “*well-sequenced*” to “*impressive*”. This show how carefully designed the lesson plans are as one of the teachers asserted that it was “*used in the right way and for the right purposes*”. All teachers agreed that the lesson plans met the standard in terms of creativity, use of ICTs and meeting the high schoolers expectations.

The subsequent question attempts to exploring teachers’ opinion of the training’s impact on the would-be teachers. The university teachers emphasize on the benefit of such instruction as it assists students in disposing of many “*blocking factors like fear, lack of self-confidence and stage-fright*”. One of the high school teacher argues that this experience “*will prepare them partially but not fully*” which means it will only give them “*a sneak peak of the new world*”.

Does the PBL foster students’ autonomy? This question was asked for the teachers to reflect upon. One high school teacher states that this project is a “*stepping stone*” toward the path of autonomy. Whereas, the lecturer who has a general view of the whole process of the groups commented that “*I was so impressed by the great energy spent in training themselves by themselves*” especially before the practical part, she even adds on to say that “*autonomy was key factor in the success of this project*”.

The following question investigates to what extent the PBL raises students’ self-esteem. The teachers affirm that it does, indeed, build up students’ self-esteem, especially when they are “*welcomed by pupils, praised by host teachers and encouraged by their teacher/advisor*”. Another point was brought up concerning the fact of developing students’ self-confidence when they “*stand in front of the crowd and get used to it*”.

5. Results and Discussion

Today more than ever before, students need, especially in tertiary level, a new instructional paradigm to foster their skills and that is what our research is aiming to highlight. Throughout the self-assessment grid with students, it was clear that the project based learning can be very beneficial as it gives students various opportunities within which they can develop their skills.

Students showed a great deal of motivation as they were actively engaged in every step of the PBL project. This helped them build gratifying feeling where students did not stay at the side-lines and simply follow teacher's instruction yet, they were fully involved in the process of shaping the PBL project on the one hand, and on the other hand, designing their products.

The interview with teachers uncovered rewarding sentiments of the trainees when performing and presenting their end-project. It is due to the fact that host-teachers along with their learners really appreciated the presentation. One teacher even reported that her students "*were smiling from ear to ear*". This feeling was mutually shared by the learners and the trainees as they were the cause of the high schoolers' satisfaction.

This journey was full of several opportunities that met students at every turn or step of the PBL project. Working collaboratively, presented an undeniable chance to foster the communication skills as students discussed and debated matters in relation to the project. It, ultimately, helped students learn from one another and therefore, develop their divergent thinking as one problem might be tackled from different angles by different team-members.

A strategy was called for during the PBL project's implementation so as to increase students' productivity. The first was the "*transfer of learning*" where the low performing groups learnt and emulated the effective groups by utilizing the same techniques and procedure for the purpose of increasing their efficiency. The second was "peer correction" where students corrected each other's work and benefited from their reciprocal feedback to adjust and rectify any misunderstanding that might have occurred. In this phase, students showed peer-coaching as good performing students took the time to train and tutor the low performing students specifically members of the same groups.

The PBL instruction presented a real opportunity for the learner to, first, put to use their content knowledge related to a specific module that provided them with the theoretical background on how to incorporate technology in the classroom. Consequently, the trainees approached the issue pragmatically by showing problem-solving and solution-suggestion skills. Second, all through the project implementation, students were trying to apply many concepts of pedagogy and didactics, particularly, when they put the hat of a teacher. Indeed, it was clear that students have employed strategies that they have previously studied so as to make the best of their first teaching experience.

The main problem with the academic elite in tertiary level today is the lack of production on the part of students, and even when they do produce, it does not have any significance owing to the wide gap between the university and the real-world. In point of fact, the PBL project led students to conceive, develop and refine a complete product that was presented to a real audience. As a consequence, the obtained result was a high-quality product as students devised and tested it in the real context, then, made the adequate adjustments in reference to the received feedback. An additional point would be that students respected almost all the standards that they agreed upon in the rubric, especially that of incorporating ICTs in the lesson plans and framing it creatively to attract their spectators. It, hence, appears that

students have successfully designed a first-rate and ready-to-use product that can be functionally implemented.

Being in a world driven by constant change, the educational system needs to shift from the traditional instructional methods to other ones that conform to the demands of the new era. The project model has proven its efficacy as it assisted the learner a great deal in fostering some key skills that will, undoubtedly, be of significant use in their professional lives. What's more, time management and public speaking are skills that have been moderately fostered as students had to respect deadlines, be on the watch when they presented their product whilst facing an audience for a while. Moreover, the leadership skill goes hand in hand with the interpersonal competence as they are complementary. The findings, hence, demonstrate that these capabilities have been substantially promoted as students operated cooperatively for a consistent period of time. Every leader, therefore, exercise his/her interpersonal skill to better lead the groups in the completion of the PBL project.

In this line of thoughts, the PBL project humanized the environment in that the atmosphere was very relaxed and studious. Students' level of socialization increased as they knew their team-members personally.

Because the PBL teaching model is a student-driven, the factor of autonomy is at the heart of the approach. Students' voice and choice shaped considerably the success of the PBL project as they operated independently by voicing their opinion and viewpoint in each step toward the completion of the PBL project. In truth, students' judgment was deliberately included in every turning point of the PBL and therefore, choosing what best way to follow. This active contribution was done through both a cooperative and individual work. The pair of the self-assessment grid spots light on other aspects of autonomy. First, the investigation process was an in-depth stage where students explored many sources of knowledge by taking matters into their own hands. Willfully, they asked experienced teachers and specialists in the targeted area to help them attain their goal. Second, students went above and beyond to craft from scratch the materials they worked with, especially videos, by teaching themselves new software(s) that were designed to treat and process three dimensional materials. Third, students exhibited considerable level of autonomy when they presented their product in a real-context in front of an audience where they collected the fruit of their hard labour.

6. Conclusion

The PBL approach has proven to be an empirical constructive teaching paradigm that conforms to the 21st century's expectations. Truly, this project-oriented instruction operates in a real world framework whilst pushing students to inquire, explore, create, design and produce artefacts that have a meaningful function in the real context.

The results are fruitful as students were able to develop and enhance key life and career skills such as leadership, time management, team working, peer assessment and problem solving. They, also, experienced a high degree of socialization in addition to the high-quality product they devised. Accordingly, learners operated in a rich educational landscape where they transferred their content knowledge pragmatically into real-life settings. In junction with these elements, this study provided reliable insights on the extent to which this new method enhanced different aspects of autonomy as students functioned independently in a student-driven framework by undergoing an in-depth investigation process and presenting their end-product to a real audience.

As final words, the posed hypotheses were validated as students were able, to varying degrees, attain autonomy in that, they developed key skills that are necessary for their survival in the 21st century world. Dealing with its impact, students were able to apply their content knowledge in real-world context and hence create functional products that were presented to a real audience.

This research does not, by any means, insinuate to portray the PBL instructional model as the only paradigm to solve this modern era's educational issues. Rather, it echoes the fact that it is of supreme eminence that the current educational system must be up-dated and up-graded to provide the required educational quality that is to hone and prepare 21st century learners to operate successfully in this dynamic world.

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