

EXAMINATION OF DIGITAL LITERACY SKILLS OF UNDERGRADUATE STUDENTS ACCORDING TO VARIOUS VARIABLES

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1. INTRODUCTION

In the last two years, the world has experienced a drastic change in all walks of life due to the spread of COVID-19 pandemic. In March 2020, the Algerian authorities called for total confinement after the announcement of confirmed cases in different Algerian cities (Boutabel, Yah, & Madani, 2021). This precautionous measurement was applied in all sectors; however, minimum service is guaranteed to contain the disease. In the sector of higher education, the Ministry of Higher Education launched distance learning via learning platforms (e.g., Moodle and Google Meet) to continue teaching online and provide courses for students till the end of the year.

Distance learning was challenging for both teachers and learners since the universities were unprepared for this wholly new online teaching scenario in terms of training (for teachers and learners), materials, and the shift in teaching techniques and methods. The teaching of English to students of other majors was based primarily on a genre-based approach to teaching English as Foreign Language. Likewise, this approach is based on analyzing typologies of texts in different fields.

The aim behind the genre-based approach is to increase knowledge of English for Specific Purposes to obtain minimum competence in grammar, morphology, vocabulary, and syntax. The teaching of text typologies relying on platforms is problematic because it is not appropriate for the explanation, discussion, evaluation and consolidation of such types of texts (Robertson, 2019). The Ministry of Higher Education emphasized the use of 'Moodle' to deliver lectures, tasks, and even tests for students. However, Algerian universities adopted online teaching to cover primary subjects via Google Meet, while teachers uploaded lectures of all the other subjects on the platform 'Moodle'. In ESP, it is always advised to add explanations or annotations to different types of texts. Due to the necessary need for improvised teaching methods at the start of the pandemic, teachers sent students 'YouTube' or 'Facebook' page links with extra files to explain the notions, and contextualize vocabulary

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with simplified English. In this research, we used an analytical descriptive approach where data taken from Moodle and Google Meet platforms are analyzed quantitatively. The other data was taken after exams from the barcode scanning system and Progress software which were used to correct ESP and EAP exam papers. So, the innovative software was used for the first time to correct students' papers and identify the correct answers using a barcodes scanning system,

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1. 1. The Continuous Assessment Activities

The evaluation in continuous assessment is made on the platform Moodle with tasks and activities uploaded after the lectures. The purpose of this evaluation is to consolidate students' knowledge and test their interaction and participation on the Platform Moodle. Hence, most of the activities subjected to students ESP are grammatical correctness, vocabulary building, and syntax. Douglas (2013) claimed that when he referred to 'precision, context and interaction between specific purpose language, and specific purpose background knowledge' (p.368). In fact, the background knowledge in this evaluation is related to what has already been taught, because every subject matter in ESP has a wide choice of subject specific words, phrases and expressions. If teaching and testing objectives are different, this results in a 'backwash' effect, and it may affect the outcome of learners negatively (Fulcher and Davidson ,2007). Thus, assessment in ESP is communicative in terms of subject-specific language items (Douglas, 2000). Researchers in second language testing (Fulcher and Davidson, 2007; Luoma, 2004) considered the formative assessment of language for subject-specific purposes, as it is used to build learners' knowledge on the basis of real contexts taken from different areas.

1.2. Teaching ESP Online

There are plenty of technical problems in online teaching in the world which requires teachers to address many technical challenges, and the learning of new technologies. For example, Researchers now, in online teaching, are tackling more complicated and developed hi-tech means including the assimilation of virtual reality (VA) and augmented reality (AR) to increase the adaptation of real-life learning environments (Bonner and Reinders, 2018). It is also used in cloud computing technologies to improve the interaction between students and teachers at all levels (Kakoulli-Constantinou, 2018). Besides, the uses of computer games which are designed to increase ESP knowledge of some specific areas like shipping, surfing, medicine and biology. Recently, the teaching of ESP is applied in different social networking like Facebook, and Twitter since they attract a lot of users around the world.(Plutino 2017; Rosell-Aguilar 2018).The teaching of ESP and EAP using Hi-tech devices requires proficiency in both English and advanced computer skills to achieve the task appropriately.

1.3. Barcode Technology in Education

A barcode is a code in the form of a series of lines, and each of the thick lines is a specific character. This barcode is usually placed in the label then affixed to the material (a product, an identity card, or a specific document), or printed directly on that material to identify it (Irawan and Parasetya, 2022). The information contained in this technology is composed of a series of numbers, model numbers, production code, identification number, thereby; the computer can easily identify them. In order to read these codes by humans and computers as well and translate them into recognized characters, the user must use a tool called a barcode scanner, or any smartphone application through their camera.

The use of barcode reading is not new in educational contexts. In fact, the use of QR or barcodes in education facilitates the learning process. QR is capable of connecting mobile devices and computer technology with written texts (De Pietro and Frontera, 2012). Barcodes are squares that can carry information, texts, images, and even videos. This means that barcodes have the possibility to enrich the process of paper-based learning, and they can also be used in fieldwork, or for outdoor activities to support learning with materials and contents (Law and So, 2010). Depending on the nature and usage of barcodes, we can say that they fit many purposes in the teaching of EAP and ESP contexts. Lee et al. (2011) incorporated QR and mobile phones into field trips, which are designed specifically for biology students, to obtain different information like texts and images about different elements in nature. Even in paper-based tasks, additional information about the content of the material can be added ubiquitously in the form of links, website images, and even short videos. Such technology is used to save time and space. Teachers use it to avoid the details and examples in a given subject matter and develop the content from different perspectives. It is also very useful in communicative tasks due to its information, application, and functionality.

1.4. Barcodes Text usage

The functionality of the system works when students replace their identities by using barcodes or printing an identification number on the title of the text (whether it is a task or an examination). Then, teachers assign barcode automatic correction and evaluate the text of the students. In the process of evaluation of the task, the teacher scans students' barcodes, and the program automatically searches for them in the database. At the end and after displaying the student's data, the teacher enters grades for the students' texts.

1.5. Use of barcodes for Student Attendance

Many studies were conducted to develop the process by which teachers take students' absences automatically using barcodes. As an example, Gomez, et, al (2021) used barcode technology to evaluate the usefulness of reporting attendance through a system known as the system development life cycle (SDLC). It allows the dean and other staff members to monitor absences on the basis of the relation between the teacher's load report, attendance monitoring log, and a summary of the attendance report. The system of using barcode technology for attendance tracking was mainly implemented during COVID-19 pandemic to

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support the practical act of social distancing, and to lessen human contact. Elaskeri et al. (2021) integrated a barcode tracking system with a university database called Edugate. Unlike the previous system which tracks absences, Edugate is a database in which information about students is entered manually to help track the student's profile (personal information, area of study, and marks). The aim is to make it easy to track down the students' attendance without any bodily interaction by focusing on the student's personal information.

2. METHODS

In this descriptive-analytical study, the data concerning online ESP and EAP lectures, uploaded lectures, and other supporting teaching materials are obtained from different sources including the e-learning platforms which are Moodle and Google Meet. However, the data concerning the organization of ESP and EAP exams, barcode correction of exam papers, and importing marks are obtained from the software 'Progress'. Hence, two basic statistical measures are conducted in this research; one is for calculating the total time which equals $Nc (St+SUt)$ where Nc is the number of copies, St is a single time, and SUt is set-up time. The second one is used to calculate the total number of mistakes, and it equals $Nm \div TNp \times 10$ where Nm is the number of mistakes, and TNp is the total number of papers. The two measures are used to check rapidity and accuracy respectively.

2.1 Procedures

Teachers of EAP and ESP in the faculties of economics, and science and technology uploaded five lectures each semester for every level in the bachelor's and master's degree. Teachers are obliged to upload a lecture every 15 days and over a period of 3 months. If the lecture has annexes, the teacher should provide them in the same week, and inform the students about them on social networking. In the preceding week, the students expect other kinds of joint files on Moodle. Since classes are online, teachers support the texts with videos, PowerPoint presentations, and links in each appropriate section on the platform. These additional data are added to substitute the missing part in teaching (face-to-face) and pave the way for discussions in Google Meet classes.

Here, teachers add links, videos, and links to web pages or websites which are related directly to the content of the text in each lecture. They are considered as additional materials which are designed specifically to explain difficult words or vocabulary, or define the text and summarize its main rhetorical functions with visual-verbal demonstrations. These teaching materials are used to explain, give examples, and provide additional information for the students. They are generally in simplified English and directed to lay people. Some teachers upload their own PowerPoint presentations as they adjust the content to meet the needs of the students and achieve the required objectives of the texts or lectures. All these additional materials belong to the presentation phase and teachers responsible for the subject emphasized their use.

The second week is for consolidating students' knowledge with tasks and activities. The activities reflect the link between the theory and practice of the texts. The consolidation of the texts is divided into two types: grammatical exercises and language quizzes to test the student's language knowledge of grammatical correctness, discourse markers and cohesive devices, adjectives, and adverbs. The second type of consolidation is used to test language production through composition and writing. Hence, students here are engaged in two main activities, mainly paraphrasing and summarizing. This is a type of synthesizing activity where students build up new knowledge based on previous knowledge or background knowledge. Luoma (2004) categorized these types of processes as bottom-up and top-down processes. In the top-down process, learners deal with the analysis of text features from general to specific (essays, paragraphs, and sentences). However, the bottom-up process builds up new knowledge from previous knowledge through composition and writing. These techniques embody analysis and synthesis, as the former refers to breaking the language down into parts, and the latter refers to reconstructing new knowledge from the parts found in the analysis.

The whole semester is about 3 months in total, and every 15 days, teachers upload lectures on the platform together with links to relevant teaching materials like websites, videos, and PowerPoint presentations. The additional files are uploaded in the platform 'Moodle' in the first week, and in the second week, at least two evaluation tasks are uploaded to consolidate learning. Most EAP and ESP teachers at the Mila University Centre are subject specialists and not EFL teachers. The faculties selected teachers with advanced English proficiency skills or teachers who studied abroad to give courses to students in their specific fields. However, EFL specialists monitor EAP and ESP teachers to guide the learning process during the COVID-19 pandemic. Table 1 summarizes the number of lectures uploaded online:

Table 1. Number of Uploaded Lectures, Websites, Videos, PowerPoint Presentations, Tasks and Activities on the Platform

Department	Uploaded lectures (Total)	Websites (Total)	Videos (Total)	PowerPoint presentations (Total)	Tasks and activities (Total)
Economics	5	17	4	0	13
Management	5	22	7	4	14
Commerce	5	18	4	3	11
Computer Science	5	33	18	5	18
Science and technology	5	14	8	5	16
French	5	9	6	1	10

The table evidences significant insights concerning both face-to-face and online teaching. For example, the scientific departments (i.e., Computer Sciences, and Science and

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Technology) can be identified as more oriented towards distance learning due to the larger combined use of videos and websites during learning (see table 1). This characteristic is a notable alignment of the subject matter in the field of study. Additionally, it is noticed that teachers in the department of Computer Science (i.e., classes with data processing) interact more in distance learning. In this department, it can be observed that they used all types of online options available in the platform. This implies that they also taught using these approaches to students in the English for Science and Technology cohort.

Hence, most teachers used both Moodle and Google Meet activities in the scientific majors. The teachers find it appropriate to apply different techniques and methods, and vary their means of education to contextualize learning. For ESP learners, the context determines the extent to which options and utilities in the platform are used. The organization and characterization of information in ESP discourse involve the identification of steps in academic writing. Academic texts are generally built around establishing background knowledge, discussing theories and concepts, giving examples, and establishing arguments or counter-arguments (Bahatia, 2002).

Other types of activities, which are practised specifically among ESP students, are summarizing and paraphrasing. The teachers indulged the learners with memorizing strategies in an attempt to be able to distinguish between definitions, explanations, and examples for the application of some theories in subject-specific domains, like Economics, Management and Commerce. The teaching of ESP focuses mainly on clear rhetorical functions to maintain the communicative purposes of the texts. Therefore, the consolidation phase of teaching focuses on rhetorical functions and cohesive devices to strengthen ideas and notions which are used to negotiate the meaning in ESP discourse.

2.2 Evaluation procedures

All EAP and ESP final exams are summative achievement tests that are scheduled at the end of each semester or at the end of the year to test the learners' overall general language ability. The testing criterion of the final exams seeks to evaluate language knowledge and topic knowledge. It is the assessment of the actual use of language. This kind of assessment can be implemented in speaking in particular. The activities and tasks included are performance-based and completely integrated with subject-specific content. The point is that performance-based assessment is built around a social learning environment that encourages learning, communication, achieving shared goals, and achieving feedback between the learners and the teacher.

Concerning the examination, 49 cohorts of levels took the examination for both master's and bachelor's degrees. Before the examination, the students received detailed instructions from their teachers about the procedures of the examination and how to answer the questions. The instructions are highly recommended to avoid all types of intricacies, such as managing time, forgetting to write their name or forgetting to answer any part of the examination.

Table 2. Data on ESP Exam Organizations

Department	Examined students (total)	ESP Teachers (total)	Teachers as moderators (total)	Teachers as Invigilators (total)
Economics	2350	10	2	18
management	1700	8	2	15
Commerce	2500	11	3	18
Data Processing	1560	8	2	15
Science and technology	2815	13	4	21
French	1200	5	2	12

Henceforth, ESP exams are divided into two parts. In the first part, students received the examination texts in their subject-specific fields a night before the examination. The students read the text and prepare themselves by analysing the text and understanding its language features. In the examination, the students bring the text, and take the examination at the university and not online. The point behind this procedure is to save the allotted time (1 hour) of the examination, and give the students a chance to concentrate on the questions. In each lecture theatre, three teachers invigilated the examination, as two of them supervised it, and the third one provided the students with barcodes in their exam papers. The EAP and ESP exams were multiple-choice and students ticked the right answers appropriately. After the examination, when teachers finished correcting the papers using a barcode scanning system, they import the marks to software called 'Progress' to calculate students' averages. It allows students to monitor their marks and averages online.

3. RESULTS

It is not very common among researchers and educationalists to use QR or barcodes in testing and evaluation. The evaluation system at Mila University Centre is based on a three-step barcode decoding read system. First, the barcodes are printed and fixed in the students' exam papers during the examination. Second, a model answer is saved on the computer with correct answers for all EAP and ESP exams. The teachers made the exercises particularly suitable for ticking so that the computer reads the data easily. On each barcode's label, there is a specific number that distinguishes the students in every department. The labels are scanned using a barcode scanner which deciphers students' answers according to the model answer saved in the computer. Third, the marks of the students are imported into the university's database to calculate averages between continuous assessment and the final exams. Final averages are obtained, while the final marks of EAP and ESP model answers

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are displayed to students 3 days after the final examination. In order to calculate the time of correcting the papers we used the following formula:

Total Time = number of copies (single time + set up time)

In this formula, single time refers to the time that the software takes to process the information in the computer, while setup time refers to the time of scanning the paper and decoding the answers. Statistically, the single time equals ≤ 0.45 ms, and the setup time equals ≤ 2 seconds respectively. The total number of exam papers is 12,125 in all departments, and the total time of correction is calculated as follows:

$$\begin{aligned} \text{Time} &= 12125(0.45 + 2) \\ &= 12125(2.45) \\ &= 29706.25 \text{ seconds} \end{aligned}$$

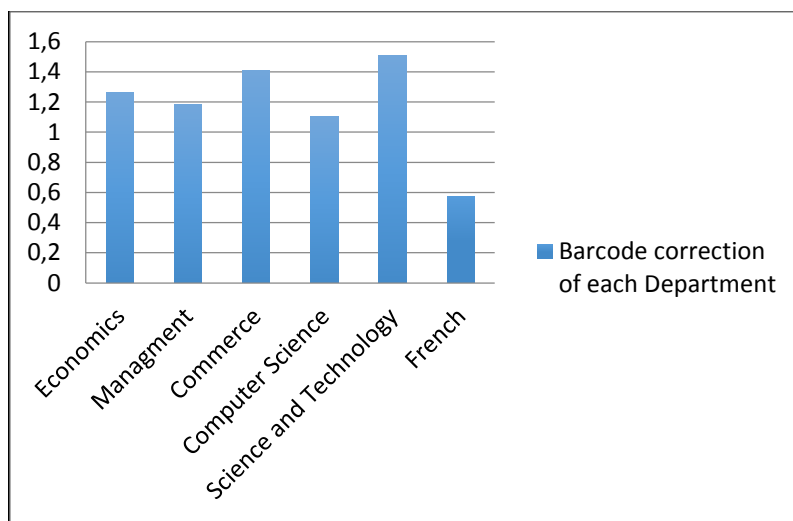
The total time of the correction of papers in seconds is 25884.25. In order to measure the time in minutes, we divide the total time by 3600 which is the total number of seconds for one hour.

$$\frac{29706.25}{3600}$$

$$=8.251$$

The total time then is 8 hours and 41 minutes. Hence, the following graph summarizes the results of the total time of correcting papers in each department

Figure 1. Barcode Correction Time in Each Department



The number of papers corrected in each department plays an important role in determining the amount of time for barcode scanner exam paper correction. The total amount of correction time is 8 hours and 41 minutes, and we divided it between a single time and set

up time. Hence, the formula of calculation is very simple because the higher the number of students in the department, the longer period the barcode scanner takes to correct the papers. Consequently, the Department of Science and Technology recorded the longest period of barcode scanning time of 1 hour and 51 minutes, as well as the Department of Commerce recorded also a long time of 1 hour and 41 minutes. The other departments recorded less time, specifically the Department of Economics with 1 hour and 6 minutes, the Department of Management with 1 hour and 18 minutes, and the Department of Computer Science with 1 hour and 10 minutes. The Department of French language recorded the lowest time of 57 minutes only.

The use of the barcode system for final exams revealed there is transparency and easiness for handling and correcting the papers. So, the students in EAP and ESP final exams employed skimming and scanning techniques to answer all the questions. At first, they skim the text at home to understand the general idea and supporting details. During the examination students, read the questions of the exercises and skim the text again quickly (make a quick selective reading) to locate important information, like notions and functions, and identify the meaning of words in specific contexts. In order to analyse the texts rhetorically and understand the meaning, students should locate different clues such as cohesive devices and discourse markers. These clues help students determine what academic writers want to say next, and how to say it using specific vocabulary, grammar, and text features as well.

3.1. Analysis

The process of evaluation using barcodes in EAP and ESP exercises is easy and efficient. Teachers appreciated the operation because the evaluation was easy, and so many papers with different exercises were corrected in a very short period of time. Even the tasks can be handled easily for students, and they achieve different communicative purposes; i.e., they summarize exactly the content of the lectures uploaded on Moodle. Therefore, there is no backwash or other unwanted variables like time management or tricky questions.

The texts of the exams are composed of three parts: an introduction, a body paragraph, and a conclusion. For example, the text in the examination of the Department of Commerce was about the nature of commerce. In the beginning, the text defines commerce. In the body paragraphs, the text develops types of commerce which are wholesale and retail trade, the means of transportation of merchandise, and insurance of commercial activities. Therefore, the exercises vary from identifying the notions of place and time. Then, identify the rhetorical functions employed in each part of the text. Finally, they ask questions about specific vocabulary, grammar, and syntax.

Besides saving time and effort, barcodes defined boundaries between online tests and in-class tests. In online tests, the sharing of the exams online with students opens up possible ways to cheat in these exams. Academic honesty is not a big deal for students; they have to get good marks to pass the exams, and they cannot do it without dragging and dropping correct answers. It is possible for students to receive assistance or help whenever they need

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it, but it is unethical and dishonest when they copy information from other students or rely on other people to answer instead of them. In addition, third-world countries are still unable to provide the appropriate means to take exams online. The slow speed of the internet, internet disruptions, and technical problems hinder the process of online evaluation. As a result, students complained all the time when they took online exams until some of them are repeated in classrooms because of technical problems in terms of accessing, receiving, and sending back exams.

Online teaching takes time and deserves a lot of practice. Thanks to online teaching, both asynchronous and synchronous learning is activated. Students are kept busy sometimes waiting for the timing of lectures to be announced and some other times for lectures and tasks to be uploaded on the platform. However, online exams have changed the criterion of examination, while its possible means and procedures are in constant change. Hence, barcodes seem to be the appropriate solution to avoid technical problems, keep the originality of exams, and test the students' proficiency.

Most of the instructions focused on demonstrating the difference between the automatic correction of the computer and how to answer. A computer is a machine and it does not think, reflect, analyse or blink an eye when it does the correction of papers. Therefore, respecting the instruction is very necessary to accomplish the examination successfully. However, the problematic issue faced in this examination is that some students did not attend Google Meet lectures, and they were not aware of the instructions of the examination. As it is known, the instructions given to students focused mainly on writing ticks correctly and answering the questions appropriately. However, some students did not use the tick correctly and did not answer the questions appropriately. In this case, the barcode scanner does not read the answers appropriately, and they were considered wrong or cancelled answers. The teachers deliberated the complaints of the students and corrected the papers manually. Table 3 summarizes the results of the complaints of students in every department.

Table 3. Complaints of Students in ESP Examinations

Department	Total number of problems	Problems of correct answers	Problems of Missing names	Problems of Missing marks
Economics	44	35	3	9
management	35	28	4	3
Commerce	48	40	2	5
Data Processing	18	12	4	2
Science and technology	29	21	4	4
French	23	18	2	3

The students of computer science committed fewer mistakes than all other students in the other branches. They are mostly aware of these procedures with high-tech devices, and they recorded the lowest rate of (12) mistakes committed when answering questions in the examination. High rates are recorded in the other majors, specifically in the departments of economics (44), commerce (48), and management (35). Hence, instructional discourse for students is beneficial for guidance as it gives an idea about the regulations of the examination.

In order to calculate the accuracy of barcode scanner correction of exam papers, we need to calculate first the rate of problems which were made in every department. Hence, the following formula calculates the rate of problems:

$$\frac{\text{Number of mistakes}}{\text{total number of papers}} \times 100$$

$$\frac{197}{12125} \times 100$$

$$0.016 \times 100 = 1.62$$

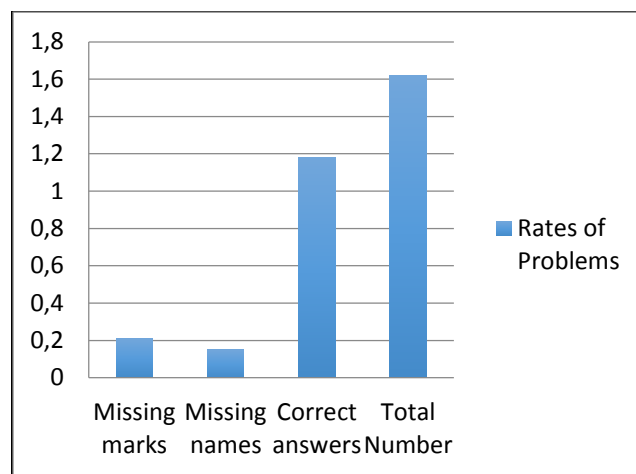
Statistically, the calculation of the number of mistakes by the barcode's scanner is as follows:

$$\frac{144}{12125} \times 100$$

$$0.011 \times 100 = 1.18$$

Consequently, the exact rate of the barcode scanner equals the rate of the total number of mistakes subtracted from the rate of the barcode scanner rate: $1.62 - 1.18 = 0.44$. The following figure illustrates the rates of mistakes.

Figure 2. Rates of Barcodes Correction Problems



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The statistical measures indicated that the accuracy rate is 0.44, and the scanner is expected to achieve a value as high as (+1) when accuracy is strong and (-1) when it is weak. To sum up, the difference between the rate of the barcode scanner equals the difference between (-1) and (+1) in 0.44 which is smaller > than 0.56.

4. DISCUSSION

The teaching of ESP and EAP online requires careful consideration in content material specifically in distance education. Therefore, the lack of supporting materials (videos, PowerPoint presentations and website links), and the unpreparedness during COVID-19 pandemic affected negatively the process of teaching ESP and EAP. However, the use of a barcode scanning system to correct exam papers has proved efficient, and accurate in testing student's knowledge in different subject-specific domains. The barcode scanning system made online testing easy for both students and teachers. Exams are in the form of multiple choices, and students should tick the right answers from the text they studied online. Hence, the barcode scanning system was the fastest means used as it corrected around 12 thousand papers in 8 hours and 41 minutes.

The barcode system is also accurate according to the statistical measures used in the analysis section. Despite some mistakes which are due to the lack of applying instructions in the exams, and errors made during the importation of marks from the scanning system to the software `Progress`. The system recorded an 88% precision rate against only a 12% error rate in exams. Even exams are organized and they are not time-consuming, in contrast, they are subjective as they test students' comprehension.

At the level of the department, the administration found difficulties when importing the marks from the software responsible for correcting the exam papers to the so-called 'Progress'. The latter is the software responsible for calculating the total averages of students. During the importation of marks, the department divided again the cohorts of levels into groups as they study the other subjects because the software 'Progress' imports students' marks in groups. Henceforth, the administrators copied the marks first into groups using Excel files, and then the Excel Files are imported again into 'Progress'. The teachers displayed the marks for the students and gave them a period of three days to check the marks (of all subjects), and make a complaint if they find out any intricacies. The teachers then deliberated again and corrected the missing marks manually until they fixed all the problems.

5. CONCLUSION

The teaching of English to students of other languages is basically related to subject-specific information because every area has different communicative purposes which are identified within the same discourse community. Developing learners' background knowledge of the field is a basic element in teaching ESP, which involves specific proficiency in the target language. In the 21st century, the teaching of ESP has shifted to high-tech devices to assimilate real-life situations such as augmented reality, virtual reality, video games and a

variety of other multimedia techniques. Modern-day society has evolved the means and techniques through which knowledge is exposed and negotiated communicatively. The teaching of ESP at Mila University Centre has experienced a drastic change specifically after the spread of COVID-19 pandemic. All institutions adapted online teaching, because it is cheap and cost-effective. However, teachers considered online teaching and learning as a double-edged sword, with benefits and obstacles. It is true that online teaching has revolutionized the teaching process as it has become easy, efficient, and cost-effective. There is no need for transportation, fancy classes, or big towers and building. With just a simple click, the lecture starts, while students can follow lectures through uploaded handouts, and receive task sheets. Even the teaching of secondary subjects like English, Learning Methodology, and Information Technology has become completely online. In this context, various multimedia techniques were added to meet the needs of courses and substitute for the absence of teachers.

At Mila University Centre, two online platforms were used to accomplish the task of delivering English for Academic Purposes and English for Specific Purposes courses to students. Moodle platform was used mainly to upload lectures, tasks, and activities for students throughout the whole year. In addition to uploading lectures for students, teachers can upload other files, like videos, audio files, PowerPoint presentations, and web links. These features are very effective in the teaching of EAP and ESP courses because they enhance learners' background knowledge in different situations. The teachers relied on genre approaches to analyse features of the texts, such as identifying the notions and rhetorical functions, cohesive devices, vocabulary and lexicon. In these secondary subjects, online classes took place only at the end of the semester, where teachers scheduled only two lessons to explain difficult things, answer questions, and give instructions for the examination.

The evaluation of EAP and ESP lectures took place at the university to avoid a lot of unwanted variables, like slow-speed internet, technical problems, and honesty disintegration.

A barcode scanning correction system was used innovatively during COVID-19 pandemic to identify the correct answers. Meanwhile, the evaluation was based on sending texts to students before the exam and answering questions about the texts in the exam. Barcodes were used to correct exam papers, and evaluate the answers automatically. Accordingly, the questions are multiple-choice (in the form of quizzes), and students just tick the right answers. However, students' bad handwriting and carelessness resulted in misreading the data by the computer. For that, the handwriting should be clear and direct to avoid all types of intricacies. The evaluation of students' exam papers was a very successful innovative operation, and it looks like Google Form exams but taken in class to ensure the authenticity of the examination.

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