



English for Specific Purposes at Algerian Tertiary Level: Real Deficiencies and Practical Remedies

Dr.Turqui Barkat

Mohamed Kheider University of Biskra.
(Algeria)

barkat.turqui@univ-biskra.dz

Abstract ;

This article is developed round two major axes: first, it is necessary, at this point, to assess the ESP course at university level in terms of practitioners, curriculum, and the overall organization of the classes; second, as an ESP teacher, the choice of content, teaching methods, available materials and in-service training programmes are of utmost importance in the present situation. In fact, it is advanced that the elaboration of an ESP syllabus requires a collaborative work of the administration, students and teaching staff who have accumulated enough experience to conceive and, eventually, evaluate such syllabus. However, the development of courses' content is left to teachers, but in the almost-complete lack of a qualified teaching staff- the majority of instructors are teacher-trainees that are poorly monitored. Within this context, a descriptive research methodology has been adopted in order to undertake a binary analysis: an in-depth investigation that reports on the 'state of affairs' of ESP/EMI at university level along with a careful primary evaluation of the CEIL/MOOC teachers' training programmes. An interview- as a research tool- has been submitted to the trainees, and a quantitative-qualitative research study has been undertaken. In sum, the present research work identifies deficiencies in the curriculum and attempts to provide alternatives to disentangle the ESP class from its burdens.

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1. *Introduction*

The aim of the present investigation is to give an overview of major concerns in ESP course design; to examine critically developments in theory and methodology; to evaluate various types of teaching-materials against this background. The work is intended for teachers of English as a foreign language who have interest in applied linguistics as well as ESP practitioners. As far as learners are concerned, they will be expected to have already reached an intermediary (or preferably high) standard of proficiency in English, and will be required to produce evidence- probably through an initial test in English mastery- that their command of written and spoken English is sufficient to enable them to participate fully in the needs analysis and, eventually, the course design operations.

An overview of ESP development indicates that the demand for such kind of courses grew during the 1970's mainly as a result of two factors: (i) the role of English as international language, and (ii) the development of the communicative approach to ELT. Indeed, the role of English as international language has become a reality as this language is the most widely used means of communication for the international community, and the largest proportion of the world's scientific literature is published in English. This creates a demand for the language in a diversity of fields, for example, international relationships, commerce,

business, tourism; mainly learners are trained for their job or profession.

The second factor that influenced the need for ESP is the development of the communicative approach to ELT. In fact, the distinction made by people like (Widdowson, 1978, p.p. 2-18) between language 'usage' and language 'use', nay between items of grammatical structure and acts of communication- was a significant development for ESP. The fact that the focus in ELT moved from an attempt to teach the language as a system of grammatical rules to the attempt to teach the language in terms of the communicative functions that it has meant that the functions related to particular purposes could be identified, for instance defining, describing, making hypotheses, drawing conclusions in scientific discourse.

As far as the Algerian situation is concerned, our students today are going to be tomorrow's scientists, researchers and technologists. As our technical world becomes even more complex, these engineers and technicians will require interdisciplinary skills that will allow them to analyse, interpret and apply information to vastly different systems. Therefore, today's and even more in the future, the university educational system must address the need for interdisciplinary skills by challenging the students and teaching critical thinking and problem solving skills in the curriculum structure at present time. It is evident that the vehicle which can efficiently contribute in the realization of

such endeavour and that represents a universal lingua franca is the English language.

2. Literature Review

2.1 Approaches to ESP Teaching and Learning

Early approaches to ESP were not very much different from those to EGP and consisted mainly in substituting texts of scientific nature to those of literature or general interest. They were based on a structural syllabus with the simple addition of scientific vocabulary. Such approaches proved of little usefulness because, apart from teaching scientific vocabulary, there was no attempt to teach skills that are related to specific fields of study of professional activity. For example, the ability for a student to develop reading strategies related to the material she/he has to read in her/his own field or the ability to write research reports.

Consequently, it has become necessary to elaborate innovative and more efficient ESP teaching curricula. The conception of such programmes when designing materials for ESP requires the consideration of two sets of factors. An even though teachers may not be involved in material writing, it is important that they should be aware of the implications behind the materials they use and know how to select them. Indeed, the first set includes factors related to the Role of English in the context in which the language is learned, and with learners' motivation, attitude and level. The second set comprises factors related to the Linguistic Aspects of the

learning. It is concerned with three types of questions: What sort of English is required? What is the purpose of learning English? How specific is the purpose?

The answers of these questions involve the rigorous application of some important principles and the consideration of several variables. As a matter of fact, progress depends sooner or later on the collaborative efforts and agreements of diverse people. This too is the case of ESP education. Accordingly, certain essential factors should be shared in the hope to conceptualize ESP instruction. The first consists of the development of the scientific and technological literacy and capability of those who experience it. The second necessitates a spectrum of programmes that address the preceding goals from general education ones up to occupationally specific ones. The third element requires the spanning of the range of formal and informal instruction as found in both public and private sectors.

Additionally, the analysis of some specific variables is primordial, they include in the first place the type of language used in the subject speciality, and in view of the Algerian situation it has always been the French language as the principal vehicle of scientific instruction. The second element concerns the type of functions to be recognized and used. The language functions can be classified on the macro-

level which implies the utility and benefits that should be drawn from the use of English as the medium of instruction in the Algerian universities. Then, the micro-

level which involves the various language skills that can be acquired, namely describing, explaining, identifying or the ability to construct a credible and convincing argumentation.

The third element is related to the medium of communication. It is evident that students' needs are multiple and different in connection with their specialisms and professional perspectives, for instance they may need the spoken record instead of the written one or vice versa. The fourth factor is closely linked to the role and status of the learners: what form of address is appropriate considering a given role or status. The fifth variable deals with the form of communication: whether face to face, online, on the telephone or in writing. The sixth and last element in this brief and concise listing- which obviously needs further analysis and development- studies the relationship between the communicators, for example, scientist to scientist, teacher to students, or scientist to non-scientist. (Nagy, 2015, p. 265)

In summation, ESP- understood properly- is an approach in itself to language learning, which is based on learner needs. The foundation of all ESP is the simple question: Why does the learner need to learn English? ESP, then, is an approach to language teaching as well in which all decisions as to content and method are based on the learner's reasons for learning.

2.2. Needs Analysis

The limited scope of the present article allows solely a brief description of the Needs Analysis Operation. In very short notes, one can say that Needs Analysis is the process of determining the needs for which a learner or group of learners requires a language and the arrangement of these needs according to the designed priorities (Basturkmen, 2010, p.p. 17-35). Needs analysts gather information about the learner in order to know the objectives for which the language is needed, the situation in which the language will be used, with whom the language will be used and the level of proficiency required. Accordingly, a management view of training would emphasize the following (Long, 2005, p. 99):

- (a) Training is required to 'fill the gap' between the knowledge and skills employees currently possess and use when doing their jobs and the knowledge and skills expected of the 'ideal' worker.
- (b) The discovery of the 'gap' and the design of programmes of activity which will 'fill' it, demands of the programme designer an orderly and principled approach specifiable in terms of a number of discrete steps, in other words, syllabus design is a special case of the general activity of planning.
- (c) The following operation consists of the analysis and presentation of ten (10) steps drawn from Boydell and Bell and modified to fit the design of language programmes.
- (d) A specification of training needs in terms of a job analysis might well satisfy the client but is unlikely to be sufficient for the trainer or the participant since it lacks a behavioural aspect i.e. the participants are

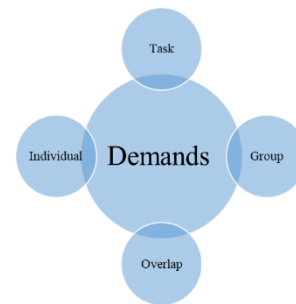
not only job-holders; they are also, some would say more importantly, human beings.

(e) Needs which demand satisfaction can be found in all three of the component elements of the work situation (one of which is the training situation):

- **Task:** The trainer must define the task, design plans for completing the task, allocate work and resources, control the quality and the tempo of the work, check performance against the original plan-making, where appropriate, adjustments to the plan- and evaluate the product which emerges at the end of the work period.
- **Group:** The trainer must bring the group together, weld it into a cohesive team, appoint- where necessary- sub-leaders, give a sense of purpose, set standards of performance for the group, provide a good example in his own behaviour, ensure communication within the group, maintain discipline, encourage, motivate and train the team.
- **Individual:** The trainer must attend to the personal needs of the individual members of the team, ensure adequate working conditions, provide an organizational structure within which the individual can operate, help the individual to join in the work of the group, give support and encouragement to individuals, recognize and make use of individual abilities and train the individual.

(f) The trainer's role involves him in attempting to balance the demands of all three sets of needs as they overlap and interact:

Figure 1. Needs Requirements



(Adair, 1973)

(g) In so far as task, individual and group needs are faced by all managers and the completion of the task constitutes work, the distinction between leaders, managers, trainers and teachers disappears, together with the uniquely pedagogic preoccupation with motivation. (Adair, 1973, p. 168)

In sum, the magic word is the word 'needs'. One can only start teaching ESP students when one knows what their needs for the language are. The information collected from a needs analysis can be employed to define programme goals. In turn, these goals can be stated as specific teaching objectives that will eventually constitute the basis on which to develop lesson plans, materials, activities and tests. In essence, a needs analysis will aid the teacher to determine the purposes of her/his language programme. (Choudhary, 2013, p. 92)

2.3 Schemata of ESP/ EMI Syllabus Design

Science and technology education is widely regarded as one of the key factors in personal, societal and economic development. However, determining how best to make improvements in different country contexts is a complex challenge,

partly because knowledge about and experience with successful reform often remains tacit. Indeed, the correlation of subject content represents the backbone of interdisciplinary (Science, Technology and Foreign Language Instruction) curriculum. The latter is viewed in general by most educators in literature, as the organisation and transfer of knowledge on a unified continuum from general to specific. In fact, there are many reasons why such a plan should be implemented, namely: this kind of curriculum teaches students how to transfer knowledge, it involves the community as a learning environment, and it instructs students how to analyse, explain and apply knowledge. Moreover, students are taught how to make decisions in a collaborative framework; in reality, they learn how to work cooperatively with others. This kind of approach is competency based, as a result, the process improves the learners' knowledge retention. (Lowe, 2009, p. 93)

This is particularly so in the case of developing countries especially with regard to the language that should be adopted in the teaching/learning process at university level. Accordingly, a policy has been initiated by the higher authorities of our country in terms of introduction of English as a foreign language at the primary school education and the application of EMI of science and technology in tertiary instruction. This kind of policy regards the English language as a global and efficient resource, capturing and making explicit the accumulated body of relevant knowledge and experiences.

Its 'Mission' is to support professionals in their efforts to create successful reform so that education systems can adapt to the rapidly changing world.

Its 'Goal' is to identify, articulate, disseminate and utilise knowledge and expertise through a global network of international and local specialists and practitioners.

Its 'Focus' is on systemic reform through initiatives- like the MOOC (Massive Open Online Courses) programmes- that have been implemented successfully despite certain organisational difficulties at the beginning, and they are now scaled up to regional and national levels.

Its 'Target Groups' are teams and individual university teachers, researchers, graduation and post-graduation students, and managing personals of major companies and firms.

In short, the ultimate aim of the national education policy conceivers is to make of English an effective and basic vehicle of scientific and technological expertise built on the partnership of universities, research centres and economic institutions and even interested individuals in our country.

On the other hand, many teachers in ESP find themselves in the situation where they personally have to identify the needs of their students and, sometimes have to design their own materials. Needs analysis can be simply done with a start-of-course questionnaire, checklist or interview. Most

students of ESP are adults and can contribute usefully to the identification of their own learning needs. In situations where English is taught as EAP teachers can equally try to acquaint themselves with the kind of tasks which the learners are called upon to perform by attending specialist subject classes. Some of the questions which need to be answered at this stage include: What skill(s) is/are to be learned? And What specific activities within this skill need to be developed? (Songhori, 2008, p. 95)

For instance, Writing may refer to taking notes, writing experimental reports, writing memos, etc. Similarly, Reading may involve skimming to understand the main ideas or scanning to identify and understand the main points. Besides, a third interesting question might be asked: What strategies need to be developed to learn the identified skills and activities? The response to this latter question depends very much on who the learners are and their degree of motivation and also on the nature of the course, namely: Is the course intensive or spread out? Is it pre-sessional or in-sessional? The reason is that the strategies used on intensive courses are likely to be different from those used if there was more time to complete the training.

In addition, it is necessary for the syllabus designer to classify the language workouts. First, the New Information is Negotiated, which implies expressing, reacting, and interpreting new information; for example, all workouts for small groups. Second, New Information is Expressed. This kind

of process necessitates various activities such as: making a questionnaire, writing a letter or composition, giving an oral report, leaving a taped or written or online written message, or providing information to someone else. Third, New Information is Applied/Used. The last task consists of quite useful practical skills like writing a letter in response to an advertisement, filling out a form, organising main ideas, or answering a questionnaire. Besides, the teacher can suggest some Strip-Story activities which involves (among many other actions) dismantling a piece of writing such as a report, or a contract and, lastly, the practice of outdoors activities like gathering information about a specific issue or phenomenon outside the classroom. (Kloepfer, 2002, p.p. 35-36)

As far as the Algerian case is concerned, the kind of programme like MOOC at university level does represent an excellent initiative to launch the EMI process as a major reform in the conception of science and technology education. Indeed, this cursus comprises online lectures, courses and workshops for teachers, research workers and teacher trainers. Consequently, from a practical stand as an ESP practitioner, it is essential to indicate the most significant goals that are assigned to this ambitious programme in the following:

- To promote the values and contributions of EMI in science and technology.
- To provide this medium for the professional development and recognition

of individuals for leadership and achievement in the technology professions.

- To enhance the status of EMI practitioners at university level.

- To foster and encourage the acceptance of EMI as a medium of education, international proficiency and research development.

- To advance understanding, appreciation and awareness of EMI as both an enduring and ambitious challenge and, eventually, an integral element of tertiary education and intercultural emancipation.

- To confront future generations of scientists (postdocs, doctoral and university students) with challenges to be faced in the 21st century.

- To discuss general trends and other job opportunities open to young PhDs as well as the chances for and the difficulties of creating global and national scientific communities using English as the vehicle of interaction.

In summary, the designers of ESP programmes set no store by teaching pure theory, rather they first research the exact needs of the group in question, then put together a team of trainers from the rich store of talent provided by the institute's co-operation partners. Besides, giving participants hands-on experience is an important part of the programme and take up a great deal (usually about a third) of the allotted time. Thus, a classical win-win situation is created whereby teachers, researchers, and students will transmit the

skills they have learnt to the following classes and, probably, with new developments.

2.4 Science and Technology Education and Teaching Methods in an ESP/EMI Context

It is accepted that thinking skills are an essential part of learners' education, then opportunities to develop these skills in the curriculum must be identified. It has been shown that learners need to be active, to engage with materials and objects, to be given experiences which allow them to be involved in thinking about a range of solutions, decision making, working with others, asking questions, and learning about their own and others' values. However, other factors have also to be taken into account to evaluate the value of syllabus design and the teaching process like concerns related to, for example, lack of resources and subject knowledge of teachers. (Garcia & Llantada, 2000, p.p. 6-7)

On the other hand, the combination of all these factors would determine the ESP syllabus design and the teaching methods. Within this context, it is interesting and beneficial to evaluate and compare some successful experiences that took place throughout the world, in particular the technology education system that has been implemented in Germany. (Hoepken, 1999, p.p. 8-9)

2.4.1 The German Model

The educational debate that occurred few years ago in this country led to the emergence of two kinds of school subjects concerned with technology education: a subject integrating all aspects of the work and production process; and subject with regard to technological contents, often combined with other subjects like economics, social sciences, etc. It has been decided that the two major subjects should be taught in English as the vehicle of instruction. Although in the interdependence of subject matter procedure there are differing points of view, they have many common features: objectives, content and teaching methods. Besides, the objectives of technology education are:

- Factual Competence: structural and functional knowledge about technical devices and processes are imparted to the students.
- Method Competence: using technology-specific ways of thinking and working in the lessons.
- Competence for Evaluation and Assessment: within the areas of technical operations, the student has to learn to assess and question critically the usage of technology under economic, ecological and social aspects. Therefore, the materials and activities should be closely connected or even derive from these domains. (Lubricants World, 2001, p. 15)

In addition, the activities that are proposed within the German Model of science and

technology education can be summarized in the following:

- Manufacturing Tasks: the learners plan and organize the production process.
- Technological Experiment: it can provide unknown knowledge which is needed in the further course of the lesson.
- Technological Analysis: in this task technological objects or technical facts are examined concerning their components or factors.
- Technological Exploration: this is a planned and purposeful investigation of institutions outside the university.
- Technological Assessment/Evaluation: this takes place after each manufacturing exercises to assess and evaluate the course progression, its effectiveness, its efficiency and students' motivation.

In sum, the overall discussion of this issue clearly brought out the worldwide demand and need for greater exchange of information and co-operation in science education and research in the EMI context. Besides, the analysis of the German Model demonstrates its efficiency in the development of science education, and some of its components can be of great usefulness in the Algerian university. The various teaching frameworks that have been suggested can be of large utility to the teacher through a process of information and knowledge transfer. Indeed, all the premises that tomorrow's information power will permit each of us to become more creative, more productive and more diversified in our approach to job

perspectives. In effect, we will find ourselves, in a new brand environment with new brand ways of doing things. We will move from the Information Age to the Age of Knowledge. (Lawson, 1993, p. 17)

2.4.2 Methods of Teaching

a. Lecture Method

The process of speaking and writing (teacher) and note taking (learner). The teacher plays the main role in the class, usually this is done in crowded classes.

b. Demonstrative Method

To give the lesson through actual presentation (i.e. showing) of the material apparatus and equipment. It involves explanation too, that is to show and explain. This is a direct visual (and audio) method. The students can directly see the material about which teaching is going on, and at the same time they can also hear about its different parts and function through explanation. (Jupp&Hodlin, 1975, p. 47)

c. Question and Answer Method

Direct communication between the teacher and the students. The lesson can be taught through systematic natural question (teacher) and answer (students) method.

d. Project Method

The teacher gives some project on a topic which can be done individually or group-

wise. This may be treated as a requirement of the course.

e. Laboratory Method

To teach in laboratory can be followed in scientific or language laboratory. This is a process of doing and learning, that is learning by direct experience. It involves the direct use of apparatus and equipment. In this method, the teacher gives instruction and supervises the students' activities. The students can work individually or group-wise. In this method, students are the workers and the teacher is the supervisor.

f. Assignment Method

The teacher gives the students some tasks as homework or library work. After completion of these assignments the students submit them to the teacher for correction or present them (oral report) to the class. These types of assignment can be graded or non-graded.

g. Contract Method

This refers to a conditional contract in between the teacher and the students in a group on some work. The teacher gives an activity to his students and asks them to complete the work according to certain conditions regarding the merits of the work. The students try to complete the work according to the conditions put by the teacher considering the achievement of quality work as desired by the teacher in his contract with the students concerned. Marking (grading) of the work is done by the teacher in relation to the fulfilment of

the conditions given by him for quality work.

h. Field Trip Method

In this method the students go out of their classroom and visit some practical situation about which they discussed in the classroom. By this method they get some practical ideas. As for example, Botany students go to visit some Botanical gardens or agricultural projects and so on. Zoology students visit zoos or fishery projects, engineering students visit industrial projects, firms or alike.

i. Groups Discussion Method

In this method the students in the class are divided into different small groups and they are asked to discuss about some given topics. After thorough and systematic discussion they prepare a report about the required task.

j. Audio-Visual Method

In this method the course (lesson) is presented through documentary films or videos. Usually it needs projectors (slides), data show (videos) and films selected by the instructor on the basis of equipment of the students. In this process the students watch and listen. After the film show is over, the teacher may give examination or initiate classroom interaction about different aspects of the film they had seen. (Ewer, 1980, p.p. ix-xi)

Conclusion

In sum, one may advance that progress in any endeavour depends sooner or later on the collaborative efforts and agreements of diverse people. This too is the case in ESP education. Certainly, we can choose to focus on our various country and programmes differences. Sometimes this is even useful, but perhaps the opposite approach of focusing on our similarities offers more potential for progress. In fact, some essential points are shared in the hope of stimulating further perspectives, namely developing the ESP literacy and capability of those who experience it. Moreover, it is equally important to consider the spectrum that address the preceding goals from general education ones up to occupationally specific ones.

3. Methodology

3.1 Research Design

The current research work operates under the descriptive research approach, accordingly, a mixed quantitative-qualitative analysis has been carefully undertaken which strived to provide a comprehensive study of the research problem. This approach is used to redound and reinforce the purpose of the investigation, which attempts to analyse the major issues with regard to ESP education at Algerian tertiary level in terms of needs analysis, syllabus design, methods of teaching and ESP/EMI reform.

4. Results and Discussion

3.2 Research Instruments

The data gathering tool that has been adopted in the present research work is an online teachers' interview. The online interview consists of six (6) principal questions organized in graduation from general to specific questions. In fact, open-ended questions have been selected in order to avoid response options and to collect information and opinions related to teachers' experience. This kind of questions worked well because they facilitated the subject talking at length, nevertheless, they were not completely open but contained certain guidance (without being bias) in an attempt to emphasize the most important aspects of the elements under scrutiny.

3.3. Data Collection and Analysis

The collected data consisted of teachers' responses and transcriptions of interviews (six interviewees). In the first phase, the opinions and experiments of the interviewees have been analysed individually, then we proceeded with a contrastive/comparative study of all six responses. The second phase is constituted of a meticulous work of a comparative-statistical operation that has translated teachers' views and experiments into a numerical and diagrammatic analysis. Indeed, tables and charts have been employed for better representation and display of the research outcomes.

The purpose behind the use of an online interview as a data-gathering tool is the provision of useful information with regard to teachers' feedback in relation to the ESP/EMI training programmes. Indeed, we attempted to obtain a deep comprehension of the teachers' evaluation of the programmes in terms of content, usefulness, new skills, career perspectives, encountered difficulties and follow-up programmes. The research approach that has been adopted consists of a quantitative and qualitative mixed design which has been employed in the analysis of the collected data. The sample study is constituted of ten (10) university teachers affiliated to different Algerian universities who have been enrolled in the first phase of training programmes of the MOOC (Massive Open Online Courses) and CEIL (Centre of Intensive Education of Languages) institutions. However, due to time and space (article) constraints and practicality requirements, the discussion has emphasized solely the most significant and striking percentages of the results.

Question One: What is your opinion with regard to the higher education reform about the implementation of English as the science and technology medium of instruction (ESP/EMI)?

Teachers from different departments participating in the ESP/EMI training programmes are very satisfied with the courses in MOOC and CEIL institutions. The majority of teachers enrolled in the

training programmes 90 percent of the participant asserted that the courses they have learnt are 'very useful' whereas no one 0 percent estimated that the courses are 'not useful'. This outcome clearly confirms the pertinence and utility of the reform. (See table1 and figure 2)

Question Two: What are the new skills that you have acquired?

It is noticeable that for most of the participants their expectations were fulfilled: 93 percent of those questioned said they expected their training to lead to the acquisition of new skills that they have effectively acquired at the end of the programmes' first phase. Yet, only 7 percent asserted that they have not learnt any new skills. Moreover, one can notice the high score of small groups classroom activities whereas skills like Thinking and Reflection are less marked (only 5 percent) probably because of trainees' individual learning strategies. (See table2 and figure 3)

Question Three: What are the benefits that you have obtained in relation to your career development at the achievement of the first phase of the training programmes?

One can observe that the training offered is also valued by teachers (who have successfully achieved their first level training programmes) back to their respective departments. Indeed, the high management staff of the different departments entrusted 65 percent of CEIL and MOOC participants with additional duties, and 3 percent have been promoted

(in terms of responsibility of pedagogical posts found in the Algerian university organigram). However, 32 percent did not obtain any administrative gains supposedly because of the early phases of the training programmes. (See table 3 and figure 4)

Question Four: What are the main subjects of the training programmes?

Trainees mentioned numerous and various subjects, precisely the main subjects that were very recurrently cited (98 percent of the overall subjects) by the covered interviewees are: metal processing, quality management, energy, engineering, financial services, computing, medicine, and social sciences. One can notice that the subjects dealt with in the MOOC and CEIL training programmes are in harmony with the different specialisms that exist in the Algerian universities, but those programmes are always tailored to suit the needs of the participants. (See table 4 and figure 5)

Question Five: What are your (as teachers and trainees) suggestions concerning the possible follow-up training programmes?

Following the principle of helping people to help themselves, the official institutions (Ministry of Higher Education and Scientific Research or regionally situated institutions or individual universities) train learners in the skills necessary to 'survive' in international business and technological development. However, trainees believe that at the achievement of such programmes, those institutions should organise and promote further curricula that would be devoted to an organised follow-

up operation. Hence, they have proposed these three (3) major types of such follow-up programmes: more sophisticated and higher level training programmes, internships, and follow-up counselling. The scores of these three follow-up programmes are as follows: 86 percent of the trainees are earnestly looking for other more advanced level and modern training programmes; this obviously demonstrates their degree of motivation and interest in the whole operation. On the other hand, one can observe the low scores of 'Internships' and 'Follow-up Counselling' (respectively

9 and 5 percent), this is probably due to the modest (in terms of number and quality) of the co-operation programmes between the different universities and the local firms and companies. Nevertheless, we can advance without any kind of exaggeration that the actual reform devotes a great space of its plans and programmes to the strong and continuous increase and development of such policy that encourages co-operation and collaboration between the local industrial or start-up companies and the universities situated in the same or near regions. (See table 5 and figure 6)

Question Six: Have you found any challenges or constraints during the training programmes?

A close analysis of these problems indicates that they can be categorised into three principal types:

A serious pedagogical issue related to the diverse and heterogeneous categories of learners. In fact, the groups of trainees are composed of teachers with major different

characteristics in relation to: experience, rank, held degrees and specialism. On the other hand, the number of trainer teachers with long experience and high competence in ESP/EMI instruction is very limited. As a result, trainer teachers are confronted- a proportion around 83 percent- with a serious problem which consists of crowded groups of trainees with disparate levels and qualifications. In an attempt to propose a remedy to the problem, one can make the following readjustments:

- Establish communities where teachers (trainees) can collaborate, share expertise and discuss common goals.
- Subject Specific Workshops: organise training sessions tailored to the needs of each field to deepen subject knowledge and pedagogical skills.
- Cross-Disciplinary Training: prepare sessions that explore connections between different fields to foster collaboration.
- Collaborative Projects: encourage teachers (trainees) to work together on interdisciplinary initiatives to promote holistic learning.

The second challenge- with a proportion of 15 percent- is relatively the lack of ICT means of instruction. The usefulness, efficiency and authenticity of this category of pedagogical tools have been largely demonstrated. Consequently, trainer teachers have agreed on the necessary provision of such means in terms of quantity and quality that would greatly contribute to the success of the training programmes.

The third essential problem but with a remarkably low score- 2 percent- is represented by the slow progress of trainees that has been observed by the trainer teachers. This is mainly due to the nature of the courses which is principally intense and not spread over a long period of time. Indeed, the allotted time for the conclusion of each training phase or level is nearly the equivalent of a period term. On the other hand, the rigorous application of the planning and development of the reform stipulates that at the start of the next academic year (2023/2024) which is usually launched in mid-September, the scientific and technological instruction at university level should be provided in English (EMI). Therefore, in order to accelerate the pace of progression, it is necessary to readjust some essential components of the curriculum such as: course design, time allotment, number of qualified trainer teachers and better exploitation of materials. (See table 6 and figure 7).

Table 1: Degree of Teachers' Satisfaction

Appreciation	Percentage
Not Useful	0%
Useful	10%
Very Useful	90%

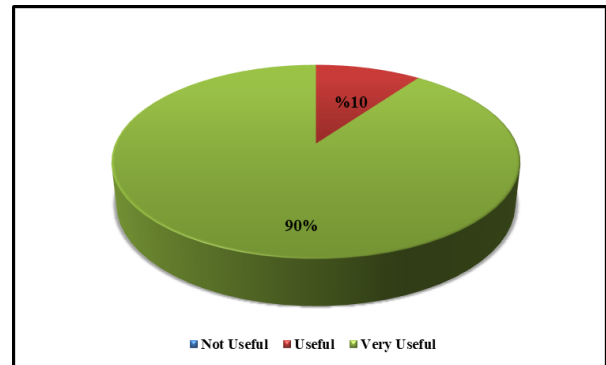


Figure2. Degree of Teachers' Satisfaction

Table 2: Acquisition of New Skills

Skills	Percentage
Thinking	5%
InquiryBased Learning	23%
Collaboration	40%
ResearchSkills	20%
Reflection	5%
None	7%

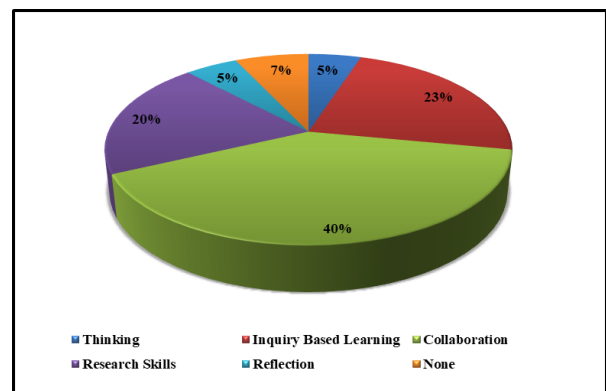


Figure 3. Acquisition of New Skills

Table 3: Trainees Obtention of Promotion or Additional Duties

Types of CareerDevelopment	Percentage
Promotion	3%
AdditionalDuties	65%
None	32%

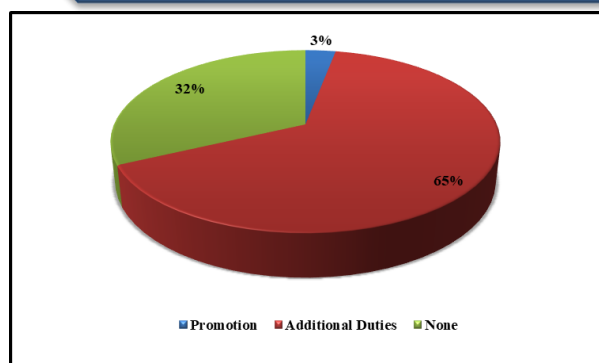


Figure 4. Trainees Obtention of Promotion or Additional Duties

Table 4 : Main Subjects of Training Programmes

Subjects	Percentage
Mental Processing	2%
Quality Management	3%
Energy	18%
Engineering	17%
Financial Services	11%
Computing	22%
Medecine	13%
Social Sciences	12%
Others	2%

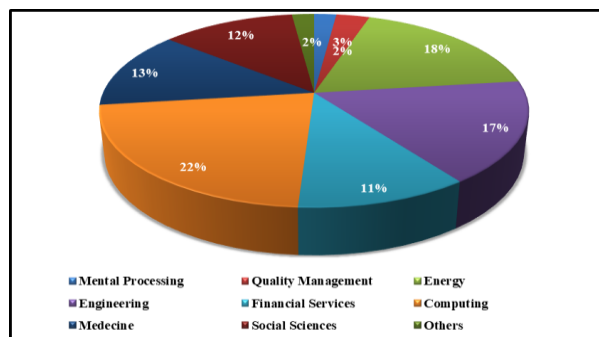


Figure 5. Main Subjects of Training Programmes

Table 5 :Trainees Suggestions of Follow-up Training Programmes

Types of Follow-up Programmes	Percentage
More Sophisticated and Higher-Level Programmes	86%
Internships	9%
Follow-up Counselling	5%

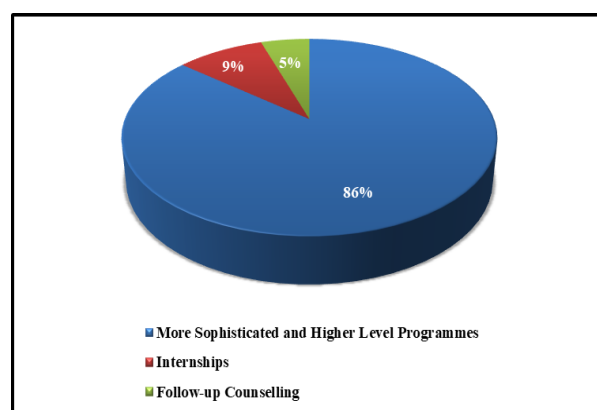


Figure 6. Trainees Suggestions of Follow-up Training Programmes

Table 6:Types of Challenges and Constraints

Types of Challenges	Percentage
Slow Progress	2%
Lerners' Disparate Levels	83%
Lack of ICT Means	15%

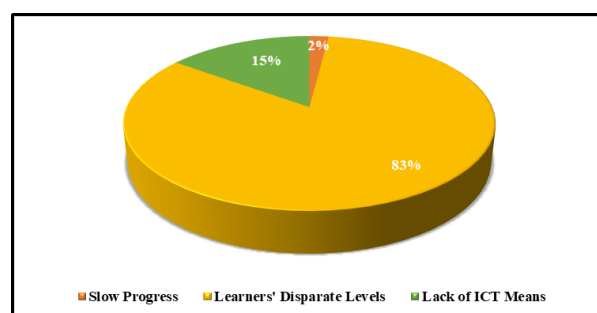


Figure 7. Types of Challenges and Constraints

5. Conclusion and Recommendations

It might seem for some non-substantiated pessimism that the perspectives of ESP/EMI training programmes bleak, yet opportunity for the successful conclusion of reform exists. What is required, it appears, is a combination of the contributions of different institutions, the focus particularly on the attainment of objectives, and the sheer determination to get out of the middle of the process (first and second levels) where the pressure is most oppressive to the final foundation of innovative and modern university education.

In summary, it is our responsibility as educators, practitioners and administrators of curricula, and the programmes they support, to facilitate change and innovations. The needs of our students, as well as the needs and requirements of the workplace, must be met if we are to maintain a productive social and business environment. Our students must have a full understanding of what the job market expects of them now and in the future. A holistic approach requires the collaboration of people from different horizons, particularly ESP practitioners, businessmen and individuals who must provide resources and activities that will facilitate the learning process and make education pleasant and motivational.

Recommendations

1. Scientists should be able to communicate openly about research either orally in different seminars and conferences or through publications in specialised

magazines and journals, therefore, scientists should learn communication skills.

2. Science education, especially at university level, should be strengthened and scientists should collaborate with educators.

3. Scientists should urge the different governmental or private institutions to support long-term grants for fundamental research- using English as the medium of research and communication- to maintain sustainable growth.

4. The development of in-service programmes in order to ease updating and training of teachers and teacher trainers.

5. The dissemination of research results and innovations in the field through the use of English as the vehicle of communication.

6. The promotion of interchange of teaching/learning materials.

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