

**The Impact of Classroom Heterogeneity on ESP Students' Achievement**

تأثير عدم التجانس الصفّي على تحصيل طلاب الانجليزية لأغراض خاصة

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**Abstract**

Heterogeneous classroom, related to English competency, has shown great challenges among English for Specific Purposes (ESP) students and teachers. In heterogeneous classrooms, learners vary in different aspects such as proficiency level, learning preferences and motivation. This study investigates the effects of classroom heterogeneity on learners' achievement and explores the possible learning strategies used to raise their proficiency level. The current research is a case study of ESP students in the Electrical Engineering Department at Tlemcen University, Algeria. Two instruments of research, a students' questionnaire and a teachers' interview, are used to collect data. The findings showed that teaching English to heterogeneous ESP classes caused problems because of the learners' different styles in learning, learning interest and teaching-learning materials.

**Keywords:** Achievement, ESP, heterogeneous classroom, learning strategies, proficiency level.

**المخلص:**

أظهر الفصل الدراسي غير المتجانس المتعلق بكفاءة اللغة الإنجليزية تحديات كبيرة بين طلاب و أساتذة الإنجليزية لأغراض خاصة. في الفصول الدراسية غير المتجانسة، يختلف المتعلمين في جوانب مختلفة مثل مستوى الكفاءة و تفضيلات التعلم و التحفيز. تبحث هذه الدراسة في أثر عدم تجانس الفصول الدراسية على تحصيل المتعلمين وتكشف عن استراتيجيات التعلم الممكنة و المستخدمة لرفع مستوى كفاءتهم. البحث الحالي هو دراسة حالة في قسم الهندسة الكهربائية. تم استخدام اداتين للبحث، استبيان لطلاب الإنجليزية لأغراض خاصة و مقابلة مع الأساتذة لجمع المعلومات. أظهرت النتائج أن تدريس الانجليزية لفصول الإنجليزية لأغراض خاصة تسبب مشاكل بسبب اختلاف أساليب المتعلمين في التعلم و الاهتمام بالتعلم و وسائل التدريس و التعلم. الكلمات المفتاحية: التحصيل ؛ الإنجليزية لأغراض خاصة ؛ الفصل الدراسي غير المتجانس ؛ استراتيجيات التعلم ؛ مستوى الكفاءة.

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## **1. INTRODUCTION**

Teachers of English as a Foreign Language (EFL) in general and those of English for Specific Purposes (ESP) in particular are facing a challenging problem because of the students' mixed-English abilities. Mixed-ability classes are classes made up of students with different levels of proficiency and in this heterogeneous classroom, ESP students have mixed-English proficiency too. Their proficiency level in English varies from low to high level and this is due to their different backgrounds, learning styles, intelligence English knowledge and English learning experience. These mixed-English abilities and proficiency affect the English language learning and teaching. Many studies proved that English teachers faced problems in handling students' variety in proficiency levels and abilities.

In fact, an English teacher in a heterogeneous classroom faces difficulties with whether to focus on slow learners and this makes fast ones bored since they complete their tasks earlier or focus on the most rapid ones making the others less motivated and confused. Teaching ESP for heterogeneous classes is also challenging because, in addition to the fact that students have different abilities and proficiency levels, they have different needs.

The treatment design of the current study revolves around the following research questions: 1) To what extent does heterogeneity affect ESP students? 2) What are the learning strategies used to raise students' proficiency levels? It is hypothesized as 1) heterogeneity affects ESP students at a great deal. 2) Adapted and effective learning strategies may help raise students' proficiency levels.

## **2. Literature Review**

### **2.1. Definition of heterogeneity**

This concept is prolific for a whole generation of researchers who assemble theories and research in different disciplines, both language sciences and literature. However, with the emergence of all these disciplines and sub-disciplines which deal with heterogeneity in all its forms, what happened to the concept today?

Heterogeneity is an important concept in research and science as a whole. According to (Webster), "Heterogeneity is the state or quality of being heterogeneous—consisting of different, distinguishable parts or elements." This means it when heterogeneity is present; there is diversity in the characteristic under study. Accordingly, in (Cambridge English Dictionary), it is defined as "the fact consisting of parts or things that are very different from each other." Thus, the concept of heterogeneity refers to \_the fact of being diverse. In this line

of thought, (Ur, 1998, p. 302) states that \_a heterogeneous class has different learners in it.

The heterogeneous class is also named mixed-ability class. However, (Ur, 2005) prefers using the term heterogeneous class because mixed-ability refers to learners different in their performance and proficiency in the target language, whereas, heterogeneous refers to learners different in more than that.

In fact, heterogeneous classes are composed of learners who differ from one another in terms of strengths, weaknesses, approaches to learning and even how they are taught in different situations. According to (Ainslie, 1994) , heterogeneous classes contain learners with different personalities, skills, interests, and learning needs.

In research, any kind of variability among studies in a systematic evaluation may be called heterogeneity. Heterogeneity appears when several close or theoretical repetitions on the same subject produce different findings.

## **2.2. Heterogeneity Vs Homogeneity**

In general, the word homogeneous refers to something that is made up of parts or elements that are the same or very similar whereas the word heterogeneous refers to something made up of different elements or parts that are different from each other.

As far as the classroom is concerned, (Ur, 2005) uses the term heterogeneity in contrast to homogeneity, stating that in homogeneous classes, learners are similar and their knowledge and learning abilities are expected to be similar. According to (Fanis, 2009), a homogeneous class consists of students thought to have the same ability level. The concept of homogeneity is defined as the state or quality of similarity and sameness. Homogeneous classrooms consist of learners that are assembled according to their similarities. Some researchers link homogeneity to age and mother tongue, however, most of them do not share the same thought since they believe that two learners whether they have the same age or the same mother tongue, may be different in one way or another.

## **2.3. Characteristics of Heterogeneity**

Learners hold together many variables such as age, gender, culture, learning aptitude and so many other differences that describe heterogeneous classes. In this paper, the researcher illustrates a portrait of individual differences among learners classified under three noticeable parts: learning styles, learning strategies and affective variables.

### **2.3.1. Learning styles**

The term learning style refers to the general approach favored by the learner. Indeed, learning style provides a broad direction to learning and makes the same instructional method beloved by some students and hated by others. As far as learning styles are concerned, each individual reflects sensory style dimensions (visual/auditory/hands-on) and social style dimensions (extroverted/introverted). Every person also has preferences along cognitive style dimensions, among which are concrete-sequential/abstract-intuitive, closure-oriented/ open, detail-focused/holistic, and analyzing/synthesizing.

It is important to use different but effective methods to comprehend and understand any piece of information. Therefore, the ways of perceiving, conceptualizing, organising, and recollecting information differ from one learner to another in language learning. In the same vein, (Cornett, 1983, p. 3) states that learning styles are\_ the overall patterns that give general directions to learning behaviour. Additionally, learners' characteristics differ from one to another. That is why; they respond and react in different learning styles. As (Dunn, R.& Griggs, S., 1988, p. 3) define learning style as \_the biologically and developmentally imposed set of characteristics that make the same teaching method wonderful for some and terrible for others.

### **2.3.2. Learning Strategies**

Broadly speaking, the term strategy is a design that aims to meet a specific goal, which means goal-directedness. In foreign language teaching, learning strategies are defined as any strategies related to the L2 context. Learning strategies are \_specific actions, behaviors, steps, techniques [or thoughts] – such as seeking out conversation partners, or giving oneself encouragement to tackle a difficult language task – used by students to enhance their own learning” (Scarcella, R. C., & Oxford, R. L. , 1992, p. 63). Learning strategies in foreign languages help students to improve their own perception, reception, storage, retention, and retrieval of language information. (McKeachie, W, J. et al., 1987) identify three main categories of learning strategies: cognitive strategies, metacognitive strategies and resource management strategies.

### **2.3.3. Affective Variables**

Affective variables are variables such as values, self-esteem, and attitude towards learning. They are so important in planning and implementing instruction or curriculum. Without assessing students' affective variables, they will not benefit a lot from the content learned. Assessing affective variables in the classroom allows students not only to grow as learners, but also as people and citizens in society. In this line of thought, (Ellis, 1994) claims that:

Learners' affective factors are obviously of crucial importance in accounting for individual differences in learning outcomes. Whereas learners' beliefs about language learning are likely to be fairly stable, their affective states tend to be volatile, affecting not only overall progress but responses to particular learning activities on a day-by-day and even moment-by-moment basis. (Ellis, 1994, p. 483)

#### **2.4. Challenges of Heterogeneous Classroom**

Heterogeneous classes, also known as mixed-ability classes, in English competency have been threatening to teachers of English as a foreign language and English for specific purpose as well. Although the status of lingua franca can easily be demanded by English nowadays, there are always plenty of challenges involved in the process of teaching a foreign language. The simple mastering of the four skills (reading, writing, listening and speaking) and the acquisition of general grammar and vocabulary may not be enough in some circumstances. ESP focuses on the specific needs of the learners, concentrating more on language in context and on the students' need to acquire a set of professional skills and particular job-related functions. All these are so challenging for an ESP teacher, what about teaching a heterogeneous ESP classroom? (Baker, 2002) argues that all students at so many different ability levels provide a big challenge.

Teachers of mixed heterogeneous classes may find it challenging to provide content and tasks that motivate and interest all learners in the same class; every learner has his own interests and needs which form his attitude towards learning. Moreover, some learners have difficulties in speaking the target language because of a lack of confidence in their knowledge or skills, whereas others are eager to express their thoughts and ideas in the target language and this variety causes problems for both teachers and students.

#### **2.5. Advantages and Disadvantages of Heterogeneous Classroom**

In fact, the existing students' varied abilities in an English class take two sides as advantageous and disadvantageous. On one side, (Chen, 2015), (Marcia, 2009), (Xanthou, M. & Pavlou., 2008), (Ur, 2005), and (Wallström, 2012) in their studies revealed that both teachers and students benefit from this situation. The teachers have more opportunities to design English teaching and learning materials and strategies on how to apply these materials. Moreover, the students have more collaborative learning activities to enhance their English language skills. Fast learners can assist their slow classmates. Thus, this collaboration will increase both knowledge and respect among them. On the other side, there are some possible threats for both teachers and students as described by (Londres, 2017) in the sense that the heterogeneous situation impedes the fast learners to

focus on their learning processes. In the same vein, (Marcia, 2009) argued that it weakens personal and social outcomes, especially for lowest-level learners because they are seen as slow or unable to catch up with the learning processes.

From some studies stated above, it can be concluded that there are pros and contrasts in the English heterogeneous class as presented in Table 1.

**Table N°1: Pros and contras in a heterogeneous class**

<b>Pros</b>	<b>Contras</b>
- More participation from less able students	<input type="checkbox"/> Demotivation for less able students
<input type="checkbox"/> Learning collaboration among students	<input type="checkbox"/> Learning isolation among students
<input type="checkbox"/> Sharpening learning skills of more able students	<input type="checkbox"/> Splitting learning focus of more able students
<input type="checkbox"/> Increasing respect among students	<input type="checkbox"/> Undermining confidence among students
<input type="checkbox"/> Increasing teacher creativity in designing teaching material	<input type="checkbox"/> Wasting more time and budget in preparing teaching materials
<input type="checkbox"/> More various and creative teaching strategies and approaches	<input type="checkbox"/> Demanding in looking for appropriate teaching strategies or approaches

Adopted from: (Gustiani, 2019)

## **2.6. Classroom Interaction**

Understanding classroom interaction in the field of English language Education is so important. (Ellis, 1994) explains that classroom interaction in this field is a set of communicative situations, which are discussions or contacts. These situations are constructed by both teachers and learners to form a background to stimulate language learning and use. Then, (Johnson, 1995) clarifies the purpose of interaction inside the classroom as to involve learners in

conversation, to shape language, and to stimulate language learning and language use. They maintain two main aims of classroom interaction: endorsing language learning and fostering language use. Accordingly, (Lucero, 2011) states that classroom interaction also serves to attain knowledge about the language and the world; highlighting the importance of being aware of the management of classroom interaction. As a whole, classroom interaction refers to how the way in which English language teachers interact with their students to promote learning about language and the world.

### **3. Methodological Considerations**

The current study is a case study of 1st year Master students in the Department of Electrical Engineering, at Tlemcen University, Algeria. A case study is often used in social and educational research. It is generally used to generalize the research findings as illustrated by Nisbet and Wall, 1984 (qtd in (Bouklikha, 2016, p. 39). To carry out the present research, a student questionnaire and a teacher structured interview were used.

#### **3.1. Sampling**

The sample refers to a smaller, convenient version of a larger group. It is “a finite part of a statistical population whose properties are studied to gain information about the whole” (Webster, 1985). The students’ sample consists of fifty first-year Master’s students in the English Department at Tlemcen University while the teachers’ sample is composed of ten ESP teachers from different departments in the Faculty of Technology at the same University. Those samples are chosen to collect data from both teachers and students about the issue under study.

#### **3.2. Instrumentation**

In order to collect data in the current investigation, two instruments of research were used; a student’s questionnaire and a teacher’s interview. The primary method of inquiry used in this study was a questionnaire completed by first-year Master’s students in the English Department at Tlemcen University. The main purpose of this instrument of research is to explore the impact of heterogeneity on ESP students’ achievement and discover the suitable learning strategies used to raise students’ proficiency levels. A structured interview, as a second tool of research was addressed to ten ESP teachers from the same Faculty of Technology. It aims to know the teachers’ attitudes towards heterogeneous classrooms and how it affects students and what learning strategies to be used to raise their proficiency level.

According to Richards (2005: 60), qtd. in (Bouklikha, 2016, p. 135), \_Questionnaires are one of the most common instruments used. They are

relatively easy to prepare, they can be used with a large number of subjects, and they obtain information that is easy to tabulate and analyse. Therefore, this instrument of research seems convenient to gather data from the sample group of participants. To better understand the current situation, another instrument of research was designed which is the teachers' interview. For instance, Mackay qtd. in (Bouklikha, 2016) strongly favours this method in collecting data, asserting that:

Firstly, since the gatherer is asking the questions, none of them will be left unanswered... Secondly, the gatherer can clarify any misunderstanding which may crop up in the interpretation of the questions. Thirdly, and perhaps most advantageously, the gatherer can follow up any avenue of interest which arises during the question and answer session but which had not been foreseen during the designing of the structured interview. Mackay qtd. in (Bouklikha, 2016)

#### **4. Data Analysis**

In this present study, both qualitative and quantitative methods are used for collecting data because the current investigation was built on a mixed-methods approach. In order to test the research hypotheses, two means of data collection were used, a students' questionnaire to explore the impact of heterogeneity on ESP students' achievement and discover the suitable learning strategies used to raise students' proficiency levels and a teachers' interview to know the teachers' attitudes towards heterogeneous classroom and how it affects students and what learning strategies to be used to raise their proficiency level. To do so, in this part the researcher seeks to analyze the data resulting from the two instruments of research which were undertaken qualitatively and quantitatively.

##### **4.1. Students' Questionnaire**

First, to know the students' attitudes towards English courses, the results revealed that all the participants stated that English was an interesting course. Then, concerning the students' need for English, the findings show in table 1 that 74% of them need English to use in their future job. While 54% of them have chosen the first option which is to succeed in their studies, 46% of them answered positively about using English for communicating with English native speakers.

**Table N°2: Students' Need for English**

Relative Frequency	Succeed in your study	Use it in your future career	Communicate with native speakers
yes	54%	74%	46%
no	46%	26%	54% 26%

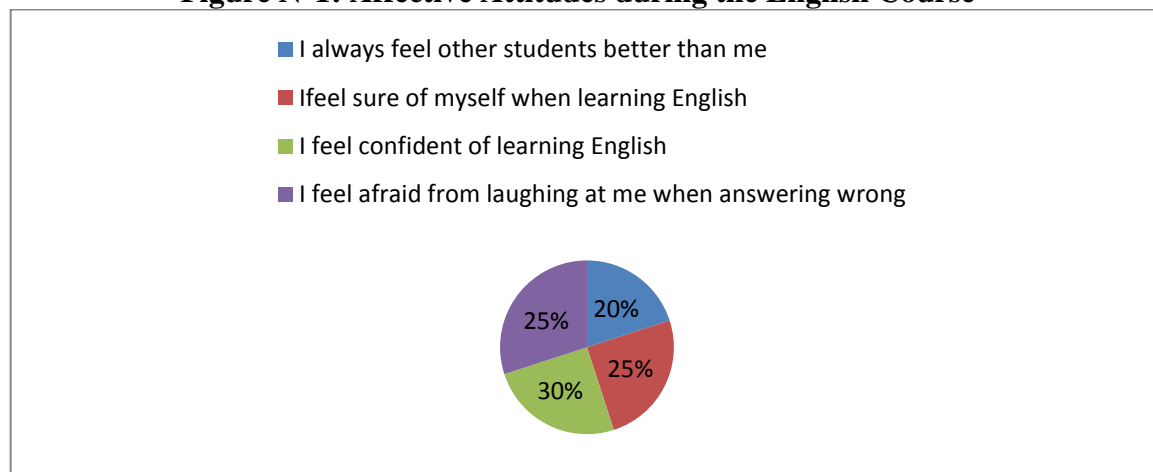
When asking students how they prefer performing their tasks in English, the majority of the participants (60%) prefer working in groups whereas 30% of them prefer working in pairs. While the rest of the respondents (10%) like working alone as shown in table 3.

**Table N° 3: Students' Preferences in Performing English Tasks**

	Group work	Pair work	Individual work
Relative Frequency	60%	30%	10%

Concerning students' affective attitudes towards the English course, from the results in Figure 1, it is revealed that there is a great diversity in their affective attitudes. 20% of them always feel other students are better than them, 25% never feel sure of themselves when learning English, 25% feel confident when learning English and finally, 30% feel afraid of laughing at them when answering wrong.

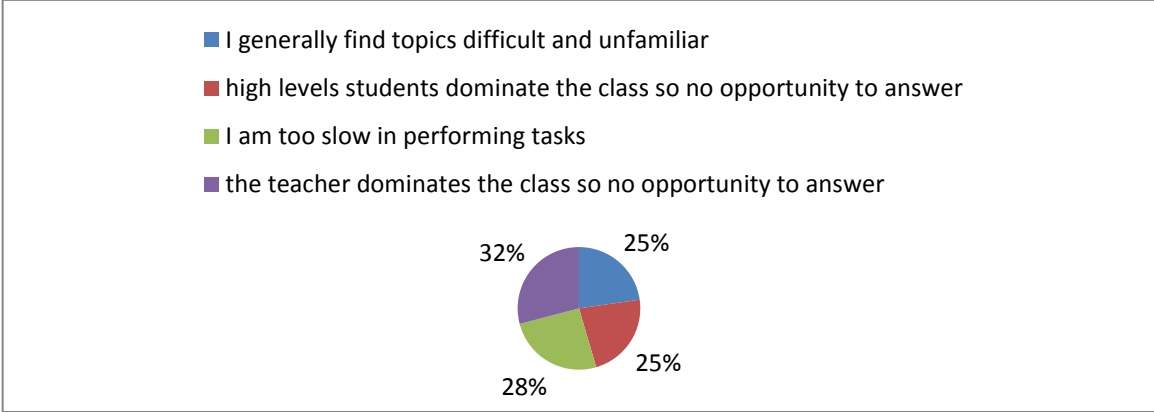
**Figure N°1: Affective Attitudes during the English Course**



When dealing with students' difficulties, answers vary as shown in Figure 2. 25% of students generally find topics in English unfamiliar and difficult, the same percentage of students have no opportunity to answer questions because of

the high-level of students domination, 28% of the participants are slow in performing tasks in English and the rest (32%) have no opportunity to answer questions because of the teacher domination.

**Figure N° 2: Students' Difficulties**



Finally, when dealing with the strategies used to raise students' proficiency levels, results in Table 4 revealed that 10 students want to have more opportunities to express their thoughts. The same number of students wish teachers would change their method of presenting the course.17 of them desire a practice of enhancing activities inside the classroom. 8 of them wish to have positive comments from teachers and finally 5 of them want verbal rewards when performing well.

**Table N°4: Strategies Used to Raise Students' Proficiency Level**

	Relative Frequency	Absolute Frequency
More opportunities to express thoughts	20%	10
Change in teachers' method of presenting the course	20%	10
Practice of enhancing activities inside classroom	34%	17
Positive comments from teachers	16%	8

Verbal rewards	10%	5
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#### **4.2. Teachers' Interview**

After asking some questions about teachers' profiles in terms of genders, degrees and experience, teachers agreed on the fact that the majority of students were interested in learning English. In addition, when asked about their students' styles, all teachers assert that their students differ in their learning styles. When they are asked whether these differences create some problems, the majority of them answered positively either because it is difficult to teach heterogeneous groups; some students are able to learn rapidly, and others need more time or more exercises. They declare that it is a problem to use one teaching method only without varying the ways of interaction. Few teachers said that having different learning styles among teachers is normal.

Concerning the teachers' views on students' learning styles, they stated that most students preferred working collaboratively in groups or pairs while few of them said that their students liked working individually.

When dealing with teachers' perception of students' affective attitudes, the results revealed that most of the time their students are afraid of their classmates' laughing when making mistakes. Only a minority of students stated to be confident about their ability according to their teachers. Most of the students declared not to be sure of them when learning English.

The following points are a summary of the problems faced when learning English in a heterogeneous classroom according to teachers:

- Lack of comprehension
- Lack of knowledge related to the course
- Low proficiency level students cannot be at the same level as more advanced learners
- High proficiency level students loose interest when focusing on the less advanced learners
- Teacher's feedback is not profitable for all students
- Lack of time to manage the problem of heterogeneity in the classroom

#### **5. Discussion & Interpretation of the Main Results**

Heterogeneity can be an obstacle to effective learning but at the same time may show learning benefits in terms of competition and mutual collaboration between students. The findings highlighted that teaching English to

heterogeneous classes in an ESP context caused problems because of the learners' different styles of learning, learners' learning interest, teaching and learning materials as well as its methodology. However, facing those problems helped both teachers and learners to gain profit from a mixed abilities class. Therefore, when teachers activated students' preferred learning styles, they encouraged their students' achievement as well. In addition, adopting appropriate teaching and learning materials enhanced students learning interests. Moreover, adjusting tasks in accordance with the levels of students' abilities, helped students to create learning materials. Furthermore, the teacher's attitude towards helping all students in their learning processes developed a positive learning atmosphere in the classroom and thus enabled students to experience all learning processes and valued a kind of student-centered approach in classes.

## **6. CONCLUSION**

From the current study results, it has been shown that heterogeneity has a great impact on learning and learners' achievement and to deal with the problem in a heterogeneous classroom, teachers need to rely on interaction among students studying together in heterogeneous classes and create a positive learning environment. Teachers should always be aware of such problems and identify when a heterogeneous group does not function correctly. That's why, they should support advanced students by adding some academic challenges and help less advanced students by receiving the appropriate assistance to catch up. And students in a heterogeneous classroom may be lost in the shuffle as the teacher focuses on the special needs of students at either end of the spectrum.

To sum up, teaching in a heterogeneous classroom can be challenging, especially when learning English. However, using dynamic practices can make this task less complicated. Further research is highly recommended to conduct this topic in a quantitative way with larger participants.

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