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MACHINE LEARNING MODEL TO PREDICT AN ADULT LEARNER'S DECISION WEATHER TO CONTINUE ESOL COURSE OR NOT

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DOCTOR of PHILOSOPHY THESIS

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This work entitled **MACHINE LEARNING MODEL TO PREDICT AN ADULT LEARNER'S DECISION WEATHER TO CONTINUE ESOL COURSE OR NOT** prepared by **MOHAMMED R. DAHMAN** has been judged to be successful at the defense exam held on **May 22, 2019** and accepted by our jury as PHD THESIS.

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CONTENTS

MACHINE LEARNING MODEL TO PREDICT AN ADULT LEARNER'S DECISION WEATHER TO CONTINUE ESOL COURSE OR NOT

ABSTRACT

This study investigated the ability of the demographic and the affective variables to predict the adult learners' decision to continue ESOL courses. 278 adult learners, enrolled on ESOL course at FLS institution in Istanbul, Turkey, participated in the study. The result showed that the continued or dropped out groups, demonstrated statistical differences in the demographic variable (the placement test score) with a magnitude of large effect size (.378). Additionally, the result showed the effect size in the perception of the affective variables (motivation, attitude, and anxiety), accounts for about 50\% of the variation between the continuation and dropout groups. Following that, three machine learning models were proposed; all possible subset regression analysis was used to compare the three models. The adequate model, which fitted the demographic variable (the placement test score) and the affective variables (motivation, attitude, and anxiety), correctly predicted 83.3\% of the adult learners' decision to continue ESOL course. The model showed about 68\% goodness-of-fit. The cultural implications of these findings are discussed, along with suggestions for future research.

Keywords: Predictive Model; ESOL adult learners; Machine Learning

YETİŞKİN BİR ÖĞRENCİNİN ESOL KURSUNA DEVAM ETME KARARINI TAHMİN ETMEK İÇİN BİR MAKİNE ÖĞRENME MODELİ

ÖZET

Bu çalışmada, demografik ve duyuşsal değişkenlerinin yetişkin öğrencilerin ESOL kursuna devam etme kararını öngörme yeteneği araştırılmıştır. Çalışmaya, İstanbul FLS kurumunda, ESOL kursuna kayıtlı 278 yetişkin öğrenci katıldı. Sonuç, devam eden veya bırakılan grupların, demografik değişkenlerinin (yerleştirme testi puanı) istatistiksel farklar gösterdiğini (.378) ve bunun etkisinin çok büyük olduğunu ortaya koymuştur. Ek olarak, sonuç duyuşsal değişkenlerin algılanmasındaki etkinin büyüklüğünü (motivasyon, tutum ve kaygı) göstermiştir. Bu gruplara devam eden ve bırakanlar arasındaki varyasyonun yaklaşık\% 50'sini oluşturmaktadır. Bunu takiben, üç makine öğrenme modeli önerildi; Üç modelin karşılaştırılmasında olası tüm alt kümeler regresyon analizi kullanılmıştır. Demografik değişkene (yerleştirme testi puanı) ve duygusal değişkenlere (motivasyon, tutum ve endişe) uyan uygun model, yetişkin öğrencilerin ESOL kursuna devam etme kararının\% 83,3'ünü doğru bir şekilde öngörmüştür. Model yaklaşık\% 68 uygunluk gösterdi. Bu bulguların kültürel sonuçları, gelecekteki araştırma önerileri ile birlikte tartışılmaktadır.

Anahtar Sözcükler: Tahmini Model; ESOL yetişkin öğrencileri; Makine öğrenme

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This thesis is dedicated to Sunny Dahman who have always been a constant source of support and encouragement during the challenges of my whole thesis working. Also to my colleagues, students, and friends whom I am truly grateful for having in my life. This work is also dedicated to my parents. To the angels H.A.Z, who have always loved me unconditionally and whose their being have taught me to work hard for the things that I aspire to achieve for us

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1 INTRODUCTION

Two primary goals were set for this study. The first goal was to examine the relationship between two of the multiple learner variables reported (i.e., the affective and the demographic variables) and the adult learners' decision to continue or drop out ESOL course. For this goal, we investigated the level of significance between the two groups (continuation and dropout) in their demographic and affective variables. The second goal was to propose a machine learning model to predict the adult leaner's decision to continue ESOL course (before he/she even starts the class). For this goal, we investigated each variable that showed statistical significance whether best to predict. For both goals, we have compared the proportion of variation (a measure of the effect size) in the decision to continue or drop out ESOL course explained by each possible combination of variables. Consequently, three machine learning models were created to predict the adult learner's decision to continue the ESOL course; followed by series of tests to examine the proposed models including a) overall model evaluation; b) statistical tests of individual predictors, c) goodness of fit statistics; and d) validity of predicted probabilities. The continuation rates of learners studying in L2 classrooms typically have been problematic. In a particular study by Watt and Roessingh (2001), the published results typically show the general drop-out rate for ESL students was at 74%. So, what factors influence learners' decisions to drop out a language course or fail to continue at the next level, and what factors have been found effective in predicting such a decision before even the learner start the course? These questions are two sides of the same coin: in order to predict L2 learner's decision before he/she starts the language course, it is necessary first to understand what factors affect the decision-making process behind dropping out. There has been a large amount of literature published on school-age student dropout, for example the study in a book length by Schargel and Smink

(2014). Furthermore, several articles have been also published concerning adults withdrawing from further and higher education (see, for example, Dörnyei and Murphey, 2003). However, considerably less needed research has been conducted on dropouts by adult learners from L2 classrooms. More notably, few research studies have examined the role of factors, which might contribute to the decision of continuing or dropout, concurrently. Furthermore, no comparison was made to explain the variations in the decision, and it is not clear how the factors relates to the decision. Ultimately, there is no consensus predictive model for the decision. To this end, the scope of this study is limited solely to questions relating to adult learners from the Republic of Turkey whose drop out or continue in ESOL courses. (i.e. ESOL language course in a real classroom). Thus, other categories of courses, such as distance learning courses, blended learning courses, brick and mortar classroom language courses, or MOOCs are not covered, unless directly relevant to the prescribed area of focus. Furthermore, sub-categories of literature such as withdrawing from further and higher education, school-age student dropout, literature concerning adult literacy programs, or literature concerning English for Academic Purposes (EAP) are not covered, unless directly relevant to the prescribed area of focus. The narrowing of this review to the study on adult learners from the Republic of Turkey whose continuing or dropout ESOL course serves two purposes: (a) to ensure that the review's findings are specific to the field of adult language learning of ESOL in a specific region rather than generalised from other dissimilar contexts and (b) to reveal the scarcity of research studies available on the issue, by that demonstrating our finding as a framework needed for further research. Accordingly, as the framework of this study suggests, the proposed predictive ML model of adult learner's decision to continue or not ESOL course will work before the adult learner starts the ESOL course. Thus, the model can serve as an alarm system to identifying the adult learners whose are at the possibility of dropping out ESOL course; As a result, that could help the stakeholders (administrators and language teachers, and even policy makers) to modify the content of their courses and offer additional support to them.

Individual difference: research has a considerable history in applied linguistics.

The research has a wonderful history in applied linguistics. Ellis (2004), Horowitz (2000), who reviewed publications in the Modern Language Journal from the 1920s to the late 1970s, documents how L2 students pay attention to differences for decades. "The terms good, bad, smart, boring, motivated and unmotivated have given rise to innumerable new terms, mainly and mechanically, as moti: an independent, annoying, anxious and relaxed space, and a sensitive space," he said. Visual and auditory "(p.532) Horowitz describes these changes as evolutionary, not revolutionary, but it seems to reflect a fundamental change in student perceptions, previously considered an absolute value in instinctual language or talent skills. More relatively, it has different types of abilities and possibilities that affect learning in complex ways.This change of perspective over the years reflects an evolving role of the investigation of individual difference in applied linguistics. the main concern was the selection of students for foreigners.To this end, the main objective of the individual difference research was to predict which students would succeed and develop a tool such as the modern gifted language battery (Carroll and Sapon, 1959).) However, recent research on motivation or learning strategies They tried to explain why some students were more successful than others and was considered complementary to the current SLA study. However, this research still has the "applied" side. It was used to define the characteristics of "good language learners olarak as the basis for learners (for example, to provide the best guidance). The preparation was used as the basis for processing the interactions (for example, associating students with different types of education to maximize learning).

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Outdated Paradigm Interest in individual differences has increased to the point where the SLA has become the main area of research since the 1970s. This interest is reflected in many articles published in the main SLA journals (especially in language learning and Modern Language Journal), in many large surveys on individual differences (for example, Skehan (1991)) and increasingly in books complete.

Dedicated to specific factors responsible for individual differences (such as Dornyei and Schmidt (2001) on Motivation). The investigations on individual differences were carried out with important and separate SLA studies, where the main problem was the processes responsible for the acquisition of L2 (for example, observation, transformation, restructuring). One of the reasons for this is that the holistic and different approach has different agendas: the first one tries to explain the mechanisms responsible for associations in language learning (for example, the "natural" order and the order of acquisition of L2) . Ellis, 2004). However, this section is unfortunate because it leads to a gradual approach to understanding the acquisition of L2, which prevents the development of an integrated theory to calculate only the quantity and number of students assigned to different learning mechanisms. As a result, this search model seems selective. In other words, L2 focused on identifying the linguistic processes involved in the acquisition and the things that motivate the selectivity of the individual learner, but not how it interacts selectively with the decision to continue the language class long before the class begins. Figure 1.1 shows that the current model is outdated. The student's variables are investigated and are caused by individual differences in the learning process represented in "B" (that is, within the language class) and after the student finishes the class represented in "C" (ie , there is a connection between the two blocks). Each link (B and C) is intended to understand the processes responsible for acquiring L2. However, the student does not have an integral model to observe the relationship between the variables and the problem of individual differences before the student joins the part shown in a (ie, a broken connection between the two blocks). The investigation of the learner variables and its causation the individual differences is focused during the process of education (i.e. inside the language class) represented in link ”B” and after the learner finish the class (i.e. there is an existence link between the two blocks) represented in link ”C”. Both links (i.e. B and C) aimed to understand the processes responsible for L2 acquisition. However, there is no such a comprehensive paradigm of which investigate the relationship between the learner variables and its causation the individual differences before the learner joins the class (i.e. a broken link between the two blocks) represented in link A.

Research Aim: Researchers have examined a great number of learner variables (e.g., affective and demographic variables) that may affect the phenomenon of the learner's decision to continue or drop out in language classes. Two studies that examined the relationship of the affective variable (motivation) to dropout and persistence rate are (Gardner, Robert C. Smythe, 1975) and (Clement et al., 1978); both studies observed a motivational effect on the decision to continue or drop out

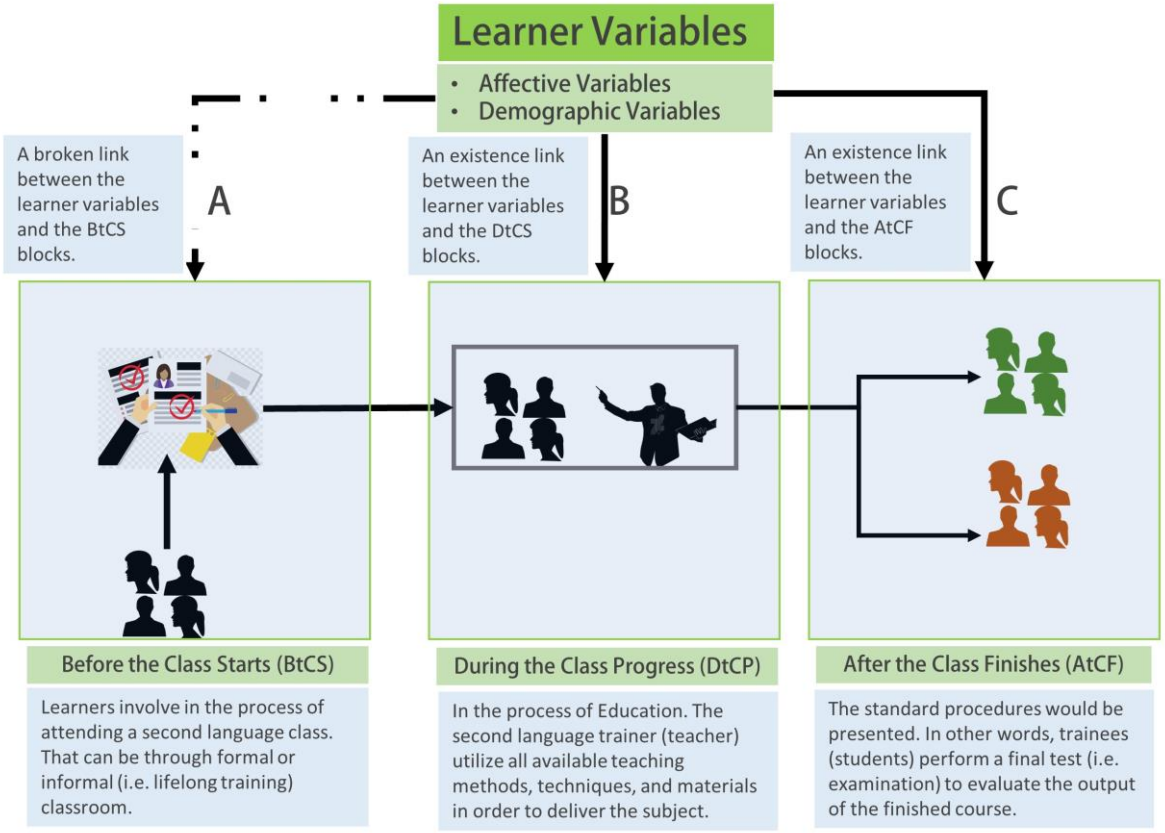


Figure 1.1: Outdated Paradigm: the Relationship Between the Learner Variables and its causation individual differences and the Blocks of Learning a L2 in a Classroom

in a language class. Also, (Bartley, 1968,9) detected an effect of other class of the affective variable that is the attitude. Likewise, (Horwitz et al., 1986) found about anxiety. Differently, (Ehrman and Oxford, 1995) and (Onwuegbuzie et al., 2000) reported another learner variable that is the demographic variable as predictors in language learning process. However, regarding the decision to continue or drop out in a language class among lifelong learners: **a)** notably, few research studies have examined the role of the affective and the demographic variables concurrently. **b)** no comparison was made to explain the variations in the decision. **c)** it is not clear how each of the variables relates to the decision. **d)** Ultimately, there is no consensus predictive model for the decision.

Two primary goals were set for this study. The first goal was to examine the relationship between two of the multiple learner variables reported (i.e., the affective and the demographic variables) and the lifelong learners' decision to continue or

drop out in language classes. For this goal, we investigated the level of significance between two groups (continuation and dropout) in their demographic and affective variables. The second goal was to propose a model to predict the lifelong leaner's decision to continue a language class. Figure 1.2 illustrates an active link between the learner variables and the block before the class starts. The aim is to predict the lifelong learner's decision to continue a language class. For this goal, we investigated each variable that showed statistical significance whether best to predict. For both goals, we have compared the proportion of variation (a measure of the effect size) in the decision to continue or drop out in a language class explained by each possible combination of variables. Consequently, three machine learning models were

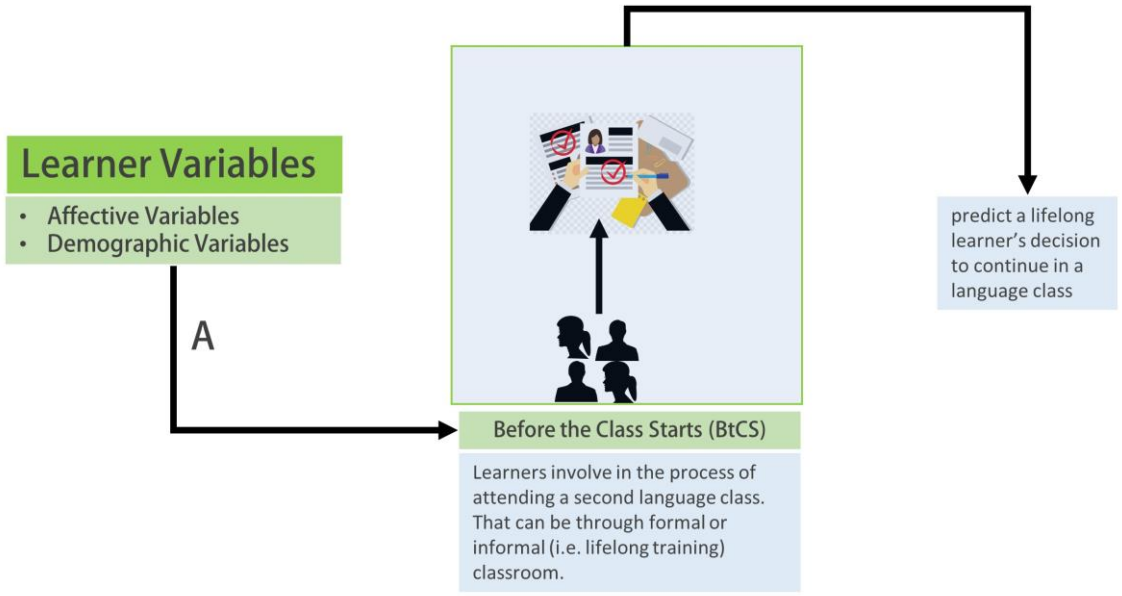


Figure 1.2: active link between the learner variables and the BtCS block created to

predict a lifelong learner's decision to continue in a language class; followed by series of tests to examine the proposed models including **a)** overall model evaluation; **b)** statistical tests of individual predictors, **c)** goodness of fit statistics; and **d)** validity of predicted probabilities. More specifically, in the framework of this study, we propose the predictive model as an essential stage after the lifelong learner's enrollment and before the language class begins. Therefore, identifying the lifelong learners who are at the possibility of dropping out could help the stakeholders (administrators and language teachers) to modify the content of their courses

and offer additional support to them.

Initial limitation of the study: The first set of limitations was of a pragmatic nature. Similarly to many other PhD studies, the broad parameters of the research were set according to the availability of par- ticipants, time constraints, and a very limited amount of personal funds that could be spent on field research. Thus, language trainer and administration-participants were recruited among personal acquaintances and among my work colleagues, who in turn introduced me to their trainees, and whose principals had given me per- mission to visit their classes and collect data from their trainees for the purpose of this research. Field research involved phone calling, visiting the classes, observing lessons, and administering questionnaires. This process was time-consuming, had to fit in with the individual class' regular schedules, and with my job work-schedule. A second set of limitations resulted from the original language of the instruments (i.e. English Language) of which have been used in this study. However, in order to overcome this problem to some extent, an expert translator was recruited at times to help, in particular, with the design of the instruments and produce a Turkish version of the same tools.

Overview of the study: In the first chapter I introduced the importance, motives, goals, significance, and the aim of this study. In Chapter Two, I provide a comprehensive review of the literature, describing the themes, topics and theories related to affective and demographic variables towards the decision to continue or dropout a language class. I include a definition for affective variables (i.e. anxiety, motivation and attitudes). In the same spectrum, I discus different theories of motivation, an introduction to Gardner's socio-educational model of second language acquisition. I also address some studies related to these individual differences. In Chapter Three, I describe the research site (i.e. the context of the study), the participants who provided the data for this study, the mixed-methods research approach that was designed to obtain the data, the instruments, the data collection instruments utilized and the methods that were used to analyse, code and interpret all of the data obtained. In Chapter four, I include the main results obtained from the study. Including the technical approach to answering the research questions. In Chapter five, I include the analysis of the finding through a thorough discussion. I discus the

finding of the differences between the continues and dropouts' groups. Furthermore, I discuss the level of significance between the two groups. And finally, the implication of the findings from three machine learning models are discussed. In Chapter six, I brief the finding of this study and summary of the theoretical contributions. The final chapter (Chapter Seven) I discus the limitations, and suggesting potential avenues for further research.

2 LITERATURE REVIEW

a comprehensive review of the literature, describing the themes, topics and theories related to affective and demographic variables towards the decision to continue or dropout a language class. I include a definition for affective variables (i.e. anxiety, motivation and attitudes). In the same spectrum, I discus different theories of motivation, an introduction to Gardner's socio-educational model of second language acquisition. I also address some studies related to these individual differences.

2.1 Dropout Phenomenon

Gilg (2008) published an exhaustive study of the factors that may affect the student's decision to follow or filter. His work was completed based on the Mackey Classification Table (2001). I will adopt the opinion adopted by Gilg (2008) in the following and subsections. First, what factors help students make decisions about language courses or not to move to the next level? With respect to this question, the authors unanimously accept that the illegal decision of the individual is rarely based on a series of conflicts, not on a factor. The number of reported causes of leakage is important and, although the studies analyzed here adopt diverse opinions and methodologies, the similarities between the results outweigh the differences. To evaluate these results, it would be useful to use a classification system for numerous informed factors. This system may affect the motivation of some students to continue, while others may leak (Gibson and Shutt, 2002a, Skilton-Sylvester, 2002). In a study that examines the abstinence behavior of students in higher education, MacKie (2001) uses force field analysis to identify these areas. pos-

Figure 2.1: Categories of forces (after Mackie, 2001: 267)

itive To provide forces that force students to continue working and to provide negative restraining forces that keep students going. This is the classification approach that will be adopted here. Although it has been previously suggested that adult language classes differ significantly from higher and tertiary education, the data presented in the literature reviewed here will be used to assess the usefulness of Mackie's classification.

As shown in Figure 2.1, the forces that affect persistence can be grouped into four main groups: social, organizational, external and individual. Social forces are those that meet with others, such as integration and social networks. Organizational strengths include support from language course providers, teaching styles, course content and presentation. External powers are external forces such as business problems, financial resources, health, family and relationships. Individual-related forces are those internal to the student such as their commit-

ment, motivation, goals, and attitudes. As shown in Figure 2.1, These categories are not mutually exclusive and, from time to time, they may be important, as they overlap with several forces that work together to influence the student's decision to continue or not. The following sections will examine the factors in each of these four categories.

2.1.1 External Forces

This section deals with the forces outside the student, the classroom and the institution. It is also the shortest of the four chapters on forces that, by their very nature, affect the decision to continue; most may be beyond the control of both the students and the organization, and may not be appropriate for realistic intervention. However, to better understand the decision to quit smoking, it is important to know what these external forces are. So, what are some of these external forces and, if possible, how can the teacher or institution intervene to prevent students from surrendering? The literature addresses four main factors that affect the student's decision to leave school.:

1. **Personal Issues** Some researchers have found that external forces at the personal level, such as family problems and relationships, can affect the follow-up decision (Newcombe and Newcombe, 2001, Skilton-Sylvester, 2002). Family support can help students encourage students' efforts to promote consistency in all areas of learning, including language learning. The importance of these important people in learning outcomes has recently attracted attention in academic literature (De La Cruz, 2008, Dornyei, 1998, Heydon and Reilly, 2007) and the emerging success of family education programs at the National Institute of Continuing Education for Adults (NIACE) in England and Wales . To publish a series of reports assessing the effectiveness of such initiatives (Lamb et al., 2007b, Haggart and Spacey, 2006, Horne and Haggart, 2004, Lamb et al., 2007a). Positive results in these reports suggest that family learning may be possible for those who find it difficult to manage the family and the trainee when facilities are available.

Roles can also increase motivation to continue when family members need to trust each other to advance. Since language learning can be a long and challenging process, the importance of supporting others cannot be overlooked because they can be fundamentalist in providing the extra increase needed while student motivation continues.

2. **Health** Personal illness or health of family members can also cause leakage. In some cases, the student may miss some classes due to illness or other reasons and may feel that they are far from catching up (Hotho-Jackson, 1995). Here, the teacher can communicate with the student and send lessons and other review materials so that the student can keep up with the rest of the class. Ideally, if time remains, the teacher can give an extra lesson for students who miss it before or after the lesson. Another possibility is to use the yetiş grown-up da language centers in situations where students who are not attending school may need additional work to help them feel more comfortable in joining the class. However, some students will have to stop coming for a long time due to illness or other reasons. Although it is not a possible lesson, after losing many courses, the ability of such a student to keep up with the rest of the class may have long-term positive consequences for a teacher who is personally associated with the student. Miligan (2007) stated that the students who contacted after the courses were welcomed and appreciated that they were respected. This not only shows appreciation to students, but also helps to strengthen positive attitudes towards the institution. For students who need to "stop kişisel for personal reasons such as illness, if their relationship with the institution is positive, their chances of returning later may continue to continue.

3. **Social Services** Other external forces are linked to the problems of social services. Lack or inadequate child care may affect the ability of parents with young children to persist (Kambouri et al. 1996). Presence of the day-care center can help students with no other childcare options.

However, there are clear financial and legal considerations for such a service, but if these issues can be addressed, the peace of mind offered to parents learning a language can greatly enhance their chances of continuing their work. For parents with school-age children, lessons can be given during school hours to avoid disrupting parents' responsibilities towards their children.

There is another external force associated with transport-related social services. People who do not have access to the class may find that public transport is inadequate or expensive, and this can create difficult conditions (Skilton-Sylvester, 2002). If possible, coordinating separation programs with local public services programs can alleviate some of the problem. In addition, transportation vouchers may be given to course participants who do not receive transfer fees to and from the classroom. Although this latest offer seems ideal in the presence of resources, this transport program not only improves retention rates, but also increases enrollment in training courses.

4. **Work** The most frequently mentioned external factor in the literature is related to work-related issues. Employment changes may affect school hours, require relocation, may consume school time, or cause family budget reassessment (Kambouri et al., 1996; Newcombe and Newcombe, 1996).

2001; Skelton Sylvester, 2002; Sidwell, 1980). For the majority of people, financial and financial commitments will have the priority of learning the language as needs that need to be addressed in the near future, in contrast to the long-term needs or objectives of learning the language. Of course, this will not apply to those who are in the backseat for career development opportunities for a period of time, who wish to learn the language in which some family commitments may be taken. In such cases, learning a language or providing language courses in the workplace can help reconcile the tasks of recruitment and learning. This, of course, will also take a great commitment from the employer. Staff in such programs should ensure that the learning time is the same

not conflict with other workplace duties. When language learning is part of a job description, there may be a conflict of roles, and educated students may feel "good work" when a course is completed.

2.1.2 Social Forces

Recognizing the importance of social context in language learning (Dornyei and Schmidt, 2001, p. 15) as a "deep social event". For the most part, communication is the main purpose of language learning. Since verbal communication cannot take place in a social vacuum, the impact of language learning on the social content and the permanence of the student should be taken into account. Integration is central to the social context. The degree of integration of the group members may lead to a sense of cooperation and isolation at the lower end of the integration scale and belonging to the times when integration was more successful. McKay (2001) suggests that stability can be conditioned by complementarity and that social forces can enable or restrict integration. Social forces can operate at the micro level of the class and at the macro level of TL social networks. Therefore, in this section, the problems faced by language learners will be addressed first by addressing the social forces and the healing actions of the class and then those relating to access to social networks.

1. **Integration at the Micro-Level** At the micro level, language classes are social units that students need to locate (Dorneii, 2003). To ensure integration, relationships should be established to address the issue of group relationships in the classroom, arguing that motivation for continuation tends to increase in cooperative groups (Dornyei, 2001; Dornyei, 2001). Similarly, Hotho-Jackson (1995) suggests that the use of strategies that promote collective cohesion can support stability (Hotho-Jackson,1995). However, what steps can be taken to help establish group cohesion, and once established, how to maintain consistency?

(a) **Establishing Cohesion** A number of strategies have been found effective in fostering positive intermember relationships, and although they may seem

Although simple, it is not clear, it cannot deny the importance of ensuring class harmony. In their volume of common motivation in the language classroom, Dorney (2003) stressed the importance of learning the names of students in order to encourage the establishment of relationships. As active members of the group, teachers themselves should be encouraged to learn all the names of their students in the first week of the teacher. The ability to address pupils early by name sends a message to the teacher informing them that they are very interested and respect them as individuals. This can also help create a positive learning environment, reduce anxiety, and increase self-confidence. (Atkinson et al., 1995; Roberts, 2006).

(b) **Maintaining Cohesion** Collaboration is the key to promoting class group cohesion and the literature has made several recommendations to maintain a sense of belonging during the course. Strategy to promote collective cohesion by collaborating in collective and marital use (Atkinson et al., 1995; Dornyei, 2003; Hotho-Jackson, 2003; 1995; Roberts, 2006). Working in pairs or in small groups serves many purposes. Firstly, it is necessary to cooperate for group members to work together to achieve a common goal, which can be a means of interdependence for students. Second, teamwork allows students to get to know each other, and it is more likely that relationships between students who know each other on a personal level will be established. Third, the rewarding nature of performing collective tasks successfully promotes the individual's interest in the group, success leads to success, valid elsewhere than this class language.

2. **Integration at the Macro-Level** These examples work for strategies to improve social cohesion at the micro level of the classroom, but how do social forces affect the learner's stability at the macro level? After the students have reached a certain level of proficiency and have enough confidence in grammar, the next step is to use this knowledge by communicating in real social situations. On the assumption that integration is one of the learner's goals,

language classroom, when is accessing to TL or other networks promote integration and strengthen a student's intention to continue?

(a) **Integration and the Learner's Emerging Identity** Matsumoto and Obana (2004) state that effective language learning can lead to a new socio-cultural and social personal creation through the use of TL to interact with speakers. This may in itself require the student to go through three stages of separation, transition and foundation as suggested by Tinto. In Lambert's words, 1963, p. 114: The more productive a person is in a second language, the more it is found in the other cultural group than in a reference group, but also more modified in his original group. In fact it may be his second membership group. Based on the harmony of the two cultures, he can feel a sense of panic or regret because he loses relationships in a group because of the fear of entering a relatively new group. The term "anomalies" refers to social uncertainties that sometimes distinguish not only bilingualism but also serious students in a second language.

(b) **Integration and TL Social Networks** The transition from integration to class, integration into TL social networks may not always be smooth. Some students may resist consciously or unconsciously, adopt a new identity, and hinder their efforts to become part of the TL community. The resistance can also be demonstrated by TL social networks themselves. In a longitudinal study of Welsh language learners, Newcombe and Newcombe (2001) reported that some L1 speakers were conservative about continuing to speak Welsh with learners, and quickly switched to English after exchanging a few sentences or sentences. Other Welsh speakers were not willing to offer educational opportunities for learners. Suggested reasons for this drawback include how Welsh speakers speak to their learners, lack of knowledge of their Welsh languages and / or dictionaries, and that students perceive the language as "very accurate". Newcombe says TL speakers should be aware

It needs and calls both learners and TL speakers to make it easier for learners to use fluency as much as possible. While this may seem quite perfect, for example, it is possible to develop programs in which TL speakers in the workplace are taught about the needs of colleagues learning the language. Such an initiative could even sensitize how TL speakers understand participants' social interaction in the language and that students can inadvertently send negative messages about their attempts to communicate using language.

2.1.3 Organizational Forces

Organizational forces fall into two sub-categories: factors directly related to the institution and factors of interest in teaching. As organizational and educational organizational forces leave for discussion, there are important overlaps with the responsibilities of the institution and the teacher's responsibilities in addressing a number of issues. Although it is an important part of the organization and a key factor in encouraging persistence of learners, language teachers often do not have much control over some aspects of the course under the authority and management of the course organizers. This raises questions about how organizational forces can be linked to the collective responsibility of the institution or the individual responsibility of the language teacher. The following section will examine the institutional responsibilities and corrective actions that the institution can take in relation to the individual accountability of the language teacher and the educational problems posed by the literature..

1. **Institutional Forces** Business, mostly "Background" aspects of the organization. Organizers are like chefs who prepare courses by deciding what content to enter into a restaurant, what is good and what is mixed, how to best offer each course and how it should be broken down. Therefore, the content of the course is often far from the hands of the real teachers who play the role of önünde in front of the house nedeniyle because they resemble the waiters and waiters who personally serve when trying to do a part of each training course in a timely and effective manner.

Although the institution decides to use textbooks that have been published in advance, it is a special list that will be presented to the students. In addition to the actual course content, other tasks include budget preparation, planning, recruitment, and post-phase training. Of course, the language teacher is not the only player in this game. These are members of the organization responsible for marketing cycles, developing and publishing course information that provides resources for other classroom furniture, such as blackboard, table, chairs, not to mention the classroom! - They also play an important role in the presentation and its success. Although these features are important, the L2 discharge writings show that institutions do not always succeed in meeting these obligations. This raises the question of why the company's responsibilities are not always taken into account and how this can contribute to the arrogance of students and how to prevent this deficiency. Literature describes a number of reasons why students are dissatisfied with the provision of institutions:

(a) Course information; General dissatisfaction with institutional procurement can arise from actual training course information provided by the institution. Some researchers found that students were lost due to erroneous information about courses (Sidwell, 1980; Watts, 2004). Others stated that students could be eliminated if they were not sufficiently informed about the previous course (Gibson and Shutt, 2002; Sidwell, 1980). Such problems can occur in principle in the context of almost every learner, but they can be avoided. It is not clear why students will receive inaccurate and insufficient information from the course, but such errors may arise as literature shows.

Institutions are unlikely to deliberately mislead potential students. Therefore, any inaccuracy appears to be more likely due to typographical errors, lack of attention to detail, or other types of human errors. Institutions are responsible for ensuring that the course information is clear, comprehensive and more important. Times and days of classes, the level and structure of the course, the course content is the most important

Grammar, topics to be covered, teaching materials, course objectives, amount of homework, and type of work evaluated are all possible aspects of pre-session information. Double verification of this information prior to distribution may facilitate confusion in the future. While many students may have inaccurate views about their own abilities and may therefore make ill-advised choices, accurate pre-session information can help them with more realistic assessments of their abilities to promote conflict between their needs and course objectives.

Dissatisfaction with this item can also be reduced by offering training courses or training courses. This direct methodology does not prevent just prior commitment, but it can also help eliminate some misconceptions about language learning such as the time and work needed outside school hours to make progress as described above. Students in the institution must therefore provide prospective students with comprehensive, accurate information and, whenever possible, "give them a chance" before committing them to learning. After doing so, students must ideally be able to make more informed choices about the appropriate courses. Potential students for the course.

(b) Certification; There is another institutional factor in the literature on the continuity decision concerning the implementation of certificates. Although Gibson and Schott, 2002b refer to the change from unprofessional to vocational training as a legitimate reason to escape, (Roberts, 2006 indicates that issuing certificates to students upon arrival at specific learning platforms can be very stimulating. These adverse claims may be reconciled with the fact that the Gibson and Shutt (2002b) teacher's diplomas were presented at the middle of the course, causing concern for students who are inherently learning and enjoying. The goals for these students have been changed by course organizers, and the introduction of work towards the goal of achieving qualifications has added another dimension to

Learning process that did not exist at the beginning of the course. On the other hand, the creation of certificates as a rule and as achievable goals can be helped by using them from the outset to increase the incentive for them "Give students concrete evidence that they are developing" Roberts, 2006, p. 2. This can not only help existing students actually, but also students with external motives, where the certificates themselves can be considered external rewards.

The lesson to be learned from these conflicting claims about the benefits of the certificate discussed here seems to be to avoid warning any sudden or unexpected changes in the middle of the course that may affect the learning climate. In addition to the issue of certification, language organizers whose financial support does not depend on the number of students who have successfully obtained certificates give students the choice between following certificates or other motivational directives.

(c) Teacher training; The language teacher is the most important element in creating a successful learning environment and should certainly be a very effective motivator for students. Ensuring that teachers have the appropriate skills to communicate the language to others is primarily the responsibility of the institution. While teachers need training to identify students 'needs and how to meet these needs, teachers' needs must also be present. Keeping teachers updated with the latest knowledge and research in this area and providing experienced mentors for novice teachers are other issues that institutions must address to ensure that students and teachers work together efficiently (Roberts, 2006).

In the next section, we will examine motivation as a key element in the student's decision to follow up. But as Dornyei and Schmidt (2001) point out, there are few existing L2 teachers, if any, that develop teacher skills to motivate students as an essential part of the curriculum. Language learning centers,

The training of their teachers should be ensured not only to disseminate knowledge, but also to inspire students and encourage them to continue and develop. This may sound like a clear observation, but some language centers need to rely on those who lack or are not educated because of employment or funding. However, sometimes, students need an extra push to continue, and enthusiastic student teachers can make a significant change in retention rates. Therefore, the responsibility of the Foundation's companies to provide qualified trainers is crucial. As suggested, the language teacher is essential in the student's decision to follow up.

(d) Number of teachers; There are indications that having a number of teachers in the same session can negatively affect learning as well as retention rates. Newcombe and Newcombe (2001) report that the use of too many teachers at the same session is a problem for some Wales students. This may be initially unintelligible, as a number of teaching methods, experiences and personalities can create a rich learning environment and help avoid monotony in class. However, different teachers who perform the same class on different days of the week, also known as "run" or "relay", were not always helpful. As humans, it is in our nature to draw comparisons and categorize things on a number of different scales. Having more than one language teacher will make students inevitably weigh the benefits from one to the other. Teachers who prefer the teaching method of the teacher to the other can prioritize prior or unconscious awareness of previous classes during the last devaluation. This can lead to avoid classes taught by the deprived teacher. In a study comparing university students in the same science cycle, a "study course" and one directed by a person, Wickman and Skoder-Davis (2005) reported that students in the individual director mode felt more positive about the course, thinking that the material was more useful, More learning goals and spent more time studying. The advantages of having one instructor also included better teacher-student relationships, and greater flexibility on behalf of the pace of separation when more time is needed

To master the concept and more control over methodology and style. Therefore, teaching can improve hardness that can influence students' perceptions and learning process assessments and can play an important role in decision-making.

Using many teachers may present problems to teachers themselves. Meeting with a class of 20 or 30 students once a week will make it difficult for the teacher to inform and identify the needs of their teachers from those who see them several times a week. As mentioned above, the importance of identifying students and establishing positive relationships between teacher and teacher is critical to creating an educational environment. With fewer hours of contact between teacher and student per week, teaching can hinder the achievement of these goals. Although it is not a negative result in itself, teaching also requires greater contact between teachers. To ensure proper follow-up of material sent during each session, teachers must be able to communicate effectively with one another. This problem is not very problematic when teachers follow a strict approach, setting a certain amount of material per session. But open lines of communication between trainers are important to ensure smooth flow from one chapter to another. It seems to ensure continuity and avoid comparisons and create a report and allow flexibility, companies must use a teacher for each. Of course whenever possible. Needless to say, there are practical considerations about why it is not always possible, such as the availability of trained teachers, or even those who want it! - To allocate education from three to five nights a week when the tournament is inevitable, language centers must ensure that trainers keep communication lines open, not only among themselves, but also between teachers and their students to ensure the best learning experience for all participants.

(e) Physical characteristics of the classroom Environmental psychology has grown in important experimental research since the 1970s, which has helped shape our understanding of the interaction between

The people and their environment. Language students interact in the physical space of the classroom, whose physical characteristics can affect teachers emotionally and have important cognitive and behavioral implications that affect the students' decision to continue (Schneider, 2002, Veltri et al., 2006) . It is the responsibility of the institution to ensure that the language class itself is beneficial for learning, since it has been shown that a number of environmental factors influence learning outcomes; These include: (ie, overcrowding, lighting, interior, temperature, ventilation and noise levels)

2. **Pedagogical Forces** In attempts to increase student retention, the institution's responsibility towards the company has become very diverse. This includes providing accurate information, ensuring the coherence of the course and its components, addressing the physical environment in the classroom to create the best possible learning environment, training teachers and adapting to their needs and ensuring continuity. But how does the individual responsibility of the teacher relate to the student's determination and what corrective measures can the teacher implement to increase the number of people who are developing?

The vast majority of the powers mentioned in the literature that influence teachers' decisions to continue are organizational and educational. A number of reasons may explain why pedagogic forces are the most reported. Perhaps, when students ask for error, they prefer to blame others instead of accepting personal guilt. These forces may be reported frequently because authors and professionals view them as the most important issues to be addressed. Another possible explanation is that such problems are treated more easily and can be observed to mediate. In any case, it is not surprising that educational powers are often mentioned in literature, taking into account the fact that language instruction involves repeated close interactions with the teacher. Teachers rely heavily on teacher skills and knowledge of language. It does not take part of imagination to realize that bad practices lead to poor learning, and thus to bad participation of this part.

The student continues. Therefore, the central educational practice in the inventory of students is clear.

The main concerns regarding education are the difficulties associated with interpersonal separation skills. This is confirmed by the fact that almost all authors refer to the problems associated with these classes (Atkinson et al., 1995; Gibson and Shutt, 2002a; Kambouri et al., 1996; Newcombe and Newcombe, 2001; Watts, 2004; Recomann, 1999) ; Elementary language courses tend to be very heterogeneous. Students' motivation, abilities, and previous experience in learning language and language knowledge can be their own language, and the level of knowledge of TL is different. In mixed classroom skills, novices can feel full enough compared to students and other students who are stronger and more experienced. On the other hand, people at higher levels of skills may feel bored or challenged, leading to a potential reduction in motivation. Both sets of students risk going out. So what are the problems associated with classroom skills, and how can the teacher better mediate them? There are a number of problems that arise with respect to these classes; these include:

(a) **Pace**, the literature reveals that many students found that learning speed was problematic with some reports that the material was delivered very quickly while others, and sometimes in the same class, told the course that the course was overloaded (Gardner, Robert C. Smythe, 1975; Kambouri et al., 1996; Newcombe and Newcombe, 2001; Reimann, 1999). Again, this controversy may be due to the dynamics and heterogeneity of mixed classroom skills. Since the majority of language instruction is in mixed classes, weaker and stronger students will inevitably experience a different delivery rate. Finding a speed that fits everything is not easy. Two recommendations are presented in an effort to achieve a suitable pace for all students: to have a flexible curriculum and to offer activities and other opportunities that take into account individual strengths of students.

Some teachers are expected to provide a certain amount of materials over a certain period of time, for example, a unit or chapter at each meeting in a classroom or week. When the deadlines for institution certificates or exams are met or when subsequent sessions require a certain level of achievement, the use of a strictly defined curriculum seems justified. However, in such cases, the course rate is not less than that of the teacher, but falls within the institution's business system. The inflexibility of such an approach may prove to be a problem. Among the ways in which this problem can be addressed is that the institution will provide the teacher, as much as possible, more autonomy in organizing the course to suit each group of students. When teachers get the freedom not to apply too much to textbooks and get enough time in class to adjust the repetition of the presentation according to the strengths and weaknesses of each class, students can benefit greatly from this personal approach. Students will be more likely to continue if they feel that the pace is more suited to their individual needs and abilities. Each structure must therefore have a specific degree of freedom included in it to allow some flexibility in the presentation of materials.

Individuals learn at different prices, and some have to be challenged more than others. Hotho-Jackson (1995) suggests the use of multiple effects, which she calls "ways" (see section on more roads), which takes into account the different strengths and needs of each ruler. Many performance-oriented students can be given "fast track" opportunities. This can, for example, include additional sessions where tasks are of a more challenging quality or choose to continue optional external reading and writing tasks, which are then shared with the teacher. Those who govern the speed of being faster and challenging additional sessions can also be given an opportunity to review material and ensure that they understand important grammatical points and address other issues or concerns that students may face. It is important that the teacher deals with the use of different paths in a sensitive and diplomatic manner so as not to highlight individual differences

You can create a "us and them" environment. By offering such opportunities and ensuring that students who participate in these additional sessions are volunteers, they can become more personally involved in the learning process by choosing which options to follow or not participate in any of them. Not at all Of course, these different clues can take a long time, and this may not be economically viable in all situations, but when possible, these opportunities can reduce concerns about the speed of the courses.

(b) The importance of the article Many students affirmed that the lack of a significant link with the materials presented in the chapter affected their decision to leave (Gammon, 2004, Kambouri et al., 1996, Watts, 2004). Teachers reported that they could not discover how some vocabulary records, phrases and sentence elements would be useful in real life and in daily interactions. They also could not see the purpose or benefits of many activities in the classroom. Of course, it is inevitable that in a heterogeneous group as a linguistic class, all students will not find all the relevant material all the time. So, what can be done to help students understand the importance of materials and activities in the classroom? Several researchers (Hotho-Jackson, 1995, Reimann, 1999, Watts, 2004) indicate that language teachers do not have much confidence in textbooks and allow students to participate actively in the design of the curriculum. Asking students to make a list of the topics they consider important, and then reaching an agreement to reach an agreement, is a way to ensure that the material presented is relevant to their needs. This also allows students to give them a greater sense of personal participation in the learning experience. Explaining the expected results of classroom activities includes more students in the learning process and makes transparency important for such activities toward their progress in the language. A student who can see the purpose of the activity is likely to play a more active role in participating in the activity. As discussed in the previous paragraph, some teachers must adhere to a rigorous curriculum. As such, they face another challenge, but the issues and activities still need to be of interest

Use them as much as possible in lessons. A certain amount of time must be spent on each lesson to actively engage students, not just in what, but also in how they learn. Such as Ehrman and Oxford, 1995, p. 320 points out that "by giving students choices, teachers can often improve the stability and sense of independence of each student." This personal involvement can therefore not only increase individual motivation, but can also strengthen the perceived relativity of materials and activities in the classroom.

(C) The change, Dornyei and Schmidt (2001), suggests that greater student participation can be achieved by offering stimulating, interesting, interesting and, most importantly, diverse tasks. Repetition can lead to boredom, which in turn can reduce motivation. Various activities, presentations and learning materials prevent a monotonous and predictable learning experience. Teamwork can be followed, for example, by individual office functions, deepening of questions and answers, talking about activities in written tasks and stationary tasks for others who need locomotives. Sometimes the prospect can keep students alert and stimulate their desire to stimulate learning. Making activities more attractive and adapting to student interests makes them more attractive. Discovering the types of activities that students take outside the classroom and developing tasks that include aspects of these activities is another way to generate interest. For example, discussions in small groups on topics such as favorite dishes, films, books or music can lead to animated conversations. Encouraging students to take effective responsibility for their duties increases their perception of personal participation. Adapting tasks and creating specific roles, such as learning personal lines in the game and then physically removing them from the classroom, can increase student enthusiasm and involvement. Contrast in classroom activities can benefit students with different needs and learning patterns. Due to the heterogeneous nature of mixed skills in the classroom, not all activities are attractive to all teachers at all times. By undertaking a series of activities, you increase the teacher's ability to meet needs

(d) Pair and group work, The successful use of mixed-skill classroom and teamwork depends on two issues: the teacher's knowledge of the individual pupils' strengths and weaknesses, and the identification of individual and collective goals. It is not possible to emphasize sufficiently the recognition of students and the importance of the teachers 'discovery of individuals' strengths and weaknesses. Different skills in the classroom must always be adhered to, but this knowledge is particularly important when students are to work in groups and groups. Some researchers suggest that random pairs of students will prevent feelings of choice due to ability or personality, and that the periodic cycle of partners will give everyone more opportunities to leverage the power of a number of individuals. This suggests that several free activities with less defined roles also allow students to contribute as much or as little as possible. However, there is a risk of stronger study control over the procedure. This can be prevented by assigning the more difficult roles to the stronger partner first, while the weaker partner can contribute less difficult input. After performing the task several times, the roller can be inverted and the weaker ones of the two benefit from repeated exposure to the most difficult materials. Random mating also avoids forming groups of students with similar abilities. Such a group can undermine the achievement of the group's goals by creating an "us and them" atmosphere as mentioned above. Avoiding such attitudes is crucial for the exercise of class context. Routine mixing and matching between different students can help overcome group formation and lead to greater empathy and willingness to help among classmates.

(e) Linguistic Conditions The use of language conditions (meta) in the classroom has proved problematic for students in Gibson and Shutt (2002a) and Sidwell (1980) studies for adult students. At some point

Students may have understood "circumstances" and "traction", but many of them were not in an academic environment to discuss

Such problems for several years. Since most adult students are unfamiliar with linguistics and find the terms overwhelming, the condition is only required if the terminology (meta) is taught and used in the classroom (Atkinson et al., 1995). In the mixed capacity category, the length and type of previous language studies may offer some students an advantage over others who have little or no experience because their language skills are more advanced. In fact, a recent study of advanced German students in the first level of L1 seems to confirm that increased level 2 proficiency leads to the accumulation of language skills (Roehr, 2008). However, the same study was unconditional as to whether or not meta-linguistic knowledge can contribute to an increased L2 skill. In fact, you may have the ability to feel a part of the speech and correctly determine that grammar rules have very little influence on language acquisition. In a study of more than 500 French-speaking university students (Alderson et al., 1997), students with higher levels of meta-linguistic knowledge did not tend to perform better in French, and their skills did not improve at higher prices than other students. Therefore, there appears to be no indication that teaching language knowledge improves students' language skills. Therefore, and because many students find the vocabulary scary, you should avoid using the term (definition) in the classroom or keeping it to a minimum.

(F) Chair arrangements. We have seen the above sections, which students often change where they are in the classroom, and which encourage increased communication and interaction between students and can improve the group context. Returning to research in environmental psychology, research has shown that placing a table in the classroom can also influence learning outcomes. It has been suggested that the physical distance of the teacher can play a role in implementation. For instance. Some researchers have reported an inverse relationship between the distance between teacher and student scores in different assessments (Benedict and Hogg, 2004; Holiman and Anderson, 1986). Baker et al. (1973) demonstrated the same relationship about the student's approval of the coach. This would suggest, there-

That the arrangement of quasi-circular seats is most beneficial; being one distance away from all students allowed the teacher to teach much of the center, avoiding the problem of physical proximity. However, this type of arrangement is not always the most useful for learning at any time. Some types of seats have proved to be more suitable for performing specific types of tasks. These arrangements can have a significant impact on student performance, interactions and behavior (Benedict and Hoag, 2004; Hastings and Schwieso, 1995; Marx et al., 1999; MacAulay, 1990; Moore, 1990; Niemeyer, 2003). The placement of students in rows and columns has been shown to promote task-oriented behavior and academic learning (MacAulay, 1990). The placement of seats in small groups of four or five people enhances social interaction and is ideal for small group work and collaboration (Niemeyer, 2003). Semi-circle seating encourages discussion and generates an increased sense of society (Marx et al., 1999). Wherever possible, teachers must use different types of seats by selecting the seats associated with improving some learning activities. For example, drilling and discussion in the classroom can benefit from semi-circular seats, while students can take advantage of row and column arrangement during intensive grammar and other highly demanding activities.

(g) The teacher in the classroom - the teacher is the most important impact on the successful learning environment. Does the teacher encourage it? Easy to get along with? Committed? Enthusiastic? All these qualities stem from the character of the teacher and can influence the student's decision to continue. The literature shows that students often consider the personality of the teacher and his general social skills more influential than the methodology. Dorney and Schmidt, 2001, p. 31 reports on studies that repeatedly emphasize that the teacher is at the heart of whether learners stay or go and points out that "this tool" was one of the most frequently used in the collective practice of the teacher. There are nearly as many theories about personality as personal aspects. This is not the

A place to evaluate different theories, it is not possible to touch every aspect of a teacher's personality here, but the fact that some students have reported this problem as affecting their decision to quit smoking demonstrates that it is an issue worthy of attention. The outward appearance of an individual's personality paves the way for how people relate to one another, to address tasks, to look at the world and to respond to them. Like every student, teachers are different. Some teacher / student pairs lead to positive and caring relationships, while others are fraught with difficulties. How do learners perceive the teacher's personality as problematic and what can be done to foster better teacher-learner relationships?

The research shows that some teachers are not always perceived as being particularly motivated or supported by them. The show of favoritism toward some students proved to be a problem for some students in the Gibson & Schott Study (2002a). Watts (2004) reported discouraging teachers from rejecting them. In these circumstances, it is not surprising that these students tend to resign. Every student should feel that his / her presence in the classroom is desirable and that his / her contributions are worthwhile. It is clear that second-rate learners do not see the environment as particularly nutritious to meet their individual needs and will likely lose the motivation to continue. The teacher is responsible for dealing with students equally and encouraging them to learn. Trainees who have taken appropriate courses to classify their teachers according to different advantages may find themselves also victims of this humanitarian trend. Therefore, the teacher must be familiar with such trends and try not to prefer student to the other. It is easy for teachers to fall into the trap of asking some students to answer questions because they will call for the correct answer, making teaching easier for the teacher. Students can and will choose it, and quieter people will feel that their contributions are useless if they are rarely asked to participate. Make sure that each student has the opportunity to contribute to each task

help prevent feelings of favoritism. Dornyei (2003) suggests that teachers record their own lessons and listen to them for any sentences or directions that can be interpreted by students. This would really be a very useful exercise to help the teacher follow their output, see things from the perspective of the teachers and gain more confidence in their role as "teacher in the student's teaching." Adopting and adapting various elements of theories and methods and learning to "transform" into the role of teacher can also help teachers express their expectations of student success and help them understand how they experience the learning process.

2.1.4 Individual Forces

Internal forces relevant to individual or student influence the participation to continue the study. Each student participating in the language course brings his / her own characteristics and personal experiences, and these are the individual differences that affect the learning outcomes in the classroom, as well as the possibility of continuing to study the language. Skehan (1991) may be the most comprehensive and comprehensive treatment of individual differences in language learning. Skehan explains how it can stimulate individual cognitive and emotional traits, which can ultimately affect success or failure by learning L2. Individual motivational factors were considered among the most important predictors of the study of intransigence (Bartley, 1968; Clement et al., 1978; Bartley, 1970). There are a lot of literature on the motivations in chapter L2. Although the purpose of this section is not to focus on the same motivation, the motivation and individual differences are closely related. It is therefore important to take into account the basic concepts of learning variables, the measurement tools for the purpose of this study, in order to gain a better understanding of individual strengths that can affect students' commitments. For this purpose, I will devote a comprehensive chapter to the exploration of literature on student variables.

2.2 Individual Differences

Claims Cicero (2005) to explain the process of learning a foreign language requires two complementary dimension of the transition to teaching learning. That indicates that the transition from the teaching and learning process to the relationship between cognitive skills and knowledge of the mechanisms to transfer from point A to point B (Hunter 2014). It describes learning from point A to point B. knowledge characteristics play an important role in the crisis between human language learning through the learning passes. Light suggests (in Robinson, 2005), an interactive approach to individual differences, the relevant aspects of the person and the fact that there is to explore the relationship between cognitive variables and the results respect to the information and the address to different disclosure requirements. The researchers tried full of such variables among men, and most of them (Olivares, Cuhat, 2013) with the following categories: cognitive factors (ready for language learning strategies) (b) factors affecting the (present case, anxiety): factors behind the cognitive d . Demographic factors (eternal; 2014). This study was to explore whether some variables can affect the students plan to follow students from language to language, deprived of her menstrual cycle. But, nevertheless, in this way the greatness of man. Given the basic study of the law of little use, that are in the introduction, is not considered a motion variables and demographic variables (Note: Many of the elements of demographic variables, elements of the external forces which are discussed above) that most students of the variables that may affect the language of the student's decision to continue or abort.

2.2.1 Affective Variables

This was especially important to the stability of a community of students Forecaster variables considered (Bartley, 1968). In the first study, Diana Bartley (1968,1970) Enter the term "basketball from a foreign language problem" and the term was intended to portray standards in place by gradually second language teachers in the United States. Learners, they join language classes, have different personalities

characteristics and experiences, and it is these individual differences which influence the learning outcomes in the classroom as well as the likelihood of continuing a language class. The literature of the affective variables, in the L2 acquisition, is entangled. While the purpose of this study is not to focus on the affective variables per se, we considered the dominant classes of them as motivation, attitude, and anxiety.

1. **Motivation** Is a motive force to achieve the goal. This is important to understand the distinction between a person's social psychology as "intention" and "emotional". The word "orientation" to goals of students to learn the language of the greatest long-term. To distinguish the two Aarban guidance "directed integrating", includes a desire to develop understanding of the whole tongue, the language of the target and perhaps for this, among them, the "effective approach" consists of an urgent need to learn the target language of several functional purposes (for example, to get a job). The "system" is defined primarily in terms of "wake-Intensity" (that is, the attempt to doctrine, which was made ready, and perseverance to learn the language learning). Thus, although some trends seem to learn, but they are very weak and in achieving their goals. This suggestion was made that work with Lambert and Cicero in Canada, which is the movement of the wind, strongly complementary to the measure of L2, but subsequent research has shown that learning in some circumstances (such as the Philippines or India) is an internal movement is important. In subsequent publications, and human relations, and Cicero admits that it need not be in the same group of students (Cicero, 2004).

   Moreover, it is likely to change over time, trends, learning, reflecting changing patterns social and technical developments. Thus, the image of the Kruidenier Clement study (1986), use an example from the same people, they Belmechri and Hummel (1998), some of the same trends (such as travel and friendship), but also some of the new trends (eg, self-understanding and helpful). Others shown in studies

Studying learners can be a lack of the proper intention that any man should, firstly, seem to have long lured eternal tendencies. In short, student orientations vary, depending on situua-national context and temporal, and also dynamic. What they benefit from as much as they have is the learner to achieve the learning goals, the health being prepared (ie, the study of motivational perseverance).

The first Cicero motivational divide (1985) can be considered a paper. They suggested that there were two types of movement, an active and complementary role. These views on the division of labor (Gardner and McIntyre, 1991, The Load of Williams, 1997).

The first Cicero motivational divide (1985) can be considered a paper. They suggested that there were two types of movement, an active and complementary role. These views on the division of labor (Gardner and McIntyre, 1991, The Load of Williams, 1997)

Another motivational division, for something obvious existing through itself against a stranger. Thus it goes awry to see what motivates personal trinsic motivation and self-motivation to develop students on the acquisition or classroom. These research studies can be done through the division of labor (Dorny and Schmidt, 2001, Dorny 2003, Crookes and Schmidt, 1991).

I found in both thorns that differences in dominant cultures that language learning takes place. That the design of such a disposition, constantly grade language. Anbar Allah. (2001), with the teaching of Arabic and Hebrew in Israel, it is not surprising to discover the low motivation is negative, the low incidence, the high dropout rate, all were represented in the conflict with the Arab world Anbar et al., 2001 p. 298. In another study, Gardner, Robert C. Smith (1975) found that the dropout rate was positively correlated with reduced motivation. The most interesting and important learning was found in the second report, Continuing Study Languages (Clemente et al., 1978) That the design of such a disposition, constantly grade language That the design of such a disposition, constant. The socio-

educational model of language learning by Gardner (1985) is the most common model in the research studied and it's verified through the AMTB - Attitude / Motivation Test Battery (Cochran et al., 2010; Robinson, 2005).

2. **Attitude** possesses motivational properties and motivation provides attitudinal implications (Gardner, 2008); that indicates attitude as a primary factor of behavior. The concept of attitude is complex to describe; therefore, researchers have proposed different definitions. Allport (1954 as cited in Horwitz, 2008, p. 157) describes attitude as 'a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related'. Gardner (1985) proposes that attitude is 'the sum total of human's incitements and feelings, bias or prejudice, threats, fear, preliminary feelings and condemnations regarding any indicated topic'. Xu et al. (2007) describes attitude as a set of beliefs that a learner holds toward the target language whether it is important, interesting, boring, and so forth.

   Research on attitude toward second language has focused on a variety of specific attitudes, According to Ellis (1994), learners show different attitudes toward (a) the target language, (b) target language speakers, (c) target language culture, (d) the social value of learning the second language, (e) particular uses of the target language, such as a skill, (f) themselves as members of their own culture, (g) language preference, and (h) attitude of parents toward language learning.

   Plenty of research studies have reviewed attitude as an important variable to cause a positive or negative reaction to language learning (see, for example, (Gardner, Robert C. Smythe, 1975; Oroujlou and Vahedi, 2011). Bartley (1969, 1970) found that students who continued their language classes were more positive attitudes toward the class than did the dropouts. Gardner and Smythe (1975) also found that dropouts demonstrated less positive attitudes than students who continued. AMTB has measure scales for attitude in tandem with motivation.

3. **Anxiety** is another variable which contributes to the process of foreign language classroom learning. Learners may have an inbuilt tendency to feel anxious (trait anxiety) but they may also, irrespective of their personalities, experience anxiety in particular contexts (situational anxiety). Foreign language classroom anxiety constitutes a particular kind of situational anxiety, one that is distinct from classroom anxiety in general because being required to use a L2 when proficiency is limited constitutes a threat to learners' "language-ego." Early work on foreign language classroom anxiety was carried out by means of analyzing learners' diary studies. It showed that classroom learners often did experience anxiety, especially when they felt themselves to be in competition with other learners (see (Bailey, 1983)).

   Not surprisingly, many research studies have shown the negative impacts of anxiety on (L2) achievement (Ellis, R., 2004). Different views on the effect of anxiety on (L2) learning can be found in the work by ((Bailey, 1983; Horwitz et al., 1986; Aida, 1994). Gardner (1987) in his paper "The Role of Anxiety in Second Language Performance of Language Dropouts", suggested that anxiety plays a significant role in language learning. (Horwitz, 1986) estimated that foreign language anxiety accounts for approximately 25% of the variance in foreign language performance.

   To conclude, "anxiety can play a significant causal role in creating individual differences in both language learning and communication" Macintyre, 1995, p. 90. That indicates the causal link between the anxiety and the lifelong learners' decision to continue or drop out in language classes. Later research has adopted a quantitative approach based on questionnaires. The Foreign Language Classroom Anxiety Scale (Horwitz et al., 1986). The scale developed by Horwitz et al. (1986) is one of the common models in research studies to measure the degree and source of learners' classroom language anxiety. Anxiety, like motivation and attitude, is a learner factor that is amenable to pedagogic influence. However, it is probably far too simplistic to work on the assumption that less is better. Pedagogic intervention needs to be directed at achieving the right level and type of anxiety. Relating anxiety to a processing

model, as proposed by MacIntyre and Gardner, may ultimately help teachers to fine-tune their interventions by focusing on specific sources of anxiety.

2.2.2 Demographic Variables

They are are individual characteristics assigned to some variables; Oxford (as cited in Onwuegbuzie et al. (2000) mentioned that gender differences exist in language learning strategies. Kimura (1987) asserted that brain organization for some functions obviously differs for women and man. Analogous to their efforts, (Schleppegrell, 1987); Ehrman and Oxford (1995) found that age is related to the second language acquisition. Another demographic variable was reviewed in Onwuegbuzie et al., (2000) literature review; the study stated that "one may assume that students who have visited many foreign countries and whose immediate family members speak one or more foreign languages proficiently are more inclined to appreciate the benefits of foreign language acquisition, and, consequently, are more motivated to learn a language than are their counterparts" (Onwuegbuzie et al., 2000:6). Other factors might be related as well; for example, consider an individual in the process of achieving a mission, as we would most likely find the work atmosphere, family atmosphere, and personal experiences might affect the output.

In this study we have considered the following demographic variables: gender, age, marital status, education, job, another spoken language, is it the first language course, and score of the placement test. Overall, we assume that the demographic variables help to perform essential statistical analysis on the sample to present a vivid image of the behavior across a population.

2.2.3 Related Factors

Either confirm or undermine the internal learner movement different things can continue. This leads us to the question, as much as it is directed to both the tongue forces, not the cause of affection, and his disciples, too, the effect of those things that belong to the study of existence, also suggested a negative conclusion can also be effectively by flooding that must be, They raise. In the following letter, students have found a reason related to tea to influence the low policy

out:

1. **Ethnocentrism** In a study for college students, Gardner et al. (1976) reports that ethnicity and depriving L2 speakers of many of the motives of "renouncing us con. Thus Cicero (2004), a decrease in the number of hunting for modern foreign languages and classed students to quality and citing lack of interest in history and culture of the people who, in the book frustrating, the speakers Leeb to think in total, more TL, and this is true for communication and more empathy and understanding of cultural diversity was born guistics Morsque, peppering language teaching with elements of culture and history, and his speech when lost

   "Brutal and Communities Leape. But as you can create relationships effectively abroad, coupled with the desire to learn the language of variants by learning more about what I say, witnesses.

2. **Capacity** Skehan Foreign Language (1991), as a means of raising the security of continuing to prepare a foreign language, and the ability to learn another language, in general or in person. Some of the work to be those who learn another language they seem to understand phrases with the other elements we find: L2 good man and mistakes on their fingers slipping away. He is able to fight violently from his tongue in the tongue of those who know he is more successful and can feel shame. "Only less than one teacher is the tongue of disposition to keep up with the movement relative to our other weakness, known to reduce.

   The strength of each of them is unrealistic to hope that the most common in the same increase for 3. feelings of their teachings, what you endure, is Iuliano's.

Prospects for Language Progress (D¨ornyei, 2001a; Gibson and Shutt,

2002A. Matsumoto and Obana, 2001; Riemann, 1999; Sidwell, 1980; Watts,

2004). Many students expect to achieve fluency much faster than reasonable assumptions and to keep them inaccurate about the time and work required to move forward. Dorney (2001a 67) explains that unrealistic beliefs can be "ticking bombs" at the beginning of the language cycle because of the inevitable disappointment that must be followed. Students should be alerted in advance of the time, effort and commitment required within and outside the classroom to make progress. Students who do not understand what it takes to learn a language can lead to a false self-assessment that results in their language learning being misused. It is not difficult to see how, in conjunction with the diminishing incentive, this can eventually lead to escape.

Although other topics such as IQ and individual learning patterns may also be important for motivation to continue, they are relatively stable features of students (Brown, 1994; Skehan, 1989), which may be less likely to intervene than those mentioned here.

2.3 The Present Study- Research Questions

A critical step was to posit a causal link between the demographic, affective variables and the lifelong learner's decision to continue or drop out in language classes. Within the scope of this primary goal, an answer to the following questions have been sought:

1. Do the continuations and dropouts of lifelong learners show differences in the measurement of the affective and demographic variables?
2. Are the affective and demographic variables significant to predict the learners' decision to continue in a language class?

3 METHODOLOGY

3.1 Preface of Methodology & Methods

3.1.1 Meaning of Research

Definition Scientific research activities and should therefore be used technically. Collecting, organizing and evaluating references, drawing conclusions and evaluating conclusions, very carefully to determine whether the formulation hypotheses apply (Kothari, 2004). Searches in common languages refer to the search for knowledge. When you can identify a search query as a scientific and systematic search for relevant information for a specific topic. This study is also a scientific study.

Aim of the research The aim of the research is to find answers to questions using scientific procedures. The main purpose of the study is to discover the hidden truths that have not yet been found. Although each study has its own purpose, we can consider research goals as part of the following general groups: (A study of this organism is considered research or formulation); (b) a description of the characteristics of a particular person, position or group (a study of this object is known as a descriptive study) (see a study that emphasizes this object, called a diagnostic study); D) Check hypotheses about causality between variables (this study is known as a hypothesis test).

The aim of the research is to find answers to questions using scientific procedures. The main purpose of the study is to discover the hidden truths that have not yet been found. Although each study has its own purpose, we can consider research goals as part of the following general groups

Motivation in Research Cognitive research people ask what you do? This is a very important issue. Or it can be a case study of the following: (a) the degree and spread; (B) the desire to address the outstanding challenges, as well as employment issues, begins to investigate; (100) and a craving for some intellectual pleasure from the creative work; d) 5. What are extant with respect to the the public they wish to.

Types of research and research categories are:

(A) descriptive and analytical; order to study includes various types of examinations and was audit. In contrast, analytic studies, the researcher must use the trial was already available information or material and to analyze the crisis. (A) theoretical and applied research is applied to get a response to a question to the next company or industry / business organization, but the most fundamental research related to formulate the general and teaching. (100) Quantitative and qualitative, quantitative studies quantity and amount, which is based on the proper measurement. This is the law of the intention that it not be quantified. On the other hand, refers to the quality of research quality; I., quality, quantity, or the proceedings class of disease and symptoms. (500) empirically and reason, not by the search for an abstract or conceptual learning. Used as a This is a for the most part it is connected with the philosophers, and thinkers of existing things, or to interpret, develop a new concept as it is addressed. On the other hand, the more experienced research experience or observation, often without a true model of learning.

Research coming from the above description of the types of research shows that there are two main approaches to their research, namely, the quantitative and qualitative closest approach. The first includes the acquisition of quantitative data on the species, can be subjected to a rigorous quantitative analysis in a rigorous manner and Informale. Nor have access to the quality of the objective sense of the fixing of the diversity of opinions and the behavior that this very thing. Research in such a state, it be explored, in particular with regard on what has the impressions of the researcher. This approach yields results in a non-specific quantitative research, or on the road, which is not subject to

Type	*Methods*	*Techniques*
1. Library Research	(i) Analysis of historical records	Recording of notes, Content analysis, Tape and Film listening and analysis.
	(ii) Analysis of documents	Statistical compilations and manipulations, reference and abstract guides, contents analysis.
2. Field Research	(i) Non-participant direct observation	Observational behavioural scales, use of score cards, etc.
	(ii) Participant observation	Interactional recording, possible use of tape recorders, photo graphic techniques.
	(iii) Mass observation	Recording mass behaviour, interview using independent observers in public places.
	(iv) Mail questionnaire	Identification of social and economic background of respondents.
	(v) Opinionnaire	Use of attitude scales, projective techniques, use of sociometric scales.
	(vi) Personal interview	Interviewer uses a detailed schedule with open and closed questions.
	(vii) Focused interview	Interviewer focuses attention upon a given experience and its effects.
	(viii) Group interview	Small groups of respondents are interviewed simultaneously.
	(ix) Telephone survey	Used as a survey technique for information and for discerning opinion; may also be used as a follow up of questionnaire.
	(x) Case study and life history	Cross sectional collection of data for intensive analysis, longitudinal collection of data of intensive character.
3. Laboratory Research	Small group study of random behaviour, play and role analysis	Use of audio-visual recording devices, use of observers, etc.

Figure 3.1: Types of Research Methods and its Techniques

to a strict quantitative analysis. Group conversations often focus on art, arts and crafts and in-depth conversations are projective. Then how long.

3.1.2 Research Methods versus Methodology

It is necessary in this respect, it seems to explain the distinction between the research method of research. Research can be understood that the manners of all these moods are / the art, capable of directing the feet of the investigations to be used. Researchers research methods or techniques that are used, in order to make the research into action. In other words, all methods used in the research and studies have investigated the problem and are referred to in the research. For the research, especially in applied research to solve a particular problem is that the information available from the unknown, and she faces the problem associated with one another in order to allow solution. Figure 3.1 example, the types of Chinese.

It is a systematic research method to solve this problem. It may not be understood by studying science and researching science. Therefore, in various phases of research for this purpose, as is usually done by research students in research is one of the reasons for their seed after them. It is, as you know, not only about researchers / research techniques, but also methodologies. Searchers need not know how to develop specific tests or guides, which may mean the reason and measure whether chi-squared standard deviation standards are using research technology, but also need to know that except in the field; things that are not, and those who are sarcastic, what they want.

From what we have said, we can say that research and research methods involve many research methods. This research method is wider than fashion. investigators themselves or others. Why research is taken into account in this study, how research questions are determined in a way and therefore they are from the hypotheses of action being the objective given, collected, and as much as possible of the methods they have received, what is most important is the art of analyzing data is the use, and then the public other similar projects; there are questions about the use of methods that usually respond with research and to address research questions or Kothari (2004).

3.2 The context of The Study

The participants were enrolled in Intermediate English Language Course (B1 and B2) at Fatih Language School (FLS). FLS is a language training center operating under ISMEK (a mass lifelong learning cultural organization, which founded by the Metropolitan Municipality of Istanbul, Turkey). To explore more about the pedagogical and the educational platform you may find more on the organization's website (ISMEK (Lifelong learning center), 2018); the functionality of FLS is de-

picted in Figure 3.2; in words, After the interested learners in foreign language visit the organization website, they register the language level in which they are following. Following that, the learners' selection based upon the placement test results. There are no any other criteria such as gender, age, education, or occupation. In another words, it's a heterogeneous classroom. What's more, the administration will assign a teacher to a group of lifelong learners; the expected time is a three-month course. Upon completion of the course, the lifelong learners perform a final test.

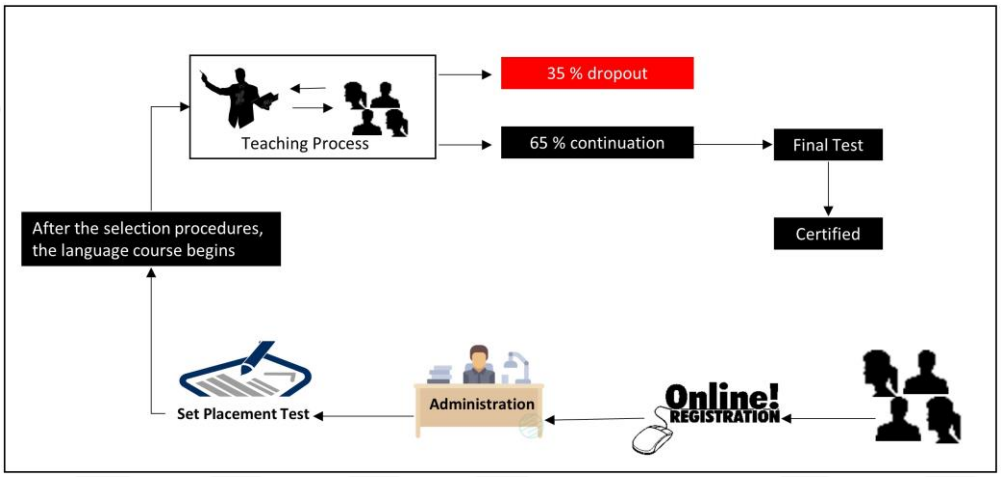


Figure 3.2: FLS Paradigm; the functionality of starting a language class in FLS

3.3 Participants

Since 2015-16 school calendar, FLS had a record of roughly 35% of dropouts. It's noteworthy that the rating of factors like the quality of lectures and teachers were positive. An overriding concern by the management had taken place to find out a solution to reduce the rate of dropouts. To this end, the target population of this study was lifelong learners who enrolled in Intermediate English Course (B1 and B2) offered by FLS from September 2017 until March 2018. We gained access, which granted by the school management, to 445 learners' contact number; After a phone call, 369 learners agreed to participate in the study.

3.4 Instruments

Research in other ways, depending on the kind of quantity. For this reason, the matter of the taxes of the appearance of a Likert item its own greatness, he should report measures, was the knowledge of students. In some cases, such as Numbers: Embedded Test Group (grow) are tests used in psychology. There was given unto obtained from the questionnaires and tests presented the aspect of the analysis (for example, the cause of, by reason of the importance of Product of wheat '; a doer of the analysis, the verification and validation of, or retrace her steps), so that in the relationship between a variety of other things, and / or by any relationship factors (such as the knowledge of the movement of the leads) and his greatness, L2 performance is either skills.

In this study, much depends on the validity and reliability, and questions about the tests used. in order to measure with which to measure what they wish for? consequently, that they are doing? Therefore, in a way, are not included in the questionnaire attempted organs are stable, as shown in Table 3.1. It should be noted that there is uncertainty about the letter, especially power, which still expressed (Cicero, 2004). And I believe in lies the problem of the ends of the correlational analysis: This may be made of the relationship between the variables, rather than a higher. The bond between a business and a movement that has no easy decision to continue or return some independent variable dependent on statistical measures (porta way) in order to solve this problem. Despite this problem, researchers at the tool stay. It is recommended that the increase in use for this purpose for us. Two research questions.

Ellis (2004) states that "we are relying on quantitative differences in the study, and it is unfortunate ways. In a discussion on research holds Spolsky (2000) reported Peter Caesar what is the use of questionnaires in the 1950s, suggested that the best way to know the causes someone's integrative possible that it will talk to him more

Individual difference factor	Research instrument	Brief description
Language aptitude	Modern Language Aptitude Test (MLAT) (Carroll and Sapon, 1959)	A battery of tests measuring phonemic coding ability, grammatical sensitivity and rote learning ability.
Learning style	Group Embedded Figures Test (Witkin et al., 1971)	A test requiring learners to identify geometrical shapes embedded in larger figures.
	Perceptual Learning Style Preference Questionnaire (Reid, 1987)	Questionnaire measuring four perceptual learning styles (visual, auditory, kinesthetic, tactile) and two social styles (group and individual).
Motivation	Attitude Motivation Index (Gardner, 1985)	A questionnaire designed to measure learner attitudes, orientations, desire to learn the L2 and motivational intensity.
Anxiety	Foreign Language Classroom Anxiety Scale (Horwitz, Horwitz & Cope, 1986)	A questionnaire measuring the degree and sources of learners' classroom language anxiety.
	Input Anxiety Scale, Processing Anxiety Scale and Output Anxiety Scale (MacIntyre & Gardner, 1994)	Three short questionnaires designed to investigate learners' anxiety at three levels of processing.

Table 3.1: Frequently Used Instruments in research individual difference factors in SLA

in the evening for a bottle of wine "(p. 160). On the quantitative restrictions that some have led researchers to fire them in favor of the exclusive use of nature, as follows (see, for example, and Spielmann Radnofsky (2001) peremp-necessary tactic resignation has been to use parts of the questionnaires in the study of L2 learning care.) a better approach, but that Spolsky frame, access to qualitative and quantitative this type of side conversations, students described, the students were A hybrid approach is likely to offer a nation the richer and more personal elements only for students to ence difference - a good example of such research is Bach (1997) How a neurobiological structure of the brain that initiatives affective student

response to learning an L2. However A few examples issued letters of differences, that is because it is very time consuming."(p.529)

3.4.1 Demographic Variables

We collected the information about the learners' demographic variables through a brief questionnaire. The information, including gender, age, marital status, level of education, job, if any other spoken language beside the mother tongue, if it's the first class to attend, and the placement test score (which was provided by the school management). The average time to fill out the questionnaire was 5 minutes. See Appendix A.

3.4.2 Affective Variables

In this study, we employed two instruments to measure the affective variables.

1. the Foreign Language Learning Anxiety Scale (FLCAS), developed by Horwitz et al., (1986) which includes 33 statements, however, we selected 15 items for the study. Each item was rated by the participants using a 5-point Likert scale, in which 1 showed high anxiety and 5 indicated no-anxiety. The average time to fill out the questionnaire was 10 minutes. See Appendix B.

2. We used the second instrument to measure the learner's motivation and attitude score. The questionnaire consists of 55-items from the Attitude/Motivation Test Battery (AMTB, Gardner, 2004). The six responses: Strongly Disagree (SD), Moderately Disagree(MD), Slightly Disagree (SD), Slightly Agree (SA), Moderately Agree (MA), and Strongly Agree (SA). In case the items were negative in the light of learning English, the responses were reversed to obtain the final score. The average time to fill out the questionnaire was 30 minutes. Sample of the questions are in Appendix C.

Notes:

1. A native speaker has translated the primary instruments from English into Turkish. After that, with the aid of a Turkish literature specialist, we em-

ployed a series of back-translation procedures to verify the accuracy of the translations. As a result, any discrepancies were discussed as well as the questionnaires revised and again back-translated in the few instances where necessary.

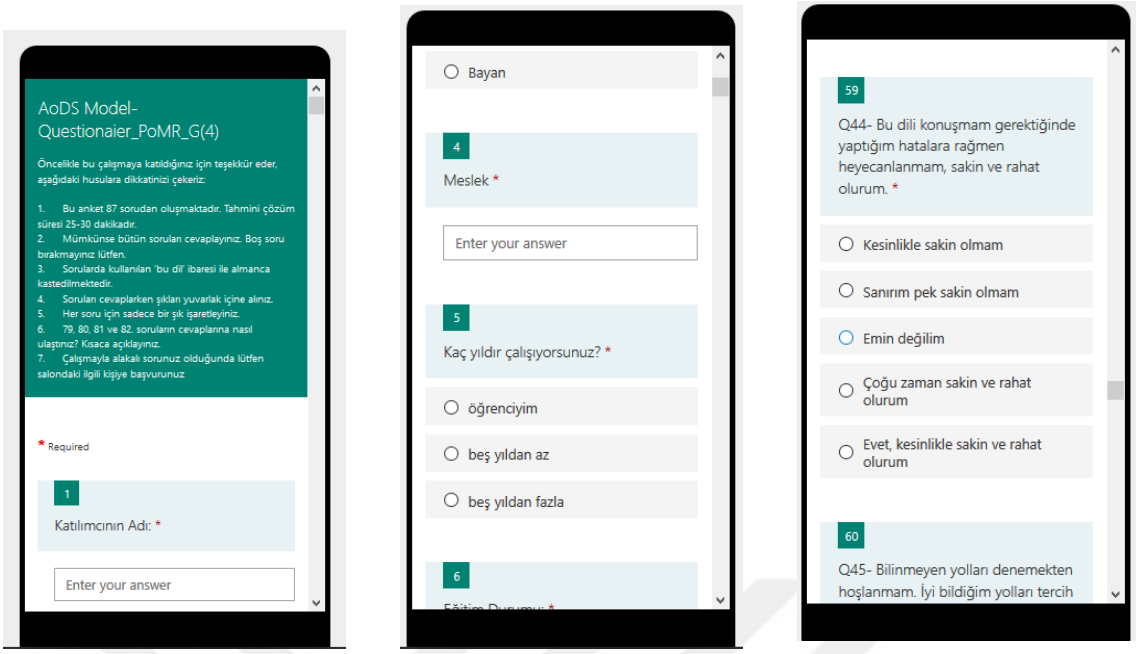
2. We assumed that the instruments (FLCAS, and AMTB), which employed in this study, possess a satisfactory level of validity and reliability. However, we requested two EFL teachers alongside the second author to review the instruments. As reported by the assessors, the three instruments had a satisfactory level of validity. Following that, a pilot study was also conducted to measure the reliability of FLCAS and AMTB. We selected 30 learners at random from the target population. The reliability coefficient test was run by PASW Statistics (Version 18). The values of Cronbach's Alpha were .846 and .851 for FLCAS and AMTB, respectively.

3. The three instruments (the demographic variables questionnaire, the FLCAS, and the AMTB) are administered using online software service. The participants were able to access the survey using their mobile phones. That helps very mush in two directions: (a) offering convenience for the participants, they can answer the survey anytime they wish whenever they are available. We added the feature of being able to postpone the answers and continue sometimes later. (b) the research administrator. It helps in the sense that I was able to manage the answers and their ability. The time of answering was a metric to measure the participant transparency of answering the questions. Figure 3.3 shows the mobile-phone online survey.

3.5 Data Collection and Procedures

3.5.1 Data Collection

Before the beginning of the course; data were collected at the beginning of two terms (fall and spring)



(a) Intro face (b) Demographic Var Face (c) Affective Variable Face

Figure 3.3: Questionnaire Online-Mobile Phone Version

1. Step one: Quantitative data from a survey questionnaire including the learners' demographic information and both instruments the FLCAS and AMTB, which merged into a single document and divided into two parts, were distributed in two phases. The first phase for the learners who enrolled in fall term 2017 (September, October, and November); the second phase for the learners who enrolled in spring term 2018 (January, February, and March). Participation in this study was solicited, and data were collected online using the online software. The invitation was sent (after acceptance from the participant by telephone) with an introduction. In the introduction, we explained the aim of the study with a respectful and understandable language. On top of that, we asserted the survey was voluntary, and the data would stay confidential. After answering the demographic questions, the participants moved on to the FLCAS and then to the AMTB.

   However, we excluded 12 of the participants who completed the questioner in less than 30 minutes; the average ideal time to complete the questioner is 45 minutes. (see the Instruments section). Finally, we divided the sample of 357

into 307 observations (training dataset); the actual dataset which was used to train the model, and 50 observations (test dataset); the sample of data which was used to provide an unbiased evaluation of a final model fit on the training dataset.

2. Step Two: After we collected the data, serious of steps to verify the dataset, in shape of process of detecting and correcting (or removing) corrupt or inaccurate records from the dataset. That helps to refer to identifying incomplete, incorrect, inaccurate or irrelevant parts of the data and then replacing, modifying, or deleting the dirty or coarse data. Enlisted are the data preparation steps as reference from (Mehmed, 2003):

   (a) **Import Data:** Unclean data from the online systems was imported.

   (b) **Representation of Raw Data** The data series that are entered as queues are the basic elements of the data mining process. Each example is described with different functions and each function has different types of values. We have considered the treatment of the two most common types: numerically and categorically. Numeric values contain variables in real values or integers such as age, speed or height. The function with numerical values has two important properties: its values have a sequence ratio (2 <5 and 5 <7) and the distance ratio (d (2.3, 4.2) = 1.9). By contrast, categorical (often symbolic) variables are not present in either of these two relationships. Categorically, the two values of the variable can be the same or the same: they only accept the equality ratio (blue = blue or red <> black). Examples of this type of variation are eye color, gender, or country of citizenship. In principle, a categorical variable with two values can be converted into a numerical binary variable with two values: 0 or 1. Categorical variables with N values can be converted to N binary numerical variables, ie binary variables for each categorical value. These coded categorical variables are known in statistics as "fictitious variables". For example, if the eye color has four values: black, blue, green and brown, it can be encoded with four binary digits.

Another type of classification of variables based on their values is to consider it as a continuous variable or a discrete variable. Continuous variables are also known as quantitative or metric variables. They are measured using an interval scale or scale. Both scales allow the definition or theoretical measurement of the underlying variable with an infinite precision. The difference between these two scales is how the zero point on a scale is determined. The zero point on the interval scale is arbitrarily placed and, therefore, does not indicate that it has not been measured completely. The best example of the interval scale is the temperature scale, where the degrees zero degrees Fahrenheit does not mean the total absence of temperature. Due to the arbitrary position of the zero point, the relationship between the coefficients measured using the interval scales is not applicable. For example, 80 degrees Fahrenheit does not mean twice as much heat as 40 degrees Fahrenheit. In contrast, the ratio scale has an absolute zero point and, therefore, the relationship refers to the variables measured using this scale. This type of scale uses amounts such as height, length and salary. Continuous variables are represented in large data sets with values that are real or integer numbers. In our database, it is believed that the aggregates of the affective variables (motivation, attitude and anxiety) are intervals, on the other hand, the age of the participants was considered the proportion. Keep in mind that we have created descriptive steps for the age category data. This category belongs to the second category of variables that is discrete.

. The nominal scale is an unordered scale that uses different symbols, characters and numbers to represent the different states (values) of the measurable variable. An example of a nominal variable - utility, a customer type identifier with possible values is residential, commercial and industrial. These values can be encoded as A, B and C, or numerically as 1, 2 or 3, but not

They have metric properties such as other numerical data. Another example of a nominal attribute is the zip code field that is available in many datasets. In both examples, the numbers used to indicate different attribute values have no specific order or the necessary mutual relationship. The driving scale consists of graded and individual grades, such as classifications. In our dataset, demographic variables (gender, work, education, marital status, other speech languages and, if this is the first language class and age group) are considered nominal variables. A line variable is a categorical variable that has a certain relationship between the order, but not the distance. Examples of the ordinal characteristic are the student category in the class and the positions of gold, silver and bronze medals in sports competitions. The ordered scale does not necessarily have to be linear; For example, the difference between students of the fourth and fifth grade should not be the same between students in classes 15 and 16. Everything that can be determined based on a series scale that is assigned to characteristics is greater than, equal to or smaller then the ratio. Typically, the ordinal variables encode a numeric variable with a small overlap interval, corresponding to the ordinal values. These sequential variables are closely related to the linguistic or diffuse variables that are commonly used in English; such as AGE (with new, middle and old values) and INCOME (with low values, middle class, upper middle class and rich). In the dataset we consider the demographic variable (language proficiency point) as a sequence variable.

c) **Unprocessed data attributes** All raw data sets that were originally prepared for data acquisition are usually large; Many are related to people and have the potential to be disorderly. In our case we have around 387 cases and we measure the nature of people (especially learning skills). A priori we should expect lost values, disruptions, incorrect input, inappropriate sampling, etc. these original data sets. Untreated data that does not appear to present any of these problems must be started immediately. The only real reason for the high quality of the data could be

The information provided is clean and processed before the analyst, as well as the data warehouse data is properly designed and developed. I understand that this is a complete trial. Statistics are sometimes produced as an important part of collecting data from literature and at least removing data. The request for reverse mode to delete the data in the real world. Too much effort has been made to develop information rather than appropriate information gathering techniques.

To do this, two significant data preparation tasks were performed: a) Data acquisition in a standard format ready for data acquisition and other computerized tools (standard model synthetic table).

(B) Create the best performance provider data set to collect data.For many real computing applications

D) Lost data, even if there is a lot of data, complete information may be relatively small. Examples and future terms may not have any value. Some of the data collection methods accept the missing values and data satisfactorily to achieve the final result. Other methods require that all values are available. The clear question is whether these missing values can be added during the preparation of the data before applying the data collection methods. The easiest solution to this problem is to reduce data collection and avoid all missing values. It is possible that large databases are available and missing values can only be found in a small sample. If we don't load samples with missing values, we must find values. What are the practical solutions?

Initially, one skilled in the art can calibrate the data without manual values and enter a reasonable price predicted based on potential or field experiences. This method is a relatively small number of small numbers and data. But if a single value is not available, the element is

Manually applying a noise noise by typing the referenced (2003) manually. The second approach provides easy solutions to missing missing values. This formally, instead of automatic, mineral values, with some obstacles, such as: (a) change all missing values with a global standard (depending on all application with global quality). (B) change the missing price with the average of your property. (c) Change the missing value from its feature for this category (this viewpoint is only possible for classification issues where samples are rated in). Our database has 21 missing cases, which does not affect the size of the content. However, we have explained (b) how to change all missing values. It is noteworthy that these simple solutions are attractive. Their main mistake is that the alternative price is not the right price. In the mineral value, the information is talented by changing the values of a standard or a few different features. Changed values (values) homosexual matters where missing values are directed with the class with the most missing values (artificial class!). If missing values are converted by a global standard for all features, the unknown price can be clearly made a positive factor that is not legally valid.

(E) Analysis: There are many samples available in the set of data that are not consistent with the general behavior of the data model. Such samples, which are significantly different or contradictory with the rest of the data group, are called their movements. Measuring measurement can be due to error or may result in natural data change. For example, if a person is less than 1 in the database, the price is not correct, but error can be due to the default "field unusual" field due to error in the computer program. Is configurable. On the other hand, if there is a 25-year number of children in a database, this basepoint is unusual and needs to be reviewed. The price can be a typical error or it may be correct and represents real change

Attribute. Fortunately, while using data collection can result in possible restrictions. As a result, the database could not be removed.

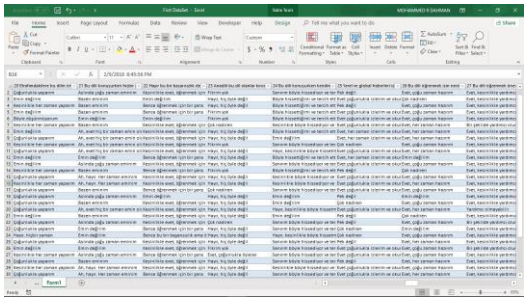
F) duplicate data: Identify any copy. Looks for high accuracy of missing errors, missing values or various promotional sequences.

(G) The number of organic data has received general results and many results. We will also create a group (for example, we create three groups).

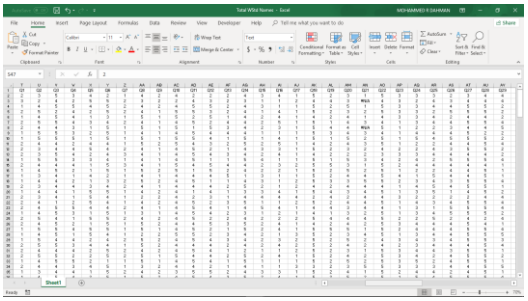
(H) Verification of information: We confirm the data from external sources we have shown.

(i) Export data: The final step was to export clean data into CSS format.

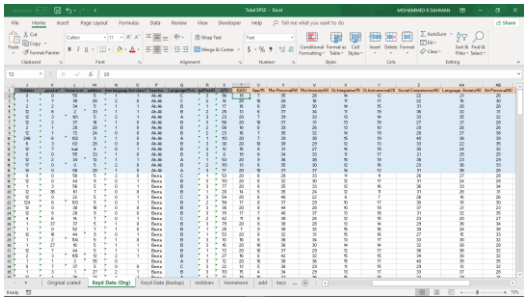
Figure 3.8 illustrates the final look of the clean dataset after the enlisted data mining steps. The Codebook of the final dataset you can find in Appendix D.



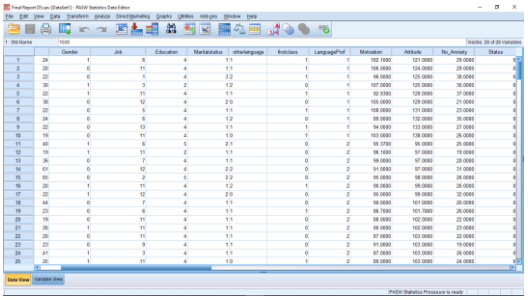
(a) Original Data



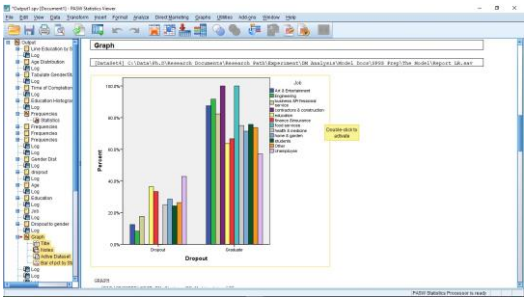
(b) Transformed data



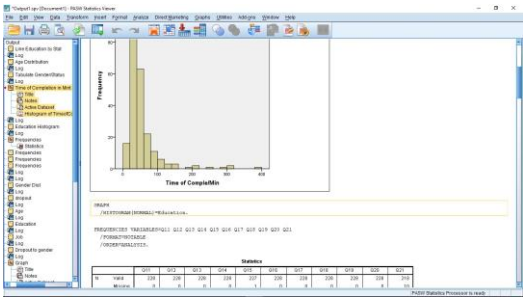
(a) Treated Data



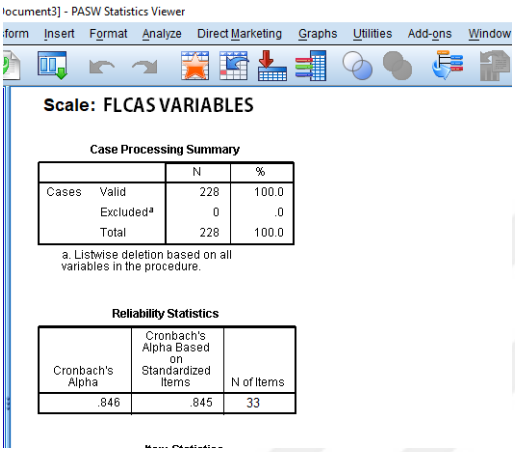
(b) Scored Data



(a) Verified Descriptive-1



(b) Double Verified Des.2



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form Insert Format Analyze Direct Marketing Graphs Utilities Add-ons Window

Scale: FLCAS VARIABLES

Case Processing Summary

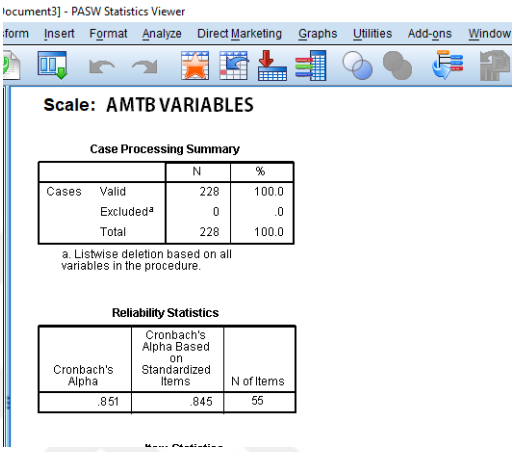
		N	%
Cases	Valid	228	100.0
	Excluded[a]	0	.0
	Total	228	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.846	.845	33

(a) cronbach's alpha FLCAS



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Scale: AMTB VARIABLES

Case Processing Summary

		N	%
Cases	Valid	228	100.0
	Excluded[a]	0	.0
	Total	228	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

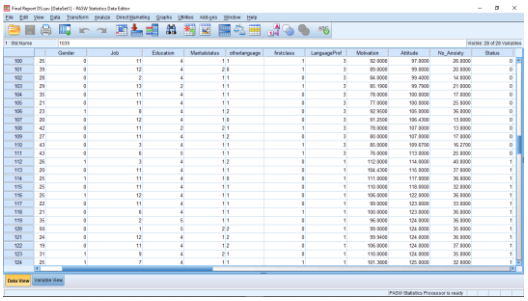
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.851	.845	55

(b) cronbach's alpha AMTB

After the ending of the course, data were collected at the end of two terms (fall and spring)

1. Step One: We asked the school management to advise the final status of each learner from the 307-sample size. Of the 307 (training dataset) participants, 196(63.84%) were continuations while 111(36.15%) were dropouts; However, we have excluded 79 cases form the continuations to achieve a balanced ratio of 50/50 (for multiple logistic regression analyses) between the two groups (Hsieh et al., 1998). Thus, the final sample for this study was 228 participants. Figure 3.9 depicts the overall research design of the study.

2. Step Two: essential descriptive analysis shows that, of the 228 (training dataset) participants, 117(51.31%) were continuations while 111(48.68%) were dropouts; 165(72.4%) were female while 63(27.6%) were male. Majority of the participant were between 18 and 29 years old (158 participants, 69.3%) and most of them were students (103 participants, 45.2%). The majority level of



(a) Final Clean Data

Figure 3.8: Final Clean Dataset- After Data mining Steps

education was a university level (176 participants, 77.2%). A 178 (78.1%) were single; about half of them (128 participants, 56.1%) spoke a second language besides the native tongue. This is not the first class to join for more than half of the participants (128 participants, 56.1%). More than half 127 (55.7%) of the participants passed the placement test with the B+ score, as shown in Table 3.2.

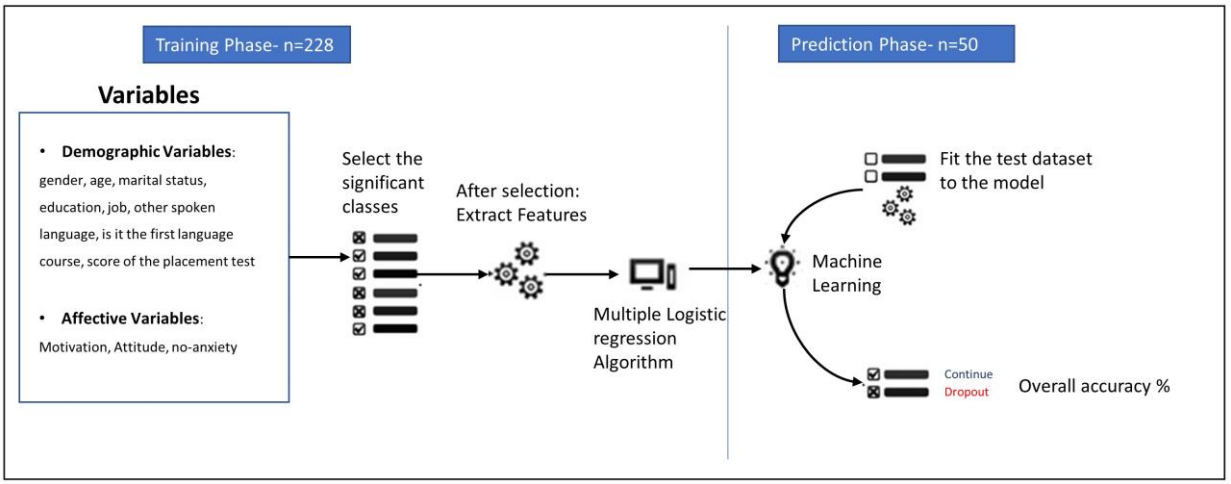


Figure 3.9: Theoritical Framework; the research design of the study

3.5.2 Procedures

To answer Research Question One We used descriptive statistics,

Pearson chi-square, multivariate analysis of variance (MANOVA), and one-way (ANOVA) to answer the first research question.

Demographic Variables			Continuation Group n=117 (51.31%)	Dropouts Group n=111 (48.68%)	Total n =228 (100%)
Gender	1	Female	77 (65.8%)	88 (79.3%)	165 (72.4%)
	2	Male	40 (34.2%)	23 (20.7%)	63 (27.6%)
Age	1	18-29	83 (70.9 %)	75 (67.6%)	158 (69.3%)
	2	30-39	16 (13.7%)	20 (18%)	36 (15.8%)
	3	Over 40	18 (15.4 %)	16 (14.4 %)	34 (14.9%)
Marital Status	1	Single	88 (75.2%)	90 (81.1%)	178 (78.1%)
	2	Married	26 (22.2%)	18 (16.2 %)	44 (19.3%)
	3	Divorced	2 (1.7%)	2 (1.8%)	4 (1.8%)
	4	Widow	0	1 (.9 %)	1 (0.4%)
	5	Separated	1 (.9%)	0	1 (0.4%)
Education	1	Pre-High School	0	2 (1.8%)	2 (0.9%)
	2	High School	13 (11.1%)	11 (9.9%)	24 (10.5%)
	3	Vocational School	1 (.9%)	1 (.9%)	2 (0.9%)
	4	University	89 (76.1%)	87 (78.4%)	176 (77.2%)
	5	Master's Degree	10 (8.5%)	10 (9%)	20 (8.8%)
	6	Ph.D. Doctoral	4 (3.4%)	0	4 (1.8%)
Job	1	Art & Entertainment	5 (4.3%)	3 (2.7%)	8 (3.5%)
	2	Engineering	8 (6.8%)	4 (3.6%)	12 (5.3%)
	3	Business & Professional Services	8 (6.8)	9(8.1%)	17 (7.5%)
	4	Construction	1 (.9%)	2 (1.8%)	3 (1.3%)
	5	Education	11 (9.4%)	11 (9.9%)	22 (9.6%)
	6	Finance & Insurance	9 (7.7%)	12 (10.8%)	21 (9.2%)
	7	Food & Services	0	1(.9%)	1 (0.4%)
	8	Health & Medicine	5 (4.3%)	3 (2.7%)	8 (3.5%)
	9	Home & Garden	5 (4.3 %)	2 (1.8%)	7 (3.1%)
	10	Students	56 (47.9%)	47 (42.3%)	103 (45.2%)
	11	Other.	7 (6%)	12 (10.8%)	19 (8.3%)
	12	Unemployed	2 (1.7%)	5 (4.5%)	7 (3.1%)
Second Language	1	No	16(13.7%)	27 (24.3%)	43 (18.9%)
	2	One language	68(58.1%)	60(54.1%)	128 (56.1%)
	3	More than one	33(28.2%)	24(21.6%)	57 (25.0%)
First Class	1	No	68(58.1%)	60(54.1%)	128 (56.1%)
	2	Yes	49(41.9%)	51(45.9%)	100 (43.9%)
Placement Test	1	A >85	47(40.2%)	10(9%)	57 (25.0%)
	2	B 75-85	57(48.7%)	70(63.1%)	127 (55.7%)
	3	C 60-74	13(11.1%)	31(27.9%)	44 (19.3%)

Table 3.2: Participants' demographic information

1. Pearson Chi-square was used to determine the differences (i.e., the level of association) between the dropout and continuation groups in their demographic variables (Lancaster and Seneta, 2005). Furthermore, for this study, we used Cramér's V criteria to assess the magnitude of the effect size in which is a measure that does indicate the strength of the association (Kotrlik and Williams, 2003).

2. MANOVA is used to analyze a dependence relationship represented as the differences in a set of dependent measures across a series of groups (Hair et al., 2006). In this study, we used MANOVA to determine the differences between the two groups (continuations and dropouts) with multi-dependent variables (motivation, attitude, and no-anxiety). Furthermore, we used Cohen (1994)

criteria to assess the magnitude of the effect size in which is as a measurement of the amount of impact an independent variable has on a dependent variable Kevin R. Murphy and Wolach, 2014, p. 12.

3. ANOVA is used to compare two means from two independent groups using the F-distribution (Hair et al., 2006); In this study, we used ANOVA to determine the differences between the two groups (continuations and dropouts) with a one-dependent variable (motivation, attitude, and no-anxiety) at a time. To assess the contribution of each of the dependent variables; specifically, we used the partial eta squared to assess each variable's unique contribution (Cohen, 1988; Cohen et al., 2014).

To Answer Research Question Two

We considered using the best output from three different algorithms. Three supervised machine learning algorithms were tested. One is a classifier algorithm that is Discriminant Analysis Algorithm. The second is a regression algorithm that is Decision Trees Algorithm. And the last algorithm is something between being a classifier and regression that is a logistic regression algorithm.

1. Decision Trees (DTs) Non-parametric monitoring method used for classification and regression. The goal is to create a model that determines the value of the target variable by examining the simple rules of searching for information. Some of the advantages of decision-making trees are: a) Simple understanding and interpretation. Trees can be visualized. (B) Requires a small amount of data preparation. Other techniques often require normalization of data, with variable variables and empty values. Note that this module does not support lost values. C) The use of trees (for example, data prediction) is logarithmic, depending on how much data is used to produce the view. (D) can handle both numeric and categorical data. Other techniques typically specialize in data analysis, with only one type of variable. (E) solving more professional problems ("setting trees", 2005).

   However, there are shortcomings in the decisions: a) Research teams can create complex complex trees that do not generalize information

Well, it's called extra. To avoid this problem, such mechanisms require printing (still not supported), the minimum number of samples required for the image node, or the maximum depth of the tree. (B) Decision trees may be unstable because small versions can make different trees. This problem is expected using internal decision trees. C) The problem of studying more and more decisions is the set of NP, which is known in many aspects of simple and maximum concepts. Thus, the decision tree's practical algorithms are based on the human algorithm, such as greedy algorithms, where they are increasingly resolved locally in all places. Such an algorithm does not guarantee the maximum return of the world. It may be easier for an average student to produce more trees, where functions and patterns are random. (D) Decision Making a talented tree when some classes prevail. Therefore, the data obtained for obstacle performance (Smith and Tanzil, 2004) are advised to balance.

2. Psychological analysis is a classification question in which two or more groups or groups or populations are known as April, and one or more new observations can be classified by population. For each disciplinary analysis, a group of employees should already be notified. Biological analysis is interpreted closely with the graphical version of Menuu and is often used to analyze cluster analysis and basic component analysis. If separation analysis is used in two groups, it is called DNA analysis, although there are more than two groups, although we use the method of the CVA method (Hacker, 1995; Thamson, 1995).

3. Despite its name, logical regression is a linear model rather than a regression. Logic Reform also has a logical mission, maximum entropy signal (MaxEnt) or a logarithmic classification as well. In this model, the possibilities are only likely

trial are modeled using a logistic function (Regression, 2005; Peng et al., 2002; Sarkar et al., 2011; Hsieh et al., 1998).

4 RESULTS

4.1 Research Question One Result

4.1.1 Chi-square and mean analysis:

Table 3.2 shows the learners' demographic variables information of continuations and dropouts. Female made up 65.8% of continuations and 79.3% of dropouts. A significant portion of learners were students (47.9% and 42.3%, respectively) and ranged from 18-29 years of age (70.9% and 67.6%, respectively); the majority were single (marital status) (75.2% and 81.1%, respectively) with a university degree (76.1% and 78.4%, respectively). More than a half of the participants spoke a second language besides their mother tongue (58.1% and 54.1%, respectively) and neither B1 nor B2 English course was the first class with the majority (58.1% and 54.1%, respectively). A large portion of the participants scored B+ in the placement test (48.7% and 63.1%, respectively) in both groups. General, statistical significances between the continuations and dropouts in theirs: gender, age, marital status, education, job, another spoken language, and is it the first language course, were unfound at .05 threshold (χ^2 = .052 8.676, p = .101 .667) with trivial magnitude of effect size (φ_c = .012 .12). However, there was a significant relationship between the language placement test score and the learner's decision to continue or drop out, χ^2[228, 2] = 32.577, p < .001; with magnitude of large effect size (φ_c = .378); magnitude of effect size with df=2 (small=.07, medium=.21, large=.35) (Cohen, 1988, p. 222). Concerning the affective variables, Table 4.1 presents perceptions of the dependent variables (motivation, attitude, and no-anxiety). Overall, the continuation group showed higher means in perceptions of motivation, attitude, and no-anxiety than the dropout group. The table also showed the means differences between the two groups at each level of motivation, attitude, and no-anxiety with

(10.741, 14.877, and 7.684, respectively)

Affective Variables	Continuations n=117		Dropouts n=111		
	M	SD	M	SD	Mean Differences
Motivation	100.953	6.676	90.212	8.310	**10.741**
Attitude	122.424	9.499	107.547	11.313	**14.877**
No-anxiety	31.308	5.185	23.624	5.927	**7.684**
Total	**245.685**		**221.383**		**33.302**

Table 4.1: Means and standard deviation of the affective variables for the continuations and dropouts

4.1.2 MANOVA

is to detect the differences among the continuation and dropouts with multi-dependent variables (motivation, attitude, and no-anxiety). However, prior to conducting MANOVA, we performed series of analyses between all the dependent variables to test the MANOVA assumptions of normality, linearity, multicollinearity, and homoscedasticity (Hair et al., 2006).

Assumptions

1. The absence of multivariate outliers: Absence of multivariate outliers is checked by assessing Mahalanobis Distances among the participants. After we calculated the distances, we sorted the Mahalanobis Distances from greatest to least. To identify an outlier, the critical chi-square value must be known. This is derived from the critical chi-square value at p ¡ .001 with the degrees of freedom being the number of dependent variables (which is 3 variables). With 3 variables, the critical value is 16.27 Mertler and Vannatta, 2010, p. 8-18. As a result, the maximum value with a Mahalanobis Distance was 14.835 < 16.27; that indicated the absence of any multivariate outliers.

2. Linearity assumes that all the dependent variables are linearly related to each other. We have checked this assumption by conducting a scatterplot matrix between the dependent variables. Linearity was good at an acceptable level; see Figure 4.1.

3. The absence of multicollinearity was checked by conducting correlations among the dependent variables. A meaningful pattern of the correlation was observed amongst all the dependent variables. The values between motivation to attitude, motivation to no-anxiety, and attitude to no-anxiety are .625, .418, and .539, respectively. There was no correlation over .80 as a cutoff value (Berry and Feldman, 1985).

4. Equality of covariance matrices, the Box's M value of 10.941 was associated with a P value of .095; it's typically above the level of significance .001, thus, the assumption was met.

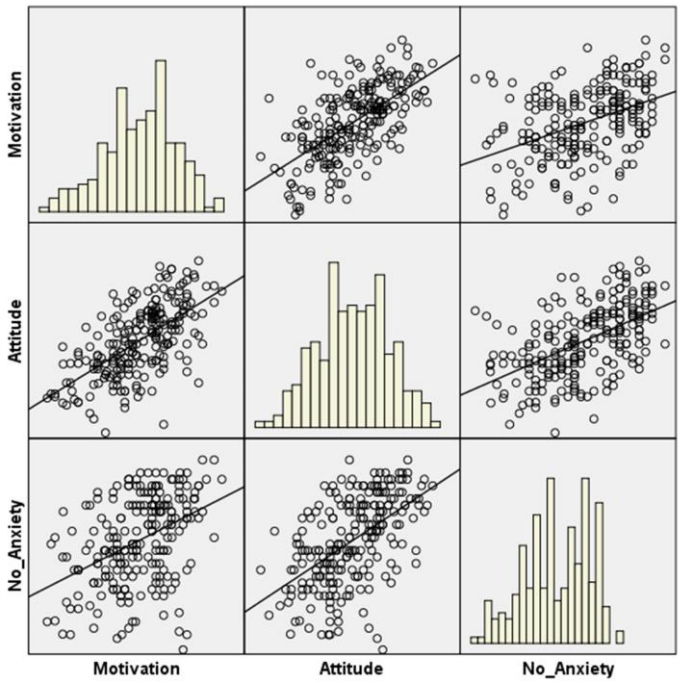


Figure 4.1: Linearity Assumption test of the relationship between dependent variables

MANOVA Results:

the results are presented in Table 4.2. There was a significant difference between the dropouts and continuations when considered jointly on the affective variables (motivation, attitude, and no-anxiety), Wilk's $\lambda = .509, F(3, 224) = 72.164, p <$ .001, the multivariate effect size was estimated at partial $\eta_p^2 = .491$; that indicates

roughly 50 % of the variance in the two groups (continuations and dropouts) was accounted for by the affective variables (motivation, attitude, and no-anxiety).

	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Group (continuation, dropout)	Motivation	6570.817	1	6570.817	116.308	.000***
	Attitude	12606.771	1	12606.771	116.065	.000***
	No-anxiety	3363.265	1	3363.265	108.831	.000***
Error	Motivation	12767.840	266	56.495		
	Attitude	24547.757	266	108.618		
	No-anxiety	6984.225	266	30.904		

***p < .001

Table 4.2: Difference between continuation and dropouts in motivation, attitude and no-anxiety

4.1.3 ANOVA:

As a follow-up test to MANOVA, we performed a series of one-way ANOVA test on each of the affective variables (motivation, attitude, and no-anxiety). The significance threshold was set at .001. However, prior to conducting the ANOVA, we tested the homogeneity of variances, the threshold was set at .05 for all affective variables (motivation, attitude, and no-anxiety). Based on a series of Levene's Test of Homogeneity of Variances; the result revealed that for motivation $F(1, 226) = 4.517, p > .05$; for attitude $F(1, 226) = 1.633, p > .05$; and for No-anxiety $F(1, 226) = 2.729, p > .05$. Since all P values were significant, we reject the null hypothesis that the error variance of the dependent variable is equal across groups, thus the homogeneity of variance assumption was considered satisfied. Note: we considered the magnitude of effect size for ANOVA (small=.01, medium=.06, large=.14) (Cohen, 1988).

1. There was a significant difference between the two groups (continuations and dropouts) on motivation, $F(1, 266) = 116.308, p < .001$, with the magnitude of large effect size ($\eta_p^2 = .340$), with continuation (M=100.953, Std. Error=.695) scoring higher than dropout (M=90.213, Std. Error=.713).

2. There was a significant difference between the two groups (continuations and dropouts) on attitude, $F(1, 266) = 116.065, p < .001$, with the magnitude of

large effect size ($\eta_p^2 = .339$), with continuation (M=122.424, Std. Error=.964) scoring higher than dropout (M=107.547, Std. Error=.989).

3. There was a significant difference between the two groups (continuations and dropouts) on no-anxiety, $F(1, 266) = 108.831, p < .001$, with the magnitude of large effect size ($\eta_p^2 = .325$), with continuation (M=31.309, Std. Error=.514) scoring higher than dropout (M=23.625, Std. Error=.528).

4.2 Research Question Two Result

Following the answer of the first research question, the demographic variable (the placement test score) with the affective variables (motivation, attitude, and no-anxiety) have shown differences in the decision of a lifelong learner to continue or drop out in a language class. Despite the finding, I have decided to confirm the significance finding using three different methods. As a result, a machine learning model will be ready to predict a lifelong learner's decision to continue or dropout a language class.

4.2.1 Decision Tree

Testimonial: The decision series repeatedly divides the workings into all categories by repeated identities of different rows. (Frequently, because there are two classes that can be divided into classes such as the identity shown in 4.2) When does this end? (A) or classes can be distributed (only members of the same category) are classified for certain classifiers features.

Imagery: In the above division, we distribute different categories. But what if we have this case? Discrimination occurs when we have a category divided into one category. This may be due to the following reasons: (A) We are moving out of resources to distribute the class. (B) We have some floating percentages for fast performance (we stop the other division). (There is always a trade between health and performance) (Smith and Tobenham, 2004)

The basis of math: (A) unmanulating expanding elements or searching in other words, is a measure of satisfaction, according to mathematics, it can be counted

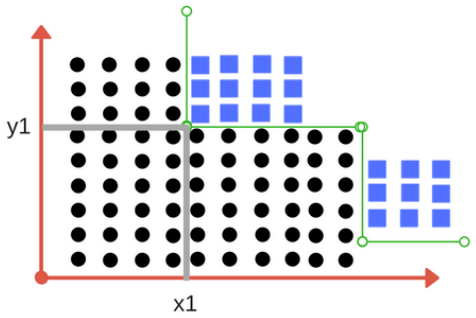


Figure 4.2: illustration of working method of decision tree algorithm

with the help of probability of the items as:

$$H = -\Sigma p(x) * Iogp(x)$$

(B) Information is made to provide a wide range of features to distribute our workforce. Which side do we choose to pass? We may lessen humility. Consider distributing classes in different branches such as information found on any package:

Information (N) = Purchase (X) - ([Corrections] * Estimates (Children's Message).

Requests: I have taken the following steps:

1. Records of instruction (228 cases) were incorporated into different variations (numbers and changes).

2. I make the tree of judgment Verse 4.3 illuminates the tree

3. To find out that the plants have 7 lines. Only good users (worms, behaviors, behaviors and worries) affect the picture.

4. I use the right choice (50 chapters) and try experimenting with the records. The result was that only 75.5% of the total amount was correctly affected. Picture 4 4.4 explain finding.

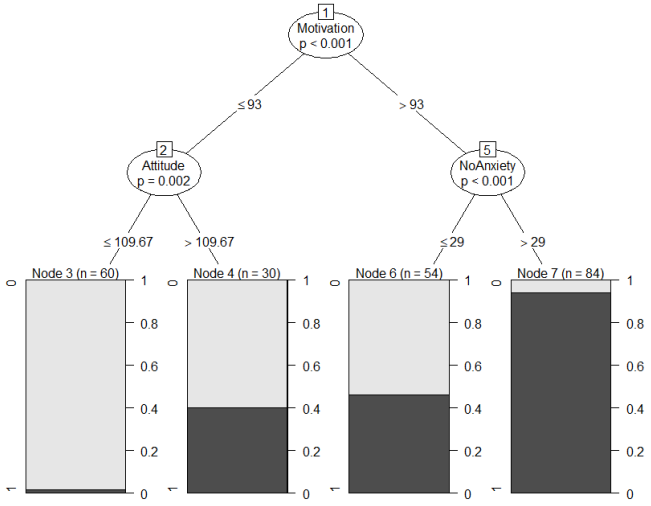


Figure 4.3: illustration of the decision tree

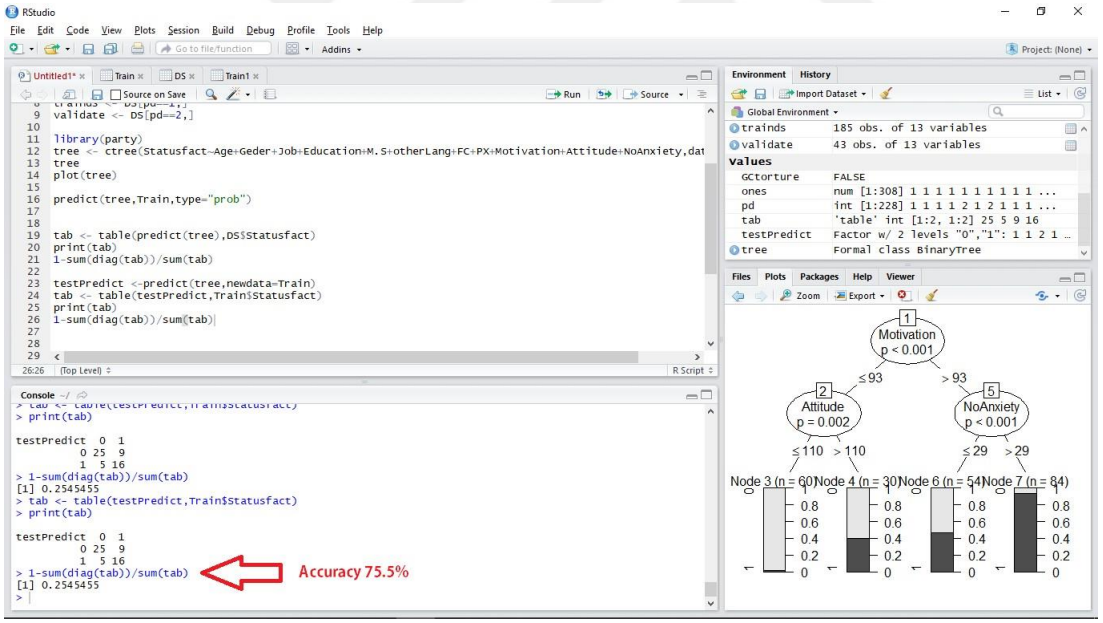


Figure 4.4: illustration of the cross-validation finding from the decision tree

Implication from the finding above, it appears that using the decision tree method leads to the idea is that only affective variables were found to be significance to predict the probability of a lifelong learner to continue a language class. Demographic variables were found to be trivial affect.

4.2.2 Discriminant Analysis

Information: Focused analysis focuses on the contact between several changes and transition changes as part of the transition. This type of international study identifies multiple differences between two or more of the first chapter of this chapter and can also provide a basic framework for integration. The new group Tabbuck and Fidel (2013). Mathematical calculation: A present substance (LD**)**:

$$LDF = b_1 + b_1x_{i1} + b_2x_{i2} + ... + b_kx_{ik} = bX$$

Where the capacity of the resource is BJ, j = 1, 2,. . . The motion in K and Xij is the value of J. The LEDF allows you to compare measured variables on different scales, which can be written in standard formats. The standard of LIFF is adjusted by each variable dividend average and its deviation at standard deviation. With absolute absolute values, coefficients show the ability to distinguish against their same variables.

This approach is more likely to be greater than group groupings, as independence and dependency are based on the reason that the variables are linked between the quadratic groups. The relationship between group squares (square figures or sex variables) or the distribution ratio can also be divided by the total square size (Wilks Lama Statistics or Unknown Transparency). Used. As groups can be seen, the ratio of groups in group F groups is, according to the changes in the squares, due to the possibility of observing a control test probability. Another written form of the same form:

$$Log(p1(x)/1 - p1(x) = p1(x)/p2(x) = b_1 + b_1x_{i1} + b_2x_{i2} + ... + b_kx_{ik} = bX$$

Application I have done the following steps:

1. I have checked the assumption of LDF: (a) the observations are a random sample; (b) each predictor variable is normally distributed;(c) each of the allocations for the dependent categories in the initial classifi cation are correctly classifi ed; (d) there must be at least two groups or categories, (e) group sizes of the dependent should not be grossly different and should be at least five times the number of independent variables Heckler (1995). Tests null hypothesis of equal population covariance matrices, see Figure 4.5 the test result using F distribution.

Box's M		41.065
F	Approx.	4.028
	df1	10
	df2	242640.005
	Sig.	.000

Figure 4.5: Test Result of null hypothesis of equal population covariance matrices

2. I ran a stepwise statistics, that helps to identify the best predictors from the avaiable dependent variables. Figure 4.6 illustrates the finding.

Step	Entered	Min. D Squared					
				Exact F			
		Statistic	Between Groups	Statistic	df1	df2	Sig.
1	Motivation	2.042	Drop out and Persist	116.308	1	226.000	3.804E-22
2	No_Anxiety	3.501	Drop out and Persist	99.268	2	225.000	1.246E-31
3	Attitude	3.835	Drop out and Persist	72.164	3	224.000	1.078E-32
4	Language prof	4.250	Drop out and Persist	59.719	4	223.000	3.235E-34

Figure 4.6: Test Result of stepwise method

3. the finding showed that the algorithm identifies the affective variables (motivation, attitude, and no-anxiety) as well as the demographic variable (profeciency exam) as the major influincial predictors. this finding is in tendency with our finding in the first research question. See figure 4.7 illustrates the DF coefficients.

4. the canonical correlation =.719 witch indicates $.719^2 = 51\%$ of the variance can be explained by the model.Furthermore, the Wilk's Lambda is found $\lambda = .483$

	Function
	1
Motivation	.616
Attitude	.496
No_Anxiety	.579
Language prof	.422

Figure 4.7: Standardized Canonical Discriminant Function Coefficients

5. Finaly the finding from the classificatin results table. see Figure 4.8. the result showes that 81.1% of cross-validated grouped cases correctly classified. 81.6% of original grouped cases correctly classified.

		Status	Predicted Group Membership		
			Drop out	Persist	Total
Original	Count	Drop out	91	20	111
		Persist	22	95	117
	%	Drop out	82.0	18.0	100.0
		Persist	18.8	81.2	100.0
Cross-validated[a]	Count	Drop out	91	20	111
		Persist	23	94	117
	%	Drop out	82.0	18.0	100.0
		Persist	19.7	80.3	100.0

Figure 4.8: DLF Classification Results

4.2.3 Logistic Regression

Definition Logical Reform is a type of record to predict the specific type of illness or function, or based on variety-based general (free, fun or explicit). (2002).

Understand the state of mathematical base that is trying to build a pattern. Now we think it's clear

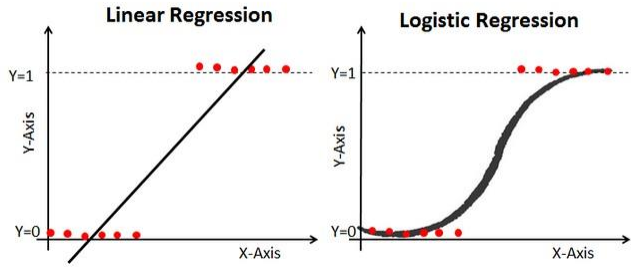


Figure 4.9: Asymmetric representation of difference between linear and logistic regression

This is our problem and a strange problem. The probability indicates that the event does not happen. In the sample of 228 full-time students, 111 classes did not have 117 years of age; Therefore, (NO cancellations) 117/111 = 1.05: 1 (ie, the ratio from 1.05 to 1, but not clearly, they are: 1 because not). Tests say that if we choose a random student from the sample, it will be shut down 1.05 times faster. However, there are some problems, as they are directly asymmetric with any OR model, see: 4.9. Image This asymmetric problem disappears if we consider the odds ratio (OR). The magazine is not a matter of statistical deforestation, but a mathematical transformation of probability that creates a regression model. Figure 4.9. Demolition of line forests is shown. OR registration registration 2 provides recovery for log (2) = +0,302, and, taking into account 0, 0 OR registry, gives registry value (0.5) = -0.302. See what happened? OR tagging, sometimes called logit (LOH-tit, the word called fan!), The ratio is about zero (RN becomes less and less).

.302). Logit and ORk have the same information, but this difference in mathematical properties means a better block of logistic recovery. So if we remove the registry from each side of the equation, we can specify the part of the record as follows: Sign [p / (1-p)] = constant + log (OR) constant, registered label b and variable state (x) 0 I'll take the value to the left and last - 1, then magazine [p / (1-p)] = a + bx.

ApplicationThe multiple logistic regression is a specialized form of regression.

Dependent Variables (Psychological and Emotional Variables) Independent Variables (Student Process) (PIN, Li, Ingsol,
2002). We use four stages in this study:

(a) Overall Evaluation We have analyzed the rise in time models and three unrelated statistical calculations. Quarrels opportunities, decisions, and combinations (Pan and others 2002). (B) Individual Budget Usage The Perspective Correlation Indicator (β) Statistics has been tested using Waltz Square. C) Logical marketing statistics to assess the accuracy of the logistics model. Experimental test (hošimeri-li'ēmēshē, NH-D) and two bekukiši and nēlichi (1989) and made an attempt to show part of R2 in bejepelikekeri (1991). Penn and others. (2002) states that "this index, the R2 model of the R2 range is the concept of Bemešenezeri back through, R2 has a clear meaning: This model is included in variable change, which can be explained by these models, but the logistic model has planted, meaningful It is clear (Long, 1997, 104-109, or,
2000).

Moreover, there is no predictable and predictable forecast in the system. For those reasons, the investigator is the yeri'āyi applicant as the most important prophecy such as, for example, a general assessment of the evaluation, Reverse the effects of quota and electronic statistics "(page 6) met'enowochi, expected yemeregegech'eneti trust, and data set (50) Participants) accuracy logistics model Ʉ Figure kifētenye Used.

In response to the first question, a direct-social or motivational (motivational, attitude and fear) social-change (initiative, showing differences between opinion and fear). Therefore, to answer the second question, some logistics reviews are selected.

variable (the placement test score) and the affective variables (motivation, attitude, and no-anxiety) are significant enough to predict the learner's decision to continue in a language class. The demographic variable (the placement test score) data was entered in the first model. A separate step was followed by entering the affective variables (motivation, attitude and no-anxiety) data in the second model. Finally, both the demographic variable (the placement test score) with the affective variables (motivation, attitude, and no-anxiety) data were entered in the third model. All three logistic regression models were carried out by logistic procedures in PASW Statistics 18.

Model One:

one predictor (the placement test score) logistic model was fitted to the data. It's noteworthy that the placement test score represents categorical data. Like this, the categorical variable coding table created three categories of the placement test score, and all were coded as dummy variables. The "C" Letter Grade Percent Score was coded as the baseline or the constant dummy variable to which will compare the prediction for "A" and "B" Letter Grade Percent Scores. Hence, the "C" Letter Grade Percent Score will not be included in the model. The result showed that Predicted logit of (Learner's decision to continue) = $-.869 + (2.417) * PlacementTestScore(1) + (.664) * PlacementTestScore(2)$. Multiplicative form $= .419 + (11.208) * PlacementTestScore(1) + (1.942) * PlacementTestScore(2)$. According to the model, the log of the odds of a lifelong learner's decision to continue a language class was positively related to the placement test grade score "A" ($P < .05$); as well as positively related to the placement test grade score "B" ($P > .05$; Table 4.3); both scores were compared to the placement test grade score "C". In other words, the odds to continue in language classes of a lifelong learner with "A" or "B" grade scores are 11.208 (= *exp*(2.417)) and 1.942 (= *exp*(.664)), respectively, times higher than the odds of a lifelong learner with "C" grade score (Table 4.3). That was in comparison to the baseline or the constant dummy variable which is "C" grade score. However, for "A" grade score compared to "B" grade score; the

odds to continue in language classes of a lifelong learner with "A" grade score is 5.771 (= *exp*(1.753)) times higher than the odds of a lifelong learner with "B" grade score. The predictability for the first model correctly classified 40.2 % of the continuation group and 91% of the dropout group. The overall accuracy was 64.9% and it is moderately above the cut of 50% to predict the lifelong learner's decision to continue in a language class ($\chi 2[2, 228] = 34.836$, $p < .001$); In the model summary the values of the Cox & Snell R^2 and the Nagelkerke R^2 were 14.2% and 18.9%, respectively. That shows how much variation in the decision of a lifelong learner to continue a language class is explained by the placement test score in the first model.

Predictors	*B*	*S.E.*	*Wald's* χ^2	*df*	*P*	*Exp(p)*	*95% C.I.for EXP(B)*	
							Lower	*Upper*
Placement Test Score			27.935	2				
Placement T.S(1)	2.417	.480	25.341	1	.000***	11.208	4.374	28.717
Placement T.S(2)	.664	.376	3.123	1	.077	1.942	.930	4.054
Constant	-.869	.330	6.917	1	.009	NA		
Test			***χ^2***	***df***	***P***			
Overall model evaluation								
• Likelihood ratio test			281.081	2	.000***			
• Score Test			32.577	2	.000***			
• Omnibus			34.836	2	.000***			

Note: Nagelkerke R^2 =.189; Cox & Snell R^2= .142; All statistics reported herein use 3 decimal places to maintain statistical precision. NA = not applicable; ***p < .001; **p < .05

Table 4.3: Logistic Regression analysis of the demographic variable (Placement Test Score)

Model Two:

three predictors (motivation, attitude and no-anxiety) logistic model were fitted to the data. The result showed that Predicted logit of (Learner's decision to continue) = $-24.240+(.144)*motivationscore+(.051)*attitudescore+(.167)*no-anxietyscore$. Multiplicative form = .001 + (1.155) $*$ *motivationscore* + (1.052) $*$ *attitudescore* + (1.182) $*$ *no* − *anxietyscore*. According to the model, the log of the odds of a lifelong learner's decision to continue a langue class was positively related to the level of motivation, attitude, and no-anxiety (P¡.05; Table 4.4). In other words, the odds to continue in language classes of a lifelong learner with a higher motivation,

attitude, and no-anxiety scores are 1.155 (=exp (.144)), 1.052 (=exp (.051)), and 1.182 (=exp (.167)), respectively, times higher than the odds of a lifelong learner with lower motivation, attitude, and no-anxiety scores (Table 4.4). The predictability for the second model correctly classified 80.3 % of the continuation group and 82.9 % of the dropout group. The overall accuracy was 81.6% and it is above the cut off 50% to predict the lifelong learner's decision to continue in a language class ($\chi 2[3,\ 228] = 145.812,\ p < .001,\ HosmerandLemeshowTest = .055$). In the model summary the values of the Cox & Snell R^2 and the Nagelkerke R^2 were 47.2% and 63%, respectively. That shows how much variation in the decision of a lifelong learner to continue a language class is explained by the affective variables (motivation, attitude, and no-anxiety).

Predictors	*B*	*S.E.*	*Wald's* χ^2	*df*	*P*	*Exp(p)*	*95% C.I.for EXP(B)*	
							Lower	*Upper*
motivation	.144	.032	20.613	1	.000***	1.155	1.085	1.230
attitude	.051	.022	5.598	1	.018**	1.052	1.009	1.098
no-anxiety	.167	.035	22.393	1	.000***	1.182	1.103	1.266
Constant	-24.78	3.271	54.921	1	.000***	NA		
Test			χ^2	*df*	*P*			
Overall model evaluation								
• Likelihood ratio test			170.106	3	.000***			
• Score Test			112.057	3	.000***			
• Omnibus			145.812	3	.000***			

Note: Nagelkerke R^2 =.630; Cox & Snell R^2= .472; Hosmer and Lemeshow Test=.055; All statistics reported herein use 3 decimal places to maintain statistical precision. NA = not applicable; ***p < .001; **p < .05

Table 4.4: Logistic Regression analysis of the Affective variables (motivation, attitude, and no-anxiety)

Model Three;Full Model:

four predictors (the placement test score, motivation, attitude and no-anxiety) logistic model were fitted to the data. The result showed that Predicted logit of (Learner's decision to continue) $= -35.843 + (-2.869) * PlacementTestScore(1) + (-.003) * PlacementTestScore(2) + (.188) * motivationscore + (.105) * attitudescore + (.228) * no-anxiety$. Multiplicative form $= .001 + (.057) * PlacementTestScore(1) + (.997) * PlacementTestScore(2) + (1.207) * motivationscore + (1.111) * attitudescore +$

(1.257) ∗ *no* − *anxietyscore*. According to the model, the log of the odds of a lifelong learner's decision to continue a langue classes was negatively related to the placement test grade score "A" (P<.05); likewise, was negatively related to the placement test grade score "B" (P>.05; Table 4.5); both scores were compared to the placement test grade score" C". In other words, the odds to continue in language classes for a lifelong learner with "A" or "B" grade scores are .057 (=exp (-2.869)) and .997 (=exp (-.003)), respectively, times lower than the odds of a lifelong learner with "C" grade score (Table 4.5).

Predictors	*B*	*S.E.*	*Wald's* χ^2	*df*	*P*	*Exp(p)*	*95% C.I.for EXP(B)*	
							Lower	*Upper*
Placement Test Score			14.023	2	.001**			
Placement T.S(1)	-2.869	1.159	6.123	1	.013**	.057	.006	.551
Placement T.S(2)	-.003	.946	.000	1	.997	.997	.156	6.368
motivation	.188	.037	26.355	1	.000***	1.207	1.123	1.296
attitude	.105	.029	13.551	1	.000***	1.111	1.050	1.175
no-anxiety	.228	.043	27.967	1	.000***	1.257	1.155	1.368
Constant	-35.84	7.304	45.616	1	.000***	NA		
Test			χ^2	*df*	*P*			
Overall model evaluation								
• Likelihood ratio test			153.869	5	.000***			
• Score Test			188.836	5	.000***			
• Omnibus			162.049	5	.000***			

Note: Nagelkerke R^2 =.678; Cox & Snell R^2= .509; Hosmer and Lemeshow Test=.529; All statistics reported herein use 3 decimal places to maintain statistical precision. NA = not applicable; ***p < .001; **p < .05

Table 4.5: Logistic Regression analysis of the full model- affective and demographic variables

That was in comparison to the baseline or the constant dummy variable which is "C" grade score; However, for "B" grade score compared to "A" grade score; the odds to continue in language classes for a lifelong learner with "B" grade score is 2.886 (=exp (17.56)) times higher than the odds of a lifelong learner with "A" score. After controlling for the other predictors, the result showed that the log of the odds of a lifelong learner's decision to continue a langue class was positively related to the level of motivation, attitude, and no-anxiety (P¡.05; Table 4.5). In other words, the odds to continue in language classes of a lifelong learner with a higher motivation, attitude, and no-anxiety scores are 1.207 (=exp (.188)),

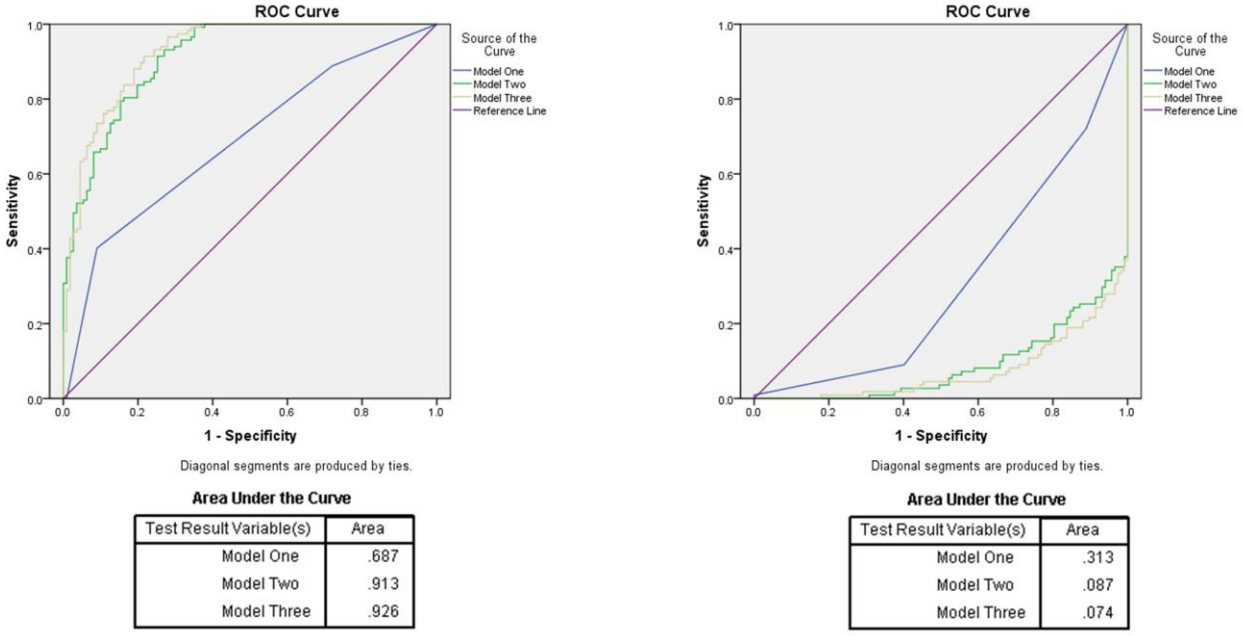
1.111 (=exp (.105)) and 1.257 (=exp (.228)), respectively, times higher than the odds of a lifelong learner with lower motivation score (Table 4.5). The predictability for the third model correctly classified 82.9 % of the continuation group and 83.8 % of the dropout group. The overall accuracy was 83.3% and it is above the cut off 50% to predict a lifelong learner's decision to continue in a language class ($\chi 2[5, 228] = 162.049, p < .001, HosmerandLemeshowTest = .529$). In the model summary the Cox & Snell R^2 and the Nagelkerke R^2 were 50.9% and 67.8%, respectively. That shows how much variation in the decision of a lifelong learner to continue a language class is explained by the affective and the demographic variables concurrently.

From the result presented above, we developed a custom software for each model (1,2, and 3); 50 participants' (the test dataset; 15 dropouts and 35 continuations) demographic and affective variables data were entered into the software to predict the odds of a learner's decision to continue in a language class. The result showed that the first model classified: 6 dropouts and 20 continuations (52% overall accuracy); the second model classified: 13 dropouts and 33 continuations (92% overall accuracy); the third model (full model) classified: 12 dropouts and 34 continuations (92% overall accuracy).

Furthermore, we have tested from "Spring semester" another 70 participants' (the test dataset; 21 dropouts and 49 continuations) demographic and affective variables data were entered into the software to predict the odds of a learner's decision to continue in a language class. The result showed that the first model classified: 11 dropouts and 30 continuations (58% overall accuracy); the second model classified: 18 dropouts and 41 continuations (85% overall accuracy); the third model (full model) classified: 19 dropouts and 42 continuations (87% overall accuracy).
To plot these finding we used ROC curve. A Receiver Operating Characteristic Curve (ROC) is a standard technique for summarizing classifier performance over a range of trade-offs between true positive (TP) and false positive (FP) error rates ("ROC Curves", 2018). ROC curve is a plot of sensitivity (the ability of the model

to predict an event correctly) versus 1-specificity for the possible cut-off classification probability values π_0. Figure 4.10 illustrates the result from the three models. you can see that the third model the area under the curve comes to .926. which is a very good of fit.

following these results. in the upcoming discussion I will consider the discussion of implication for the last method the Logistic regression. the reason is proven that this method has presented a well fitted model to be discussed. .



Area Under the Curve

Test Result Variable(s)	Area
Model One	.687
Model Two	.913
Model Three	.926

Area Under the Curve

Test Result Variable(s)	Area
Model One	.313
Model Two	.087
Model Three	.074

Figure 4.10: Receiver Operating Characteristic Curve (ROC)-Represents three machine learning models

5 DISCUSSION

The essential findings of this study can be categorized as follows: (a) the findings of the differences in the decision of a lifelong learner to continue or drop out a language class. (b) the findings of the level of significance of each variable to predict the decision of a learner to continue a language class.

5.1 Findings of the differences:

1. The findings from this study show that the continuations differ from the dropouts in the placement test scores. There was evidence of the statistically significant effect of the lifelong learners' placement test score (which was identified in this study as a demographic variable) on the decision to continue or drop out a language class; the effect size of the placement test was at large level (.378). Somewhat surprisingly, elements in the demographic variables (like gender, age, marital status, education, job, another spoken language, and is it the first language course) appeared to have no significance or direct effect on the decision to continue or drop out a language class among lifelong learners. Indeed, most of them showed a small effect size. It is possible that there are two reasons to explain this surprising finding. The first reason represents the nature of the services which are offered by FLS. In fact, FLS offers all the services as free of charge, because it's a founded organization by the municipality of Istanbul, Turkey. The second reason is the nature of the classroom in which is a heterogeneous class. Both reasons maybe can reduce the effect size of the non-significance demographic variables reported. This end implies that, in a way, when the lifelong learners willingly enroll in a language class, which is not compulsory or whatsoever, the individual differences like age, gender, etc.

might have a trivial effect on the decision to continue or drop out. Differently, the language placement test score is nontrivial.

2. Moreover, results show that the continuations differ from the dropouts in the affective variables (i.e., motivation, attuite, and anxiety), and the results of this study are consistent with those of previous studies (Bartley, 1969; Gardner and Smythe, 1975; Clément & And, 1978; Gardner, 1987; Horwitz, et. al, 1986; Horwitz, 2001; Aida, 1994; Inbar and Shohamy, 2001). There was evidence of statistically significance effect of the motivation, attitude, and anxiety on the decision to continue or to drop out in language classes. Indeed, motivation score was accounted for 34% of the variance in the decision to continue or drop out in language classes; similarly, 33.9% and 32.5% for attitude and no-anxiety, respectively. The result implies that the affective variables (i.e. motivation, attitude, and anxiety) have a large effect on the decision of the lifelong learners to continue or drop out a language class.

5.2 findings of the level of significance:

Following the findings in 5.1, three different methods (decision tree, discriminant analysis, and logistic regression) were conducted. The finding from the decision tree and the discriminant analysis showed that only affective variables (motivation, attiude, and no-anxiety) have non-trival effect. On the other hand, demographic variables (including the proficiency language score) have all trivial effect. On the contrary, The multiple logistic regression analyses demonstrated the level of significance of each variable (i.e., the placement test score, motivation, attitude and anxiety) to predict the decision of a learner to continue in a language class. To this end, using the last method (multiple logistic regression) three models were tested in separate. The result shows that:

5.2.1 The first model

, the demographic variable, placement test score, was the only explanatory variable. (14-19) % of the variations in the decision of a lifelong learner to continue was

explained by the placement test score. Result of the first model implies that, being a lifelong learner with "A" or "B" grade score, compared to a lifelong learner with "C" grade score, leads to more than 100%, 95%, respectively, increase in the odds to continue a language class.

5.2.2 The second model

, the affective variables (i.e., motivation, attitude and no-anxiety) were the only explanatory variables. (47-63) % of the variations in the decision of a lifelong learner to continue a language class was explained by the affective variables. The result of the second model implies that, for a lifelong learner, each added score in motivation, attitude, and no-anxiety leads to about 16%, 5.5%, and 18%, respectively, increase in the odds to continue a language class.

5.2.3 The third model

, both the affective and demographic variables (i.e., placement test score, motivation, attitude, and no-anxiety) were the explanatory variables. (60-68) % of the variation in the decision of a lifelong learner to continue was explained by the demographic and the affective variables. The result of the third model implies that, for a lifelong learner, each added score in motivation, attitude, and no-anxiety leads to about 21%, 11%, and 26%, respectively, increase in the odds to continue a language class. Quite surprisingly, when the placement test score with motivation, attitude, and no-anxiety, were predictors in the same model; the result showed that, being a lifelong learner with "A" or "B" grade score, compared to a lifelong learner with "C" grade score, leads to about .5%, 1%, respectively, reduce in the odds to continue a language class. This final finding is consistent with the previous one in (a). The result implies that, the lifelong learners who score "C" grade in the placement test are more likely to continue a language class than other learners who score "A" or "B" grade score; so long as they do perceive high level of motivation, attitude and no-anxiety before the beginning of the language classes. In other words, regardless of the learners' academic preparations and aspirations, the affective variables (i.e., motivation, attitude and no-anxiety) play a crucial part to influence the learners'

decision to continue or drop out a language class.

6 CONCLUSION

This work investigated the contribution of two factors the affective factors (motivation, attitude, and anxiety) and the demographic factors (placement test score), on the decision of an adult learner to continue a language course. The reason of doing so is to set an alarm for stakeholders (teachers, administration, policymakers) to help those who at risk to drop out. Overall, findings of our study suggests that those who engage in lifelong training are more likely to continue language classes. So long as, they perceive an elevated level of motivation, attitude, and no-anxiety. Indeed, to support this finding, we compared the results from three machine learning models. The full model shows that the lifelong learners who score "C" grade are more likely to continue than who score "A" or "B" grades if they perceive that level. The research also points that variables like age, gender, etc. have a trivial effect on the decision to continue or drop out a language class among lifelong learners. Finally, the results of this study support the significance of those jointly measured learner variables that are easily overlooked by administration of lifelong language learning centers.

It is possible that there are two reasons to explain this surprising finding. The first reason represents the nature of the services which are offered by FLS. In fact, FLS offers all the services as free of charge, because it's a founded organization by the municipality of Istanbul, Turkey. The second reason is the nature of the classroom in which is a heterogeneous class. Both reasons maybe can reduce the effect size of the non-significance demographic variables reported. This end implies that, in a way, when the lifelong learners willingly enroll in a language class, which is not compulsory or whatsoever, the individual differences like age, gender, etc. might have a trivial effect on the decision to continue or drop out. Differently, the language placement test score is nontrivial.

LIMITATION AND FURTHER STUDY

It must be born in mind that the sample of this study was selected from only one institution in Istanbul, Turkey. Moreover, the study examined only one language, which is English. Thus, the results from this study may not be generalizable to lifelong learners in other institutions and/or countries, likewise, for other languages. Further investigation is hence needed to confirm the generalizability of the results to broader populations. This study includes a limited number of variables even though they were chosen for their importance based on thorough review of the literature. There are many other variables, including two other motivation factors (i.e., confidence and attention), and factors associated with instructional strategies that may affect lifelong learners' decision to continue a language class. Further research, therefore, is needed to involve additional relevant factors and to expand the model to better explain and predict lifelong learners' decision to continue in a language course.

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Publications

Machine Learning Model to Predict a Lifelong Learner's Decision to Continue in a Language Class. It is the first phase of a comprehensive Decision Support System (DSS). In the framework of the project, I proposed the predictive model as an essential stage after the lifelong learner's enrollment and before the language class begins. Therefore, identifying lifelong learners who are at the possibility of dropping out could help the stakeholders (administrators and language teachers) to modify the content of their courses and offer additional support to them.

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c. https://probapstat.blogspot.com/

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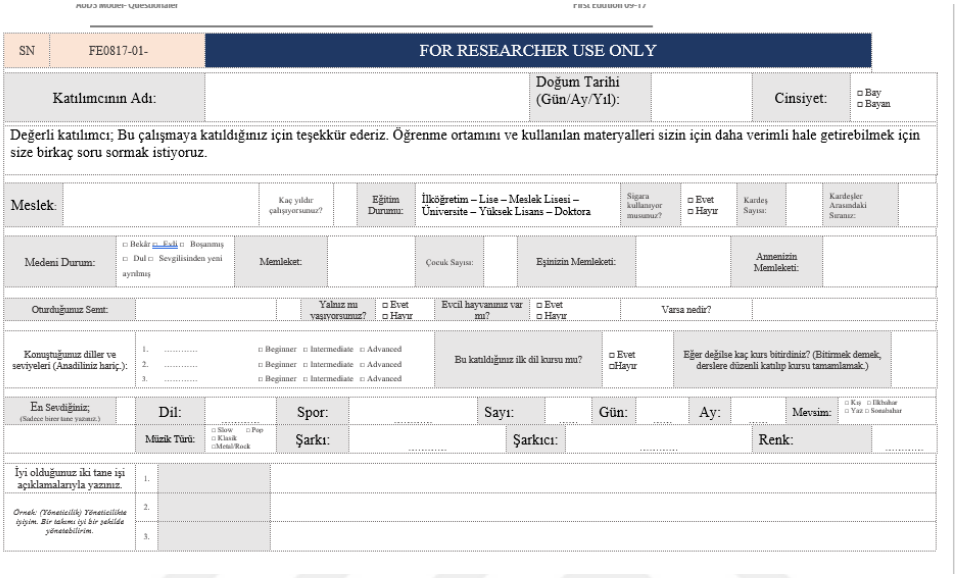
APPENDIX A

Demographic Variables Questioner



SN	FE0817-01-	FOR RESEARCHER USE ONLY			
Katılımcının Adı:		Doğum Tarihi (Gün/Ay/Yıl):		Cinsiyet:	□ Bay □ Bayan

Değerli katılımcı; Bu çalışmaya katıldığınız için teşekkür ederiz. Öğrenme ortamını ve kullanılan materyalleri sizin için daha verimli hale getirebilmek için size birkaç soru sormak istiyoruz.

Meslek:		Kaç yıldır çalışıyorsunuz?		Eğitim Durumu:	İlköğretim – Lise – Meslek Lisesi – Üniversite – Yüksek Lisans – Doktora	Sigara kullanıyor musunuz?	□ Evet □ Hayır	Kardeş Sayısı:		Kardeşler Arasındaki Sıranız:	
Medeni Durum:	□ Bekâr □ Kadı □ Boşanmış □ Dul □ Sevgilisinden yeni ayrılmış		Memleket:		Çocuk Sayısı:		Eşinizin Memleketi:		Annenizin Memleketi:		
Oturduğunuz Semt:			Yalnız mı yaşıyorsunuz?	□ Evet □ Hayır	Evcil hayvanınız var mı?	□ Evet □ Hayır	Varsa nedir?				
Konuştuğunuz diller ve seviyeleri (Anadiliniz hariç.):	1. ..... □ Beginner □ Intermediate □ Advanced 2. ..... □ Beginner □ Intermediate □ Advanced 3. ..... □ Beginner □ Intermediate □ Advanced				Bu katıldığınız ilk dil kursu mu?	□ Evet □Hayır	Eğer değilse kaç kurs bitirdiniz? (Bitirmek demek, derslere düzenli katılıp kursu tamamlamak.)				
En Sevdiğiniz; (Sadece birer tane yazınız.)	Dil:		Spor:		Sayı:		Gün:		Ay:		Mevsim: □ Kış □ Ilkbahar □ Yaz □ Sonbahar
	Müzik Türü:	□ Slow □ Pop □ Klasik □Metal/Rock	Şarkı:		Şarkıcı:		Renk:				

İyi olduğunuz iki tane işi açıklamalarıyla yazınız.	1.	
Örnek: (Yöneticilik) Yöneticilikte üçüyüm. Bir takımı iyi bir şekilde yönetebilirim.	2.	
	3.	

Figure 6.1: Demographic Questioner
Turkish Version

Foreign Language Learning Anxiety Scale (FLCAS)

Attitude/Motivation Test Battery (AMTB) 1.Bu dilde bir şeyi anlamadığımda öğretmene sormaktan veya kendim araştırıp bulmaktan pek hoşlanmam. Çünkü her zaman daha önemli işlerim olur.

2.Yapmam gerekenleri yapacak enerjim daima vardır. (Odamı ve masamı kendim temizler, düzenlerim. Spor yaparım vs.)

3.Bu dili öğrenmek önemli çünkü bu dili konuşan insanlarla daha rahat iletişim kurabilirim.

4.Ne zaman çevremde bu dili konuşan birini bulsam, onunla anadilimi konuşmak yerine bu dili konuşarak pratik yapmaya çalışırım.

5.Yabancı biri benden yol tarifi istediğinde, bu dilde bildiğim bütün kelimeleri unutmuş gibi hissederim. Çok gerildiğim için susmayı tercih ederim

6.Farklı fikirler karşısında kendi düşüncelerimi ifade etmekten çekinmem.

1.	Yabancı dil derslerinde konuşurken kendimden asla emin olamıyorum.	[
2.	Yabancı dil derslerinde hata yapmak beni endişelendirmiyor.	[
3.	Yabancı dil derslerinde bana söz verileceği zaman titriyorum.	[
4.	Öğretmenin yabancı dilde söylediklerini anlamamak beni korkutuyor.	[
5.	Daha fazla yabancı dil dersine girsem bile sıkılmam.	[
6.	Yabancı dil derslerinde kendimi dersten başka şeyler düşünürken buluyorum.	[
7.	Diğer öğrencilerin yabancı dil konusunda benden daha iyi olduklarını düşünüyorum.	[
8.	Yabancı dil derslerinin sınavlarında genellikle rahatım.	[
9.	Yabancı dil derslerinde hazırlıksız konuşmam gerektiğinde panik olmaya başlıyorum.	[
10.	Yabancı dil derslerinde başarısız olmamın sonuçları beni endişelendiriyor.	[
11.	Bazı insanların yabancı dil derslerinde neden mutsuz olduklarını anlamıyorum.	[
12.	Yabancı dil derslerinde bildiğim şeyleri unuttuğumda çok sinirlenebiliyorum.	[
13.	Yabancı dil derslerinde parmak kaldırmaya utanıyorum.	[
14.	Yabancı dilimi ana dili olarak kullanan biriyle konuşurken gerilmezdim.	[
15.	Öğretmenimin yaptığı düzeltmeyi anlamadığımda üzülüyorum.	[

Figure 6.2: FLCAS Turkish Version

7.Başka bir seçeneğim olsa bu dili öğrenmekten vazgeçerim. Ama öğrenmek zorundayım.

8.Bu dili, yapmaktan hoşlandığım aktivitelerde kullanmayı seviyorum. (Örneğin; film izlemeyi seviyorum ve bu dilde film izlemeyi tercih ediyorum.)

Coodbook

Description: It is a numerical training dataset (228 cases). For the study in which investigated the ability of the demographic and the affective variables to predict the learners' decision to continue a language class.

License: CC-By Attribution 4.0 International

Citation: Dahman, M. R. (2018, November 8). Machine Learning Model to Predict an Adult Learner's Decision to Continue in a Language Class. https://doi.org/10.17605/OSF.IO/8YT75

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Figure 6.3: Codebook of the final dataset

Codebook

Notes

Output Created		08-Nov-201810:11:34
Comments		
Input	Data	C:\Users\User\Desktop\CodeBook DS.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	228
Syntax		CODEBOOK Age [s] Gender [n] Job [n] Education [n] Maritalstatus [n] otherlanguage [n] firstclass [n] LanguageProf [o] Motivation [s] Attitude [s] No_Anxiety [s] Status [n] IVARINFO LABEL TYPE VALUELABELS MISSING /OPTIONS VARORDER=VARLIST SORT=ASCENDING MAXCATS=200 /STATISTICS NONE.
Resources	Processor Time	00:00:00.000
	Elapsed Time	00:00:00.000

Age

		Value
Standard Attributes	Label	Learner Age in Year
	Type	Numeric

Gender

		Value
Standard Attributes	Label	Gender
	Type	Numeric
Valid Values	0	Female
	1	Male

Job

		Value
Standard Attributes	Label	Learner Job
	Type	Numeric
Valid Values	1	Art & Entertainment
	2	Engineering
	3	Business & Professional Service
	4	Computer & Internet
	5	Construction
	6	Education
	7	Finance & Insurance
	8	Food & Service
	9	Health & Medicine
	10	Home& Garden
	11	Students
	12	Other
	13	Unemployed

Education

		Value
Standard Attributes	Label	Level of Edu.
	Type	Numeric
Valid Values	1	Pre-High School
	2	High School
	3	Vocational
	4	University
	5	Master
	6	P.hD Doctoral

Maritalstatus

		Value
Standard Attributes	Label	Marital status
	Type	Numeric
Valid Values	1	Single
	2	Married
	3	Divorced
	4	Widow
	5	Separated

otherlanguage

		Value
Standard Attributes	Label	other spoken Language
	Type	Numeric
Valid Values	0	No
	1	Yes

firstclass

		Value
Standard Attributes	Label	Is it the first class
	Type	Numeric
Valid Values	0	No
	1	Yes

LanguageProf

		Value
Standard Attributes	Label	Language Prof. Result
	Type	Numeric
Valid Values	1	A+
	2	B+
	3	C

Motivation

		Value
Standard Attributes	Label	Motivation Score
	Type	Numeric

Attitude

		Value
Standard Attributes	Label	Attitude Score
	Type	Numeric

No_Anxiety

		Value
Standard Attributes	Label	No_Anxiety Score
	Type	Numeric

Status

		Value
Standard Attributes	Label	Status Continue or Not
	Type	Numeric
Valid Values	0	Drop out
	1	Persist