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THE RELATIONSHIP BETWEEN EFL LEARNERS' LEARNING STYLES
AND THEIR LEVEL OF ENGAGEMENT IN ONLINE EDUCATION

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DEDICATION

*To my beloved mother and father,
Aysel ÖKSÜZ and Hanifi ÖKSÜZ
My biggest supporters in my life.*



ETHICS DECLARATION

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Thesis Title: The Relationship between EFL Learners' Learning Styles and Their Level of Engagement in Online Education

I hereby declare that;

I prepared this master thesis in accordance with Çağ University Institute of Social Sciences Thesis Writing Directive,

I prepared this thesis within the framework of academic and ethics rules,

I presented all information, documents, evaluations and findings in accordance with scientific ethical and moral principles,

I cited all sources to which I made reference in my thesis,

The work of art in this thesis is original,

I hereby acknowledge all possible loss of rights in case of a contrary circumstance. (in case of any circumstance contradicting with my declaration)

24/ 06/ 2021

Yunus ÖKSÜZ

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ABSTRACT**THE RELATIONSHIP BETWEEN EFL LEARNERS' LEARNING STYLES
AND THEIR LEVEL OF ENGAGEMENT IN ONLINE EDUCATION****Yunus ÖKSÜZ****Master of Arts, Department of English Language Education****Supervisor: Dr. Seden TUYAN****June 2021, 78 Pages**

The primary purpose of this research is to identify the individual learning styles of the Higher Vocational EFL learners based on Kolb's Learning Style Inventory and to see the relationship between learners' learning styles and their engagement to online courses. Depending on this primary purpose, the study also shed light on these issues; the level of students' engagement to online education and the impact of learning styles on EFL learners' online engagement.

This research has been conducted as a quantitative descriptive study. Using Kolb's Learning Style and Online Student Engagement Scales, the research data is extracted from a group of randomly selected 150 students who study at Higher Vocational School as English Foreign Language Learner in a foundation university during the 2020-2021 academic year. Within the scope of the research questions, descriptive, correlation, and regression analyses were conducted to analyze the obtained data.

The study results primarily revealed a crucial relationship between EFL learners' preferred learning styles and their engagement in online courses. Moreover, according to the regression analysis results, the learning styles preferred by the EFL learners affect their level of engagement in online classes.

Key words: Kolb's learning style inventory, online student engagement, online education, learning, teaching, experiential learning

ÖZ**İNGİLİZCE ÖĞRENCİLERİNİN ÖĞRENME SİTİLLERİ İLE ÇEVİRİMİÇİ
EĞİTİME KATILIM DÜZEYLERİ ARASINDAKİ İLİŞKİ****Yunus ÖKSÜZ****Yüksek Lisans Tezi, İngiliz Dili Eğitimi Anabilim Dalı****Tez Danışmanı: Dr. Seden TUYAN****Haziran 2021, 78 Sayfa**

Bu araştırmanın temel amacı, Kolb'un Öğrenme Stili Envanteri'ne dayalı olarak Meslek Yüksek Okulu öğrencilerinin bireysel öğrenme stillerini belirlemek ve öğrencilerin öğrenme stilleri ile çevrimiçi kurslara katılımları arasındaki ilişkiyi görmektir. Bu temel amaca bağlı olarak çalışma şu konulara da ışık tutmaktadır; öğrencilerin çevrimiçi eğitime katılım düzeyi ve öğrenme stillerinin İngilizce öğrenenlerin çevrimiçi katılımı üzerindeki etkisi.

Bu araştırma nicel ve betimsel bir araştırma olarak yapılmıştır. Kolb'un Öğrenme Stili ve Çevrimiçi Öğrenci Katılım Ölçekleri kullanılarak, araştırma verileri 2020-2021 eğitim öğretim yılında bir vakıf üniversitesinde İngilizce Yabancı Dil Öğrenimi olarak Meslek Yüksek Okulu'nda öğrenim gören 150 öğrenciden oluşan rastgele seçilmiş bir gruptan çıkarılmıştır. Araştırma soruları kapsamında elde edilen verilerin analizi için betimsel, korelasyon ve regresyon analizleri yapılmıştır.

Çalışmanın sonuçları, öncelikle İngilizce öğrenenlerin tercih ettikleri öğrenme stilleri ile çevrimiçi kurslara katılımları arasında çok önemli bir ilişki olduğunu ortaya koydu. Ayrıca, regresyon analizinin sonuçlarına göre, İngilizce öğrenenlerin tercih ettikleri öğrenme stilleri, çevrimiçi derslere katılım düzeylerini etkilemektedir.

Anahtar Kelimeler: Kolb'un öğrenme stili envanteri, çevrimiçi öğrenci katılımı, çevrimiçi eğitim, öğrenme, öğretme, deneysel öğrenme

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ABBREVIATIONS

EFL	: English as a Foreign Language
KLSI	: Kolb's Learning Style Inventory
LSIS	: Learning Style Inventory Scale
OSE	: Online Student Engagement
OSES	: Online Student Engagement Scale
SPSS	: Statistical Package for the Social Sciences
CoI	: Conflict of Interest
CE	: Concrete Experience
RO	: Reflective Observation
AC	: Abstract Conceptualization
AE	: Active Experimentation

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1. INTRODUCTION

The learning ability of human beings differentiates them from other living things and specifies their existence in society. People learn the necessary behaviors for living due to their innate characteristics and the environmental effects. Most psychologists argue that learning occurs by interacting with individuals in society, and learning makes long-term changes in each individual's behaviors.

In terms of time and technique, online learning provides flexible learning and materials for the students. Likewise, online learning delivers immersive material compared with conventional courses that offer easy access to knowledge and feedback. However, the students' interests cannot always be impaired (Norwati & Zaini, 2007), based on their needs, and Diaz and Cartnal (1999) contend that the condition is related to learning styles.

Each student's learning style is different because *learning styles* are briefly defined as "specific structures of individuals" (Cury, 1991&Yildiz, 2011). Some students tend to obtain information from verbal expressions or mathematical processes, while others understand concrete more efficiently. Some students learn more quickly with visual presentations such as graphics, drawings, or 3D models, while others immediately understand the subject even with verbal expression. Some students study by listening to music, while others cannot work without a quiet environment. Some students perform better in a bright environment, while others work better in dim light. Temperature also affects learners differently. Some prefer to work in warm climates, while others work better in cold environments. All these differences refer to the learning style of the students.

Background of the study

The expanded use of technology to mediate distance learning connectivity would significantly influence the growth of 21st Century distance education programs. Distance learner is a commonly overlooked aspect of the use of advanced technology. The range of learners and their preferred learning patterns and how they communicate with the media must be taken into account.

A modern paradigm of content distribution modules - online education - was introduced by innovations and technological advances. Nearly everyone in their developmental and learning systems, significantly higher education, has begun using

this model. Three methods of technology usage have been established in educational institutions by Belanger and Jordan (2000). The first step is to introduce technology into a classroom if the school uses training technology. The second phase is part conversion, in which portions of the courses are administered digitally or by other remote technology. The third step is the entire transfer to conventional classroom instruction, which is the most significant transition to online or other remote technology.

Problem Statement

Due to the growth of online distance education courses, there is an immediate need and necessity to appropriately assess the quality and efficacy of online distance education course design and perform research on the impact of online learning delivery on learner outcomes (Thiele, 2003). According to Maddux, Ewing-Taylor, and Johnson (2002), one approach to ensure the consistency of online course design and positive student outcomes is understanding the importance of student learning styles when developing instructional methods. Kolb's (1984) Experiential Learning Theory, founded on the works of Kurt Lewin, John Dewey, Lev Vygotsky, and Jean Piaget, is one approach that appears to hold promise for accomplishing this aim. The answers to these questions were investigated using the Kolb Learning Style Inventory translated by Akkoyunlu (1993) and the Dixson (2015) Online Student Engagement Scale translated by the researcher for the purpose of this study.

When managing the education process, communities with individual differences cannot achieve the same results. The individual differences encountered in realizing this achievement and giving the students the highest level of the behaviors intended in education are a fundamental problem for educators (Kazu, & Özdemir, 2005). When it is established what a person's learning styles are, it is simpler to comprehend how the person learns and what sort of teaching approach is most effective. (Babadogan, 2000).

Purpose of the study and research questions

The primary purpose of this study is to identify which learning style Higher Vocational School Students (EFL learners) prefer according to David Kolb's Learning Style Inventory. Based on this general purpose, the sub-objective of the research is to explore the relationship between EFL students' learning styles and their online EFL course engagement. The purpose of the study addresses the following research questions:

1. What are the preferred learning styles of tertiary EFL students in the Turkish context?
2. What is the level of Turkish tertiary EFL students' online course engagement?
3. Is there a relation between EFL learners' preferred learning styles and their online course engagement?
4. Do EFL tertiary students' preferred learning styles predict their online course engagement?

Significance of the Study

If students realize how to learn better, they try to organize their learning activities and environments accordingly, both during and during extracurricular study times. Teachers' knowledge of these styles will also allow them to consider these differences when regulating their learning lives and make education more efficient. This factor positively affects both the success of the person in school life and his development in the life process.

For effective learning, the student should think about what they listen to and read, focus on listening, ask what they do not understand, repeat, associate new information with previous information. Students can do these activities and learn. The teacher can give the best help in this regard. Students have two basic requirements. The first is related to the learning products of the students and the knowledge, skills, and attitudes that they need to gain. The second is about how they can learn in the learning process. The second requirement has the power to influence the first. More clearly, teachers should apply the teaching in their lessons that will allow students to learn both the subjects of the course and how to learn. To learn, students must first know themselves in terms of their learning characteristics. Students can perform effective learning by knowing their learning styles and knowing and using the techniques used in learning. The learning characteristics of the students are their learning styles. Students choosing, using, and being active in the learning process will lead the student to success (Ozer, 1998). Therefore, this study aims to present which learning style EFL learners prefer to learn a foreign language and see if the chosen learning style increases their engagement in online education.

Literature Review

This part presents the specific research related to this study's content: online education, EFL learners' learning styles, and online student engagement ratings of EFL learners. However, this part of the study, review of the literature, presents seven sections of the investigation; (1) David Kolb's learning style inventory, (2) the learning modes, (3) the learning styles, (4) the learning environments, (5) online education, (6) importance of student engagement to online learning, (7) online student engagement.

Education

According to Mayer (1982) education describes a process that begins with the birth of the individual and continues throughout his life. In this process, the individual has the opportunity to reveal and develop many of his innate characteristics during his interaction with the environment, gaining new knowledge, skills, and attitudes.

Education is the process of changing behavior in the individual. It is expected that there will be a change in the behavior of a person going through the training process. Studies state that the purposes, knowledge, behaviors, attitudes, and moral measures of the person have changed through education. This change should be in the desired direction for the people who enter the education process. In this sense, Ertürk (1972) refers to education as the process of creating a deliberately desirable behavioral change in the behavior of the individual through his or her own life (Demirel, 2006).

Education and learning are intertwined concepts that are interdependent. It is impossible to talk about education without learning. Learning is a prerequisite for education (Başar, 2003). Since teaching is an activity ensuring learning, education occurs through teaching that enables valid learning (Senemoğlu, 2005). Planned education in almost every community is a duty of school (Bloom, 1979). As can be understood from the results in the light of research in educational sciences and today's understanding of education, nearly all seven departments of formal education take place in the school. Whether education is formal education, intentionally carried out in schools or informal, i.e., indiscriminately occurs in the environment in which the individual lives, it only involves creating behavioral changes of a despised nature (Sönmez, 2003).

Educational programs, teaching methods, exams, transition to higher education institutions, and evaluation of academic work are some elements that can be considered in this dimension. The student's upbringing, which is the reason for the school's

existence, depends entirely on the learning-teaching process. Fidan (1986) has drawn attention to the fact that is the most functional element of an education program is the learning-teaching process and argues that for a healthy renewal in education, the focus of this process should be taken. Likewise, Varış (1988) states that the essence of change in education lies in understanding the educational process.

Learning

Learning is a concept that has been going on for years on how it occurs and what it is, and scientists try to define and explain it with different approaches. Various philosophers and educational psychologists have made different definitions of learning, the behavioral approach was adequate and that learning was explained in the form of permanent traced behavioral changes that occurred as a result of lives (Erden et al. 1994). Learning can include innate behaviors, tendencies, maturation, fatigue, and medication. It is the process of creating or altering behaviors through interactions in the environment, which does not cover the temporary state of the organism caused by effects (Bower & Hilgard, 1981). It is a change in human tendencies and competencies that cannot be attributed only to the growth process occurring over a certain period (Gagne, 1983). Learning; is a relatively permanent patterned behavior change that occurs due to a certain level of interactions with the individual's environment (Senemoglu, 2005).

Psychologists and educators describe learning in the most general way as a live product and relatively permanent patterned behavior change (Gagne & Driscoll, 1988; Erturk, 1986; Sapling, 1986). However, various philosophers and educational psychologists have made different definitions of learning. Some of them are as follows; According to Bower and Hilgrad (1981), learning is a way of learning about innate behaviors, tendencies, maturation, fatigue, and medication. It is creating or changing behaviors through interactions in the environment, which does not cover the temporary state of the organism that occurs with effects.

To Hergenhahn (1988), learning is a relatively permanent traced change in 12 behaviors or potential behaviors that arise resulting from life, which will not be attributed to temporary changes in the body due to disease, fatigue, or drug effects. Learning can be defined as the life-product of permanent traced behavior due to the individual's interactions with himself, others, and his environment, not temporarily (e.g.,

growth, disease, medicine); behavior is relatively continuous and observable. Standard features of learning can be defined as follows:

- Observable change in behavior,
- Relatively continuous change in behavior,
- Change in behavior as a result of gaining experience,
- - Change in behavior, fatigue, illness, taking medication. It does not occur temporarily due to factors,
- The change in behavior does not occur only due to growth (Senemoğlu, 2005).

Experiential Learning

Increased availability to knowledge demonstrates the critical nature of individual qualities that influence learning. The research on learning styles is predicated on the premise of utilizing individual diversity as a source of richness in six learning contexts. Kolb, a key author whose views impacted educational scientists, defined learning as "the process of developing knowledge via experiences" and has been researching learning styles and experiential learning since the late 1960s.

Experiential learning is founded on pragmatic theory, which arose in the 1870s (Johns, 1999). Experiential learning theory is based on the work of Dewey, who emphasizes the importance of individuals being active participants in the learning process, Lewin, who highlights the value of experience in learning; and Piaget, who views intelligence as a result of interaction between individuals and their environment (Yoon et al. 2000).

This new view has been dubbed "experiential" for the reasons stated in the preceding two paragraphs. In these ways, it is distinct from behaviorist theory, which ignores the relevance of personal experiences and consciousness in the learning process, and cognitive learning theory, which stresses the acquisition and orientation of information as well as the memory of abstract symbols. Its objectives are not to propose a third alternative to behavioral and cognitive learning theories but to demonstrate that learning is a complex process including perception, cognition, and behavior. As suggested by Kolb's theory of experiential learning, learning occurs as a result of experiences, and not everyone learns in the same manner. (Yoon, 2000, Kolb, 2000, Whitcomb, 1999). According to the experiential learning theory, learning is a four-step process. Concrete

experiences are turned into abstract notions, which are then used to acquire new experiences.

Learning Style

The concept of "learning style" has an important place in terms of learning. Before defining this concept, the idea of style should be emphasized. Style is a general characteristic of the individual, consisting of consistent and fairly continuous tendencies or preferences. Style is the available quality that distinguishes the individual from others, is specific to the individual, and is related to his/her personality. The concept of style can be applied to sports and arts. It can be used in very general areas such as disciplines. Recently, the idea of style has been used chiefly for personal characteristics (Riding and Rayner, 1998).

Rita Dunn first introduced the concept of learning style in 1960, since those years, it has been continuously studied. This issue entered the schools long after 1960 and found its application area. After the 1980s, researches on learning style have increased considerably both in number and quality. The purpose of determining learning styles is to determine the appropriate dimensions of learning methods using the biological and developmental-based individual feature sets of learners. Learning styles, just like blood groups, are characteristic features that are innate and profoundly affect an individual's life (Boydak, 2008; Ersoy, 2003; Babadoğan, 1994).

Individuals learn in different ways. Each individual has different personal styles. Like there are different hairstyles, dress styles, food styles, or music styles. Individuals prefer obtaining information suitable for their learning style, which provides more accessibility and more comfort. These different personal styles help determine the learning styles of the individual. In other words, the unique style created by the individuals' thoughts, experiences, and feelings prepares the learning style. These styles are adequate for the learner to get the information as soon as possible without much effort (Ekici, 2001).

Each student with a different learning style has a strongly preferred way in the learning process. Some students focus on data, events, and algorithms, while others learn better with theoretical or mathematical models. While some students prefer pictures, graphs, and diagrams in the learning process, others may be more comfortable responding to oral or written explanations. Some prefer to learn interactively and

actively in a group, while others prefer personal learning. These differences reveal students' learning styles (Felder, 1996).

As it can be seen, learning styles affect behaviors at every moment and in every aspect of our lives while learning and interacting with others. In the learning process, it is understood that it is an essential factor affecting students' learning. Various philosophers and educational psychologists have made different definitions about learning style. Some reports are listed below.

Rita Dunn (1986) states that "each student has their own distinct way of processing, studying, and retaining new and difficult information". To help these students achieve their goals, we need to facilitate the progress in this order, all the way from preparation to acquisition and retention of new and difficult information (Boydak, 2008). Learning style, according to Keefe (1979), is a pattern of cognitive, affective, and personal features that serves as a relatively stable indicator of how people evaluate their learning environment, how they engage with these surroundings, and how they react to their learning environment.

According to Loo (2002), learning style is how people respond or interact with stimuli when learning a new subject. In Gregorc's model (1979), both acquired and natural styles of learning have the same source, and hence, the source is related to learning style. It is via the change in their environment that they may detect alterations to their genome, which then alters their experience in their surroundings. Gregorc (1979) believes that individuals have to behave the way they would normally behave to reveal their actual style. The phrase learning style is a broad phrase that encompasses all the ways an individual differs in his or her learning abilities.

According to Felder and Silverman (1988), learning style is the characteristic powers and preferences of individuals in obtaining, holding, and processing information. By Boydak (2008), learning style is expressed as "the characteristic feature of the individual that is innate, and that affects his / her success." To Şimşek (2007) learning style is "individual characteristics that determine the preferences that students use in environmental perception, information processing, communicating with the environment and reacting."

Kolb (1984) asserts that the term "learning style" relates to the way someone learns as a result of his or her biological factors, past experiences, and the expectations in the context in which he or she is positioned. One's learning style concerns the methods in which an individual wants to acquire and process knowledge.

It is accepted that individuals with varying styles of thinking will learn differently. De Bono (1985), who studies people's thinking styles, emphasizes that some are most interested in facts and numbers. Browning (1996) also states that people use four different styles (styles) in processing the data they receive: analytical, conceptual, structural, and social. The author, who defends that creative thinking takes place by bringing all four thinking styles together, emphasizes that successful teams will be teams of people who think in all four styles.

Learning styles, also known as cognitive styles, are different approaches students have while learning, solving problems, and processing information (Tok, 2006). Many types of research have been conducted on learning styles since the 1940s, and many learning style models have been developed (Scales, 2000). According to Dunn (1990) who conducted detailed studies on learning styles, "learning styles are the unique ways that every learner receives, processes and keep in mind." Dunn's learning style model consists of five essential stimuli; these are:

1. Environmental factors: Sound, light, temperature, and room layout.
2. Emotional factors: Motivation (motivation), persistence, responsibility, and emotional structure.
3. Sociological factors: single work, pair work, group work, or adult work.
4. Physiological factors: Visual, auditory, perceptual, time, and mobility
5. Psychological factors: Factors such as analytical-holistic, using different hemispheres of the brain, calmness.

Kolb, who made significant contributions to learning styles literature, explains the learning styles with the experiential learning theory he developed. According to Kolb (2005), learning styles are "individual differences based on the learner's preferences of using different stages of the learning cycle." According to Honey Mumford (1993) who bases her work on Kolb, learning styles are divided into four different categories: Activist, Reflector, Theorist, and Pragmatist. To ensure easy learning and realize learning at the highest level, each individual should understand the learning style and create learning environments using this style (Honey-Mumford 2006). McCarthy defined learning style as the preference of individuals in using their perception and processing abilities (Mutlu, 2005). The model is developed very similarly to the Kolb

learning style model in terms of its features. According to (McCarthy, 1980) The four basic types he proposes are:

- 1) Innovative learners: They prioritize personal values, social interaction, and relationships are essential. They are numbered to the authority.
- 2) Analytic learners: They justify their judgments; they need new information. They may choose to change the authority's orders.
- 3) Common sense learners: They are practical and straightforward and evaluate objects regarding their usefulness and usefulness. They work independently of authority.
- 4) Dynamic learners: They are self-satisfied, challenging, adventurous, trying to solve events by emphasizing and synthesizing all possibilities. They tend to ignore authority.

Keefe (1987) explains learning styles as cognitive, psychological, and practical behavioral characteristics that show how learners perceive, communicate, and their sensitivity to learning environments (Ekici, 2001). In the model developed by Keefe and Monk, there are three primary dimensions and twenty-four elements they contain (Riding and Rayner, 1998):

- 1) Choice of cognitive skills: analysis, situational discrimination, classification, sequencing, concurrent processing, and memory elements.
- 2) Choice of perceptual responses: Visual, auditory, and sensory processing elements.
- 3) Instructional preference regarding work: Environmental conditions and motivation, resistance orientation, verbal risk orientation, intervention preference, time preference, posture style, mobility, sound, and light preference elements.

On the other hand, Gregorc states that the learning style consists of distinctive and observable behaviors that provide clues about indeterminate individual abilities (Ekici, 2001). The model explains learning styles as a cycle and emphasizes that some individuals may have more than one of these styles. (Gregorc, 1984, Yıldız, 2011). According to this model:

- 1) Concrete Sequential Learners: They are constructivists; they want to learn by experience.
- 2) Abstract Sequential Learners: They make sense; ideas and concepts are essential.
- 3) Concrete Random Learners: They are intuitive, skilled in problem-solving.
- 4) Abstract Random Learners: They prefer to learn meaningfully, learn events and concepts in a distinctive and complex way.

Grasha (1996), another learning styles theorist, defined learning styles as individual characteristics that affect the student's ability to obtain information and participation in learning activities by interacting with his / her teacher or friends.

When the definitions are scrutinized, it is seen that all researchers emphasize that learning styles are a feature arising from individual differences. Individual difference is a feature that should be taken into account in the learning environment. For this reason, the concept of learning styles has been used in the field of education since the 1970s. Many studies conducted since then show that teaching based on the students' learning style increases both the success and the retention of the learned.

The learning of people who look at events from different angles, solve problems using different approaches and use different styles in processing (thinking) the data that reaches them will also differ. Kolb (1984) made an inventory of learning styles by examining how people approach events, facts, and ideas and what kinds of ways they apply to solve the problems they encounter in their daily lives. The Learning Styles Model is based on Kolb's Experiential Learning Theory and the learning styles defined within this model; concrete experience, reflective observation, abstract conceptualization, and active experience (Peker, 2003).

The Role of Learning Styles in the Learning-Teaching Process

The successful preparation and implementation of the curriculum depend on knowing the characteristics of the students well and planning and applying the elements of the teaching process in a way that is consistent with these characteristics (Demirel, 2004). Providing a formal education in educational environments, that is, teaching by using specific methods or assessment techniques without paying attention to the students' individual differences, is one of the biggest injustices to be done to students with different learning characteristics (Çaycı & Ünal, 2007). If the styles of individuals are determined, it will also be determined how these individuals can learn and how the

curriculum will be designed for this (Babadoğan, 2000). Studies have emphasized that the advanced aspects of individuals should be taken into account in educational activities in which the individual differences of learners are taken into account (Ekici, 2003). The realization of the teaching process by considering the learning styles of the students will make it easier for each student to reach the aims of the teaching.

The basic assumption of learning styles is that all students can learn but in different ways. Dunn (1990) stated that when students are taught with approaches and methods suitable for their learning styles, they can learn almost any subject, and they may fail when the same students are not acquainted with appropriate teaching styles (Hasırcı, 2005).

Learning style helps teachers in the teaching process and helps the learner in the learning process. If the teacher has information about the student's learning style, he can apply more appropriate teaching (Güven, 2004). In this way, it appeals to students with the same style as the teacher's learning style and students with different learning styles and does not judge them due to their attitudes and behaviors. Because a student who exhibits other behavior in his/her way, for example, reading aloud or shaking his body while solving problems, actually knows that he will learn in that position best. Of course, the teacher must determine the learning well here. If the student misses the subject while moving or talking and the teaching does not occur, it does not go beyond creating confusion in the classroom. In addition, the individual who is aware of the learning style works more effectively and reaches his goals more easily because he knows how and in which environment he will work.

David Kolb's Learning Style Inventory

Psychologists showed much interest in the science of learning since the beginning of the science of psychology, and they made various studies in the field of education. Also, they worked on the most consistent learning style for the individuals. Various studies argue that each individual learns in a different learning style. At the same time, Kolb's inventory stands up for the idea that individuals' learning styles are in a cycle and that inventory specifies individuals' places in that cycle. Kolb's inventory is based on experiential learning.

Learning is defined as the process by which information is produced by experiential transformation. The synthesis of awareness and transformation experience contributes to knowledge (Kolb, 1984). Kolb's study demonstrates that learning styles are affected

by history, personality, specialization in schooling, job preference, and the current position and tasks. These behaviors related to the four basic research types are conditioned by the transactions of individuals and the world at five phases, education, job, current position, and adaptation skills. Improving experiential learning can be accomplished by building environments for learners that facilitate opportunities that generate development for learners. The spectrum of knowledge that provides interactions that encourage or hinder learning is a core theme of Dewey's education theory. Grasping experience means the transformed version of the information into the occasion and how the individuals who deal with that information can enact or use that information. However, the learning cycle includes four models, and they are divided into two groups as 'grasping experience' and 'transforming experience.' Grasping experience's modes are 'Concrete Experience' (CE) This style of learning is concerned with reality since other learning styles are dealing with hypotheses and assumptions (Kolb, 1984, p. 68).

The focus of this mode is on interpreting the significance of concepts. Individuals are distinguished by objective judgment, impartiality, and patience in this style of use. They choose theoretical awareness to practical applications and prioritize reflecting and observing instead of acting on a circumstance. Kolb (2011) claims that learning emerges from these four learning modes. This circle interpreted as the ideal concept because it provides individuals to experience (CE), reflecting (RO), thinking (AC), and acting (AE). Concrete experience is based on peer interaction, and they learn best from discussions. Abstract conceptualization learners lean on symbols, and they learn best in a teacher-centered environment. Active experimentation learners tend to be active learners in engaging in projects or learning in a kinesthetic way. Kolb (1985) divided these four learning styles into four learning modes: Assimilative (AC and RO), Accommodative (CE and AE), Convergent (AC and AE), and Divergent (RO and CE).

Accommodative learners seek new ways to experience more knowledge, and they have more willingness to learn by doing tasks called "opportunistic, action-driven and risk-takers" (Kolb, 1984). They are more adaptive to changing conditions which means spontaneous incomes, and they are more careful in planning their work. On the other hand, assimilative style learners are opposite to those matters. Kolb (1984) has indicated that one of the most vital strengths of the assimilator is to construct analytical frameworks for integrated theories to assimilate diverse findings. Accommodative style learners mostly rely on other people's opinions or try to analyze their intuition.

Convergent style learners are practical-minded, and it is their most significant characteristic feature. According to innate characteristics, they are more willing to solve problems spontaneously and are good at making sudden decisions and applying them to solve the problem. These learners have conventional intelligence because they can converge the given knowledge by deductive reasoning, and they can support their ideas with suppositional ideas (Kolb, 1976). Hudson (1966) acknowledged that these learners are good at avoiding their emotions, and they do not want to deal with the issues such as; social interaction or interpersonal problems. They tend to technical works or topics.

Divergent style learners mostly tend to focus on tasks that require creativity and the meaning of the content. Learners of this learning style may recognize concrete examples of a theory and produce various attributes from several viewpoints. They can then arrange these attributes by interrelating every attribute, making the whole of the design concrete "gestalt". They are considered "barnstormers". They prefer to observe and reflect rather than putting it into action; also, they are called emotional-oriented learners. However, they are in modes of concrete experiences and reflective observation.

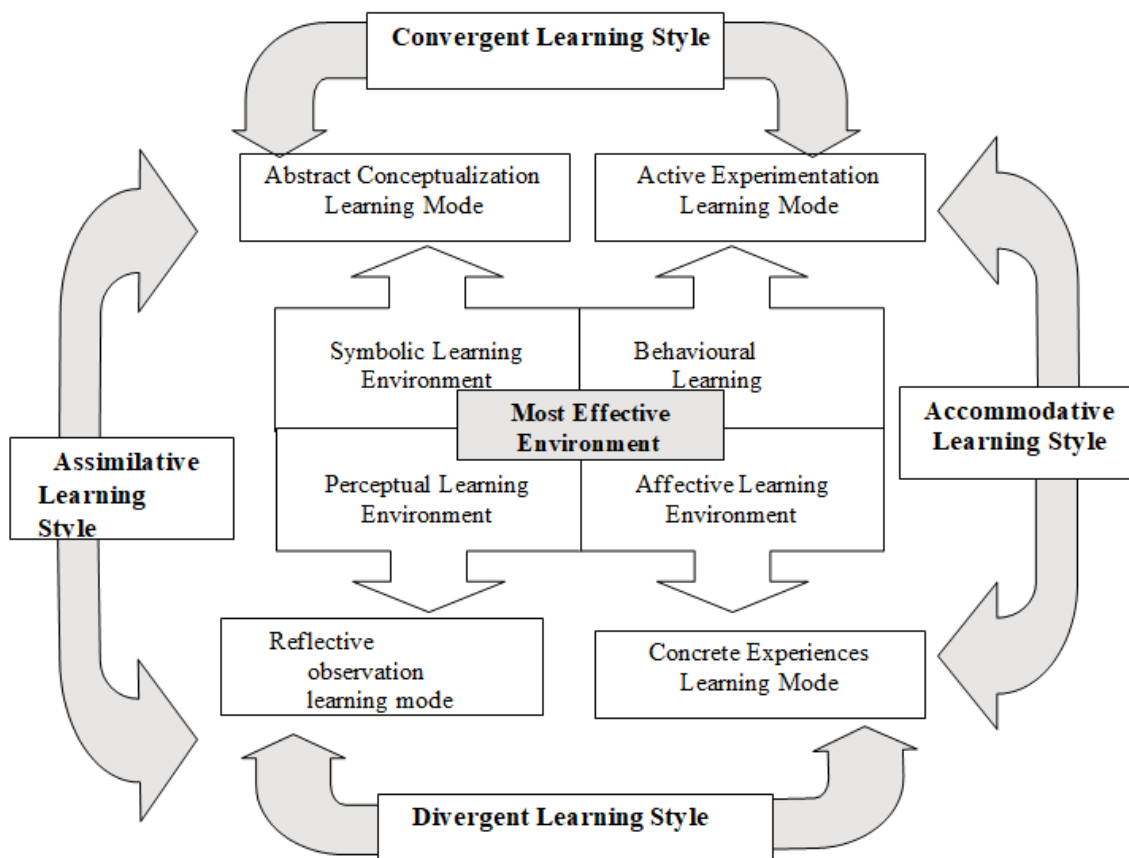


Figure 1. Conceptual Schematic of Kolb's Learning Styles, Modes and Environments

Note. Reprinted from S.A., Richmand & R. Cummings, (2005).

Table 1.*Conceptual Schematic of Kolb's Learning Styles and Learning Modes*

Learning Styles	Learning Modes
Assimilative	Abstract Conceptualization
Strengths: Building Theoretical	Focus: Logic, Ideas, concepts
Models Emphasis: Lesson People & More on Ideas & Concepts	Values: Conceptual Systems & Rigorous Idea Analysis
	Reflective Observation
	Focus: Understand Meaning of Ideas
	Values: Patience, Impartiality, & Thoughtful Judgment
Accommodative	Concrete Experiences
Strengths: Doing & Risk-Taking	Focus: Involved Interpersonal Experiences
Emphasis: Adapting Oneself to New Situations	Values: Real-World Situations
	Active Experimentation
	Focus: Influencing People & Changing Situations
	Values: Ability to Manipulate Environments
Convergent	Abstract Conceptualization
Strengths: Intelligence Tests	&
Emphasis: Problem-Solving & Decision-Making	Active Experimentation
Divergent	Reflective Observation
Strengths: Creativity & Brain-Storming	&
Emphasis: Social Interaction & Perspective Taking	Concrete Experiences

Note. Adapted version from Kolb (1984).

The Learning Modes

Concrete experience

The concrete way of experiencing is typical for students who want lots of direct interactive human encounters. These people often tend to think rather than feel and experience. Kolb (1984) defines them as intuitive decision-makers who respect real-life situations affecting individuals. This way of studying has "the special and ambiguity of the present world about myths and generalizations" (Kolb, 1984, p. 68). More than often, those who favour the concrete method of learning experience adopt an intuitive, artistic approach rather than a logical approach to problem-solving.

Reflective observation

This mode focuses on understanding the significance of concepts. Persons distinguished by the rational judgment of this mode value impair and restraint it. They favour abstract understanding to practical applications, and instead of operating on a scenario, they prefer to consider and study.

Abstract conceptualization

Individuals focused on abstract conceptualization usually concentrate on projects requiring a logical analysis of thoughts and concepts. This way of learning is a choice that depends on conceptual and not interpersonal abilities than concrete experiences. People who choose this mode are usually interested in discussing academic topics that include constructing general hypotheses and finding a solution. People in this style often respect a detailed study of ideas and well-developed definitions.

Active experimentation

"The successful method of experimenting is based on affecting individuals and change"(Kolb, 1984, p. 69). In other words, people in this way of learning choose to participate in peer interactions, which enable them to play an integral part in choices made during these interactions. In this mode, functional implementations or solutions are stressed and not a representation of a problem. People who use this mode are professionals and focus instead of observing; they love the "work done," and they are highly effective (p. 69); and they also admire their capacity to exploit their environmental condition to achieve positive outcomes.

The Learning Styles

There are four general learning styles, each associated with one of the terms: accommodating, assimilative, divergent, and convergent. A primary goal of teaching is to guide students toward gaining a deeper understanding of new material through the application of learned concepts. Teaching methodologies incorporate two distinct modes of learning, concrete experiences, and reflective observation, to guide students toward a deeper understanding of new information. In contrast to Kudzma and Fry (1975), four alternative learning environments have been defined by Kolb and Fry (1975) for accommodating learners with different learning styles and learning modalities.

Assimilative Style

The assimilative style of learning is characterized by inductivity. Assimilators deal not with individuals or social encounters with thoughts and philosophical concepts but with abstract, rational elements rather than functional aspects of the theories. People using the assimilative form use the styles of reflection and logical conceptualization.

Accommodative Style.

Contrary to the assimilative model, the accommodating students work best in following orders, carefully preparing, and finally searching for different experiences (Kolb, 1984). They are identified as opportunistic, motivated by behavior, and risk-takers. As opposed to assimilative learners, the accommodating ones approach problems intuitively rather than carefully examine facts and depend heavily on their analytical abilities and other individuals for knowledge (Grochow, 1973; Stabell, 1973). The learning modes associated with accommodative learners include concrete experience and active experimentation.

Convergent Style

Kolb argues that convergent learner's power is the desire to solve problems, make decisions, and use rational solutions to solve problems effectively. In general, these people perform better in traditional intelligence assessments, and through hypothetical deductive reasoning, they can coordinate information and thus can agree on one answer (Kolb, 1976; Torrealba, 1972). Hudson (1966) assumes that people with this learning style handle their feelings well, rather than grappling with interpersonal and social

concerns, with technical activities and issues. Convergent learners draw from the learning modes of abstract conceptualization and active experimentation.

Divergent Style

The divergent learner is better put at tasks that require "creative abilities" (Kolb, 1984, p. 77). Individuals with this learning style can recognize particular instances of a concept and produce various attributes from multiple viewpoints. These values can then be arranged by how each quality interrelates and gives a concrete "gesture" of the whole term. They are seen as "brainstormers" (p. 77), like watching instead of performing, are emotionally focused, and appear to be highly imaginative. Divergent students favor realistic learning styles and reflective observation.

The Learning Environments

According to Kolb (1984), four learning environments support the different styles and modes of learning. It involves the learning environments of affective, symbolic, and perceptive. It is worth noting that Kolb (1984) did not explicitly connect or provoke learning environments with styles.

What has been conveyed through the affective learning environment emphasizes actual working experiences to learn what it is like to be a genuine professional member. Affective learning involves actual practice, simulations, or field experiences. Information tends to be delivered to the client either personally or via another person. The instructor has been viewed as a model and role model for the discipline. Individualized activities should be objective, and assistance should not be neutral, but it should instead focus on their goals and needs (Kolb, 1984).

Students should be actively involved in creative thinking about which the correct answer is either readily apparent or where there is more than one. Information is typically coming in the form of reads, data, graphics, and speeches. Typical assignments may include lectures, homework, as well as literary analysis. While the instructor is called an expert, enforcer, timekeeper, and monitor of standards, students refer to him as a taskmaster. This information/teaching method consists of a predominantly top-down hierarchical structure (Kolb, 1984).

Kolb and Fry (1975) theorize that learning's primary educational environment is discovering and recognizing relationships among concepts. Activities in the symbolic environment focus on education and finding the best answer, while the perceptual

environment focuses on solving problems. One must take relevant information to conduct research and try a solution through their ideas, an outside perspective, and local literature. The teacher's function is to facilitate the learning process, non-directive, and mirror students to return to, showing their progress and insights. Reflective processes may include journaling, creative, or verbal exercises. These teaching methods are applied throughout each class, emphasizing how important it is to take time to reflect on what you have learned.

Lastly, the practical application environment has a focus on hands-on learning. To succeed in this environment, answer questions correctly is not required. Still, answers should be presented so that the students' long-term interests and values are in a reasonable structure. The teacher helps or guides only when the student takes the initiative. Real-task projects that integrate theory into real-world scenarios, hands-on efforts, and peer feedback. The project goal of the team sets is "how well something functions, sellability, results, or the cost" (Kolb, 1984. p. 199).

Additionally, numerous studies have looked into community college courses, and the findings show a correlation with the learning styles of pre-service teachers (Jones et al., 2003; Lem, 2002). (Raschick, Maypole, & Day, 1998). To date, little research has studied the implications of learning styles for web-based education courses. Learning style was positively correlated with students' perceptions of classroom enjoyment. The students who reported the most enjoyment had along with converging, accommodative, and assimilation styles. Though the authors did not analyze the distribution of learning styles, they only stated the number of divergent, convergent, or accommodative participants in their study but there is no specific statement about the relationship between learning styles and their effects on students' progression. The study found that most of the participants were assimilative in their preferences, so as a result, most students showed a convergent or assimilative style. In their conclusions, the authors advocate for Kolb's (1984) learning styles theory in developing online courses.

Online Education

Online education has emerged as a modern pedagogical paradigm to further access information and promote agility. The words "Formal Education" and "Distance Education" are on an even broader scale. Regardless distance education can be seen as a positive resource to many students since it does not impede their progress and helps them develop their skills and aptitude. Online education is a teaching and learning

approach that utilizes technologies where the agents are distant from one another, either geographically or temporally. Belloni (1993) claims that educational institutions that use virtual learning platforms devote themselves to teaching and learning when they have a less expensive working budget due to their adaptability and higher practicality and applicability. On the other hand, in addition to serving as a teaching and learning mechanism mediated by technology, distance education also has features to consider (Barros, 2003). Thus, distance education can be defined as providing a superior education that works well in time and incorporates modern technology as they emerge.

Online education has recently grown but is still not having the desired impact. Students also complained that they did not find enough learning materials due to their lack of interaction with their teachers (Huang, 2003). Leigle & Janicki, (2005) proposed customizing learning modules for differing groups of students, suggesting that better learning would result. The current research results were drawn from this report on Kolb's learning styles, online learning habits, and association with learning outcomes. Online learning for various students was seen as a critical research component of this report.

Online learning is created by a dynamic relationship between technical and organizational influences that may have a distinctive effect on cultural diversity among students. Therefore, the dedication and encouragement of students will increase to lead to more positive and realistic experiences in language learning. Brick (2011) argues that the influence of online social networks in learning languages should not be ignored since it can be possible to develop different contextual language skills such as reading, writing, listening, and communicating using distinctive features of platforms. The encouragement and determination to study and learn in isolation should appeal to online students. Therefore, a lack of face-to-face responsibility may encourage a student's abandonment without anyone being aware of it. Hannon & D. Netto (2007) emphasized that students from various backgrounds respond differently to goals and expectations incorporated into online learning technologies.

Importance of Student Engagement in Online Learning

In general and particularly, the CoI system encourages a student-centered learning environment where students' perspectives are open to collaboration and interaction with others. Swan et al. (2000) and Ehrmann (1996) agreed that they considered three things to be positively correlated with high learning and degree reporting. These were regular

instructor/student engagement, and (2) complex conversation, and (3) interface transparency (easy navigation). A significant part of effective teaching includes student-to-student interaction, constructive listening, and sharing. The general claim is that the level of student participation is critical to students' achievements in online learning (Dennen et al., 2007; Kehrwald, 2008; Robinson & Hullinger, 2008; Shea et al., 2006; Swan et al., 2000). An online course-centered approach to personalization that often decreases students' feelings of isolation is moving in the right direction. It helps connect with the instructor, alleviate their loneliness, and open them up to new ideas. A positive connection with the course and content allows personalization (Young, 2006).

Online Student Engagement

According to the demand for online distance learning classes, an adequate evaluation of the quality and efficiency of online distance learning systems and studies on the impact of learning on learning performance are now desperately needed and accountable (Richmond, S., & Cummings, (2005). According to Motteram (2009), social networks enable language teachers to build a positive and helpful tool. They can also assist students in learning more efficiently and gain more practical and robust language skills in several language contexts. Online social networks can offer correspondence and conversation in international languages. They can provide an engaging atmosphere for learning by crossing the geographical barriers of institutions and putting together vast numbers of pupils of diverse geographies, communities, religions, traditions, and attitudes because many of the current students in the world are keen on science, political, cultural, or scientific exchange to communicate in one or more foreign languages. Since direct access to native speakers is difficult or impossible for many countries' students, these networks can receive significant consideration and use for interactive, automated exchange. In addition to public use of education, online social networks will be constructive and helpful in developing and improving language skills, according to many researchers in informational technology and (language) education. A learning process that generates the values and ideals of the students on a subject is ideally encouraged to be explored, evaluated, and introduced in new, more refined ideas. Piaget (1936) called it constructivism – people develop their understanding of the universe from their perceptions and see if current learning conflicts with existing insight and values.

In the field of online student engagement, Alexander Astin (1984) was the first to create the phrase “online student engagement,” which he defined as “the amount of cognitive and emotional energy that the student dedicates to the educational experience” (Astin, 1993). Despite his defense of the premise that “active involvement demands physical and psychological energy,” he rejects the theory that involvement decreases with age.

Learners can be involved physically and mentally when online courses are designed according to learners' needs; it also can increase student-student and student-teacher interaction positively. It can increase engagement in the classroom and lead to more efficient and successful language learning outcomes. Maddux, Ewing, Taylor, and Johnson (2002) indicated that the value of student learning styles in developing educational methods is one part of ensuring the consistency of online course design and successful student outcomes. If students' involvement is enhanced, the significance of every education strategy is strengthened, so increasing involvement would contribute to better results. (Astin 1993).

Student engagement has an efficient role in the learning process. Its role has been increased since online education has been taking place because students may feel isolated or detached. To overcome these problems, teachers should focus on this issue more and find various ways to measure student's engagement. Maki (2007) states that the latest studies in learning show that online education's effectiveness is as good as traditional face-to-face teaching. However, students' engagement includes how much they are active in terms of thinking, talking, or acquiring the course content in a meaningful way.

In another perspective, engagement can be defined as the willingness or effort to learn specific learning skills, materials, interacting with peers in the classroom, and getting involved emotionally; motivation, attitude or aptitude, and satisfaction of learning. Brick (2011) points out that online social networks should not be avoided for language learning since the use of the networks' characteristics can develop different contextual language skills such as reading, writing, listening, and expression. The features of this framework include the integration of Web 2.0 networking platforms and web 2.0 instruments such as web forums, discussions, community works, websites, group texts and calls, comments, and personal messages within users (Heiberger & Harper 2008). This can improve student involvement and enthusiasm and contribute to more effective and functional outcomes in language learning

Students need to be engaged in online learning when students are most frequently disengaged in the face-to-face setting than in the current world. It means that researchers and teachers must be willing to measure student involvement. Students nowadays do not value learning as much as they have in the past, but online schooling is also increasing. Avenues to improve face-to-face classroom methods are being explored (Durrington, et al. 2006). They provide measurement methods to increase and improve educational development on the various facets of online learning (Roblyer & Wiencke, 2004).

In 1984, Alexander Astin published the concept of "College Student Involvement," where he referred to it as "The Engagement Theory," in which the definition of energy is "the sum of physical and psychological engagement the student invests in their learning experience. It would be referred to as "engagement" and "involvement" now. According to this theory, an informed student devotes substantial resources to learning, is typically socially engaged with colleagues, and communicates extensively (Astin 1984). According to this principle, a more successful student has a greater degree of interest, leading to more progress in learning (Astin 1984). The Astin's Engagement Hypothesis may be used to gauge students' degree of interest in a given course or project based on five guidelines:

1. *Physical and mental exertion is also required to engage in certain activities.*

This tenet says, "Engagement describes the expenditure of psychological and physical resources on different things" (Sheffield, Kaufman, Murray, Cambridge 8th ed.). It can be seen that students use both their physical and mental resources while interacting with other people online social networks, based on the numerous studies done (Green et al., 2009). Consequently, implementing network-based education for various academic disciplines, such as foreign languages, will increase student participation and communication.

2. *Involvement occurs along a continuum.* Immersion/emotional engagement occurs over time. Suppose students spend differing levels of resources in various ways. In that case, varying degrees of learning is part of the approach, so an excellent way to meet their needs is to ensure they will complete a project by exploring and selecting several paths toward completion (varying multidisciplinary projects). This premise describes students' varying levels of behaviour, in some words, the idea that sure students have more activity than others. Boyd (2007) said the principle has extended to online social networks because, in the beginning, you execute tasks. Still, then you can find that many

students find themselves using these environments for learning. Students who use social networks in their studies are more likely to have connections outside of the classroom, which encourages more profound learning experiences to communicate with external opportunities, promoting higher-quality interactions. Students can use social media communication during regular school hours and outside school time outside of scheduled class times. Communication and teamwork between students and educators can enhance the output's quality from learning environments representing diverse (language) needs. With participation in the vertical and horizontal level, pupils can expand their interactions to include at-the-height, in-the-the-moment peers. Students will have varying degrees of interest in participating in various networks based on different and subject-specific characteristics, but the degree of participation is relatively constant during education.

3. ***The engagement has both Quantitative and Qualitative Features.*** In this tenet, studying operations is investigated qualitatively and quantitatively (Astin 1984), such as the number of hours and their work intensity. It was noted that online tasks deplete both the student's physical and mental capacity. Some behaviours are intangible, and some are more quantifiable using quantitative techniques.
4. ***Development is proportional to the quantity and quality of involvement.*** The teaching in a class depends on students' interest in the program. Expectations on students' overall amount and consistency can be applied to all environments and events and learning activities performed using the internet or non-based methods. Therefore, there is an expected correlation between the consistency of instruction and learning results.
5. ***The effectiveness of any educational practice is directly related to the ability of that practice to increase student engagement.*** According to Baralt & Lom & Lord & Mills (2009), utilizing online activities improves student interest in learning activities. Also, websites occur in these networks that describe various topic areas. According to the literature, many students engage in such practices. Students participate and employ a lot in an atmosphere that promotes learning (Rosenshine, 1982). Based on this expectation, online social networking sites are predicted to lead to more successful instructional methods due to their services to students to improve user participation. On the other hand, there is no preliminary data to suggest this claim.

2. METHODOLOGY

In this section, explanatory information is given on the details of the method followed in collecting, analyzing, and interpreting the data required for the research. In this section, the method applied is explained under the subheadings of "Research Design," "Setting and Participants," "Instruments," "Data Collection Procedure," "Reliability and Trustworthiness," and "Data Analysis".

2.1. Research Design of the Study

This study aimed to identify the Higher Vocational School EFL learners' learning styles using David Kolb's learning style scale and explore the relationship between EFL learners' learning style and their level of engagement to online education; to see if those learning styles affect their engagement or not. The study was conducted with a quantitative research method by applying two questionnaires. As Bhandari (2020) suggests, these types of studies, known as quantitative research, consists of two separate processes: data collection and data analysis. While it can aid in identifying patterns and averages, draw conclusions, evaluate causal relationships, and generalize results to broader populations, it is also a powerful research method for extracting and processing data. Additionally, this study was done using a descriptive research method. Descriptive research is used to determine and describe a group, scenario, or phenomenon to achieve the highest possible level of precision and methodicalness. This study design is conducive to conducting several types of study, allowing one or more variables to be studied. Unlike in experimentation, when the researcher controls and manipulates the variables, the researcher is an observer and a measurer of the variables.

2.2. Setting and Participants

The study sample consists of 150 EFL learners in Higher Vocational School at Çağ University in Mersin, Turkey. According to the school's curriculum, their proficiency level is determined to a beginner level in English. They receive Basic English lessons, divided into levels as A1+ in 1st year and A2 in 2nd year of their education. Their age differs from 18 and 21.

As the sampling method, random sampling was used for this study. A randomly selected sample group was set; therefore, each participant had the same possibility of

being chosen. Name coding is used in the study, and which names "S1=student 1" do not make the participants anxious, and therefore data is collected free of bias. Additionally, they did not write their names on the questionnaire because it was done deliberately to ensure privacy and avoid publicity inhibition.

2.3. Instruments

This study was conducted with quantitative data collection tools, which are questionnaires. There were two questionnaires to collect the data; one of them is David Kolb's Learning Style Inventory Scale (KLSIS) which is adapted and translated by Akkoyunlu (1993), and the second one is Online Student Engagement Scale (OSE), which is adapted from Dixson, (2015). The KLSIS was taken from the work of Akkoyunlu (1993) and the scale was translated by Akkoyunlu (1993) in order to get more valid data from the participants.

2.3.1. *David Kolb's Learning Style Inventory Scale (KLSIS)*

The KLSIS investigated students' perceptions about learning styles, which experiential learning style they prefer. So, there are four learning styles; concrete experience, reflective observation, abstract conceptualization, and active experimentation.

The questionnaire is used to identify which learning style the learners prefer during the online classes. The questionnaires were applied on the internet via google documents, and it was shared with students within the scope of the institution's permission. The questionnaire is Guttman Scale, and there are 12 unfinished statements, and each has four different phrases that ask students to choose the most suitable one for them.

2.3.2. *Online Student Engagement Scale (OSE)*

The OSE, which was adapted from Dixson (2015), investigated the level of student participation in online classes. Dixson (2015) claims that "as a research tool, it has, so far, shown strong reliability and validity." The OSE scale has two main functions: (1) to assist research into online course design, (2) in providing efficient feedback about students' online engagement of their given online course. However, the questionnaire was applied in Turkish to obtain valid and reliable information from the participants and

prevent the problems that may arise from the language deficiency of the participants. The translated version of the OSE scale was preferred to be used in this study to make it more appropriate for the aims of this research. For this reason, the researcher translated the scale, and two experts approved the translated version of the questionnaire in the field of ELT. The items in the questionnaire were generally made relevant to online education without manipulating the meaning and applied. Nevertheless, the results gathered from the adapted version indicate that Cronbach's Alpha value remains the same (0.95), which is reliable and acceptable. (See Appendix for the translated version of the scale)

The applied analyses indicated the results as strongly reliable (Cronbach's alpha = .95) and significant correlation is ($R = .73$; $p < .01$). The questionnaire is the Likert Scale and ranked as "(1) It is not my characteristic at all, (2) not my characteristic, and (3) moderately my characteristic, (4) it is a characteristic of me, (5) it is my characteristic". The results of the research study depend heavily on the consistency and accuracy of the analytical data collection. At the start of the study, students are presented with an informed consent form required for all individual ethical studies.

2.4. Data Collection Procedure

Randomly selected EFL learners applied two questionnaires. The first questionnaire includes questions with reference to the translated version of David Kolb's learning style inventory by Akkoyunlu (1993), and the second one is about online student engagement. Questionnaires were used for students in the second semester of the 2020-2021 academic year—the responses were collected as online questionnaire forms on Google Documents. Both of the scales were implemented at the same time.

2.5. Data Analysis

As quantitative data collection tools, data collected by Kolb's learning style inventory questionnaire and online student engagement questionnaire were analyzed by the Statistical Package of Social Sciences (SPSS). In comparing some of the data obtained from the scale, frequency (f), percentage (%) values were calculated. Pearson correlational analysis was applied to identify the relationship between two variables (learning styles and online student engagement). Multiple linear regression analysis was used to see if 4 learning styles in Kolb's inventory; concrete experience, reflective

observation, abstract conceptualization, and active experimentation, predict EFL learners' engagement in online education.

2.6. Reliability and Trustworthiness

Kolb's learning style inventory scale was taken from the original study of Akkoyunlu (1993). According to Akkoyunlu (1993), the reliability and validity table is given below:

Table 2.

Learning Styles and Cronbach Alpha Values

<i>Learning Styles</i>	<i>Cronbach Alpha</i>
Concrete Experience	.82
Reflective Observation	.73
Abstract conceptualization	.83
Active experimentation	.78

Note. Taken from "Kolb Learning Style Models" by Akkoyunlu (1993).

The data gathered from the online student engagement scale were analyzed using SPSS, and to prevent any reliability and validity problems, Cronbach Alpha was provided. According to Dixson (2015), the value of the Cronbach Alpha is 0.95.

3. FINDINGS

Introduction

This section provides statistical analysis and comments about the results gathered from data collection tools, OSE, and KLSIS scales. This section is divided into four parts to find answers to each research question to interpret the results.

Findings of the 1st Research Question

The first research question “*What are the preferred learning styles of tertiary EFL students in the Turkish context?*” aimed to identify the participants' learning styles by means of using the KLSIS questionnaire, which includes 12 items related to the four learning styles: concrete experience, reflective observation, abstract conceptualization, and active experimentation—the results of the questionnaire reported in Table 1.

Table 3.

Descriptive Statistics of the Kolb's Learning Style Inventory Questionnaire

Learning Styles	N	F	%	Mean	Std.
					Deviation
Reflective Observation	150	38	25.3	2,5511	,66200
Active Experimentation	150	41	26.7	2,5444	,66152
Abstract Conceptualization	150	36	24.3	2,4311	,62217
Concrete Experience	150	35	23.7	2,3356	,62091
Valid N (listwise)	150				

According to Table 3, Active Experimentation has the highest mean value ($M=2.511$, $SD=.66200$); 26.7% of the participants prefer this learning mode. Conversely, 23.7% of the students stated that they are more likely to tend to Concrete Experience learning style, which has the lowest mean value ($M=2.33$, $SD=.62091$). Meanwhile, Reflective Observation has the second-highest value on Table 3 ($M=2.55$, $SD=.66152$), which means that 25.3% of the students are interested in learning in a kinesthetic way. To consider the item with the third least mean value ($M=2.43$, $SD=.62217$) is Abstract Conceptualization, many learners, which is 24.3%, choose this learning style.

Findings of the 2nd Research Question

The second research question ‘*What is the level of tertiary EFL students' online course engagement?*’ investigated the level of students' engagement in online education, by using the OSE (Online Student Engagement) questionnaire. It includes 19 questions, and students are asked to rate each question 1 (not my characteristic at all) – 5 (very characteristic of me). In that way, the level of their engagement can be resulted according to their ratings. The descriptive statistics results can be seen in Table 4.



Table 4.
Descriptive Statistics of the Online Student Engagement Questionnaire

Statements	N	<i>it is my characteristic</i>		<i>it is a characteristic of me</i>		<i>moderately my characteristic</i>		<i>not my characteristic</i>		<i>It is not my characteristic at all</i>		M	SD
		F	%	F	%	F	%	F	%	F	%		
		1. Desire to get good grades in online classes.	150	69	46.0	43	28.7	20	13.3	9	6.0		
2. Getting good grades in online tests or quizzes.	150	35	23.3	52	34.7	42	28.0	15	10.0	6	4.0	3,63	1,070
3. Always using additional resources in online education.	150	30	20.0	55	36.7	41	27.3	16	10.7	8	5.3	3,55	1,090
4. Helping other students in online lessons.	150	36	24	48	32	35	23.3	22	14.7	9	6.0	3,53	1,179
5. Being organized.	150	35	23.3	43	28.7	40	26.7	22	14.7	9	6.0	3,48	1,177
6. Trying to facilitate learning with online course resources.	150	22	14.7	55	36.7	45	30	17	11.3	9	6.1	3,43	1,070
7. Studying the lessons regularly.	150	28	18.7	48	32	38	25.3	26	17.3	10	6.7	3,38	1,16
8. Getting good grades from online assignments.	150	29	19.3	38	25.3	49	32.7	25	16.7	9	6.0	3,35	1,147
9. Giving importance to reading.	150	28	18.7	33	22	48	32	35	23.3	5	3.3	3,29	1,124
10. Getting to know other students in online classes.	150	25	16.7	36	24.0	52	34.7	20	13.3	17	11.3	3,21	1,207

Table 4. *(continue)*

11. Making online course materials relevant to real life.	150	24	16.0	39	26.0	46	30.7	24	16.0	17	11.3	3,19	1,218
12. Checking notes before attending online classes.	150	25	16.7	43	28.7	30	20	34	22.7	17	11.3	3,16	1,275
13. Enjoying online chats, discussions, and interacting with the instructor or other students.	150	25	16.7	39	26	38	25.3	31	20.7	17	11.3	3,16	1,253
14. Emphasizing online readings and listening.	150	19	12.7	35	23.3	51	34.0	34	22.7	10	6,7	3,12	1,110
15. Finding ways to use online course materials in real life.	150	13	8.7	35	23,3	56	37,3	35	23.3	9	6.0	3,05	1,035
16. Making online lessons interesting for me.	150	16	10.7	34	22.7	47	31.3	39	26.0	14	9.3	2,99	1,138
17. Participating in online chats.	150	11	7.3	40	26.7	51	34.0	32	21.3	16	10.7	2,98	1,090
18. Posting regularly to online discussion forums.	150	6	4.0	16	10.7	34	22.7	52	34.7	41	27.3	2,89	1,104
19. Actively participate in online group discussion forums.	150	20	13.3	30	20	36	24	41	27.3	22	14.7	2,28	1,266

According to Table 4, 46% of the students responded to item 15 with the highest mean value ($M=4.02$, $SD= 1.175$) ‘desire to get good grades in online classes’, which means students relate their engagement to their grades. Conversely, item 13 has the lowest mean, and 13.3% of the students agreed on this question ($M=2.28$, $SD=1.26$), which is about actively participating in online group discussion forums. Considering the findings regarding the second-highest value item 16, which is 23.3% of the students agreed on ($M=3.63$, $SD=1.07$) ‘getting good grades in online tests or quizzes,’ it is based on the similar idea with the highest valued item ‘desire to get good grades in online classes’.

On the other hand, there are two items that they have almost the same mean but different percentage. The first one is item 2, with 20% of the students, ‘always using additional resources in online education’ ($M=3.55$, $SD=1.09$), and the second one is item 14, with 24% of the participants, ‘helping other students with online lessons’ ($M=3.53$, $SD=1.17$).

Table 5.

Descriptive Statistics of the Online Student Engagement

	N	Minimum	Maximum	Mean	Std. Deviation
Online Student Engagement	150	1,89	4,42	3,2522	,54248
Valid N (listwise)	150				

According to Table 5, it can be said that the mean value of the online student engagement is $M=3.25$, $SD=0.54$, and it shows that the level of learners' attention is moderate since the rating order is 1-5. Thus, the second research question of this study may come to a total of 150 individuals who claim that their degree of participation is quite moderate.

Findings of the 3rd Research Question

The third research question of the study ‘*Is there a relation between EFL learners' preferred learning styles and online course engagement?*’ explores the relationship between learners’ learning styles and their level of engagement in online classes. They were asked to choose the most appropriate one among the unfinished statements about

learning styles. The results showed which learning style the students were more prone to. Based on these results, the relationship between the preferred learning styles and their participation in online classes was revealed. To identify the relationship between learning styles and online student engagement, each learning style was analyzed through Pearson Correlation.

Table 6.

Pearson Correlation Analysis

		Online				
		Student	Concrete	Reflective	Abstract	Active
		Engagement	Experience	Observation	Conceptualization	Experimentation
Online Student Engagement	Pearson	1	-,020	,163*	,262**	,288**
	Sig. (2-tailed)		,805	,046	,001	,000
	N	150	150	150	150	150
Concrete Experience	Pearson	-,020	1	,009	-,053	,200*
	Sig. (2-tailed)	,805		,915	,522	,014
	N	150	150	150	150	150
Reflective Observation	Pearson	,163*	,009	1	,047	,209*
	Sig. (2-tailed)	,046	,915		,568	,010
	N	150	150	150	150	150
Abstract Conceptualization	Pearson	,262**	-,053	,047	1	,067
	Sig. (2-tailed)	,001	,522	,568		,413
	N	150	150	150	150	150
Active Experimentation	Pearson	,288**	,200*	,209*	,067	1
	Sig. (2-tailed)	,000	,014	,010	,413	
	N	150	150	150	150	150

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

According to Table 6, Pearson correlation analysis results showed a weak and negative ($r=-0.20$; $p<0.5$) relationship between Concrete Experience learning style and online student engagement. Also, no significant relationship was found between them. Since concrete experience learning style refers to face-to-face education environment this learning style does not relate to students' engagement in online learning.

There is a weak, positive and significant ($r=.163$; $p<0.5$) relationship between the students' online engagement and Reflective Observation learning style. Although it is reported as a weak RO has an important role in online education because it is all about observation abilities of the students and it can be done in any learning environment, consequently, RO has a relationship.

It can be said that there is a positive, weak, and significant ($r=.262$; $p<0.5$) relationship between abstract conceptualization and online student engagement. Since the abstract conceptualization learning style is suitable for teacher-centered classroom environments, it has a weak relationship with students' participation in online classes, as seen in Table 6.

According to the table 6, there is a weak, positive, and significant relationship between two variables which are online student engagement and active experimentation ($r= .288$; $p<0.5$). The active experiment learning style advocates the physical integration of students into learning in the classroom, this can be done with various activities, but these activities are limited in the online learning environment.

Findings of the 4th Research Question

Another argument of this research was identifying which learning styles EFL learners prefer to learn a foreign language and how these learning styles influence their engagement in online classes. To enlighten this intention, the following research question asked: *Do EFL tertiary students' preferred learning styles predict their online course engagement?*

Table 7.*The Results of Multiple Linear Regression Analysis*

Variables	β	SE	t	p	R ²	F	P
Constant	2.100	,301	6.978	,000	,155	6,640	,000
Concrete Experience	-,054	,068	-,78	,432			
Reflective Observation	,089	,071	1,24	,215			
Abstract Conceptualization	,206	,067	3,07	,003			
Active experimentation	,216	,066	3,30	,001			

Multiple linear regression was calculated to predict online student engagement based on their learning styles: concrete experience, reflective observation, abstract conceptualization, and active experimentation. A significant regression equation was found ($F(4,145) = 6.640$, $p < .005$), with an R^2 of .150. Active Experimentation and Concrete Experience learning styles were statistically significant predictors ($p < 0.05$) with online students engagement. Participants' predicted online engagement is equal to $2.100 - (\beta = -.054) \text{ concrete experience} + (\beta = .089) \text{ reflective observation} + (\beta = .206) \text{ abstract conceptualization} + (\beta = .216) \text{ active experimentation}$. Online student engagement increased by 2.100 for each learning style, and students who prefer the Active Experimentation learning style were found to be more engaged than other students. Nonetheless, both concrete experience ($p > .05$) and reflective observation ($p > .05$) were not found to be significant predictors of online student engagement.

4. DISCUSSION AND CONCLUSION

Introduction

This research attempted to identify, describe and analyse the participants' learning styles through Kolb's learning style inventory, and it was endeavoured to find a relationship between their current learning styles and their engagement in online classes. Moreover, this chapter of the study enlightens the research questions in an argumentative aspect and deals with the research results. Since this research was conducted with a quantitative research method, the obtained data were evaluated objectively, and the evaluated data were discussed and interpreted following the research questions.

Discussion of the 1st Research Question

The first research question, “What are the preferred learning styles of Turkish tertiary EFL students in the Turkish context?” seeks to identify participants’ learning styles via Kolb’s Learning Style Inventory Scale (KLSIS). The findings confirmed that considerably high numbers of the participants agreed on adopting an Active Experimentation learning style into their learning process. Rather than individual participation, participants in this learning style tend to engage in peer interactions, enabling them to take an active role in decisions taken during these interactions. This way of approaching a topic focuses on practical implementations and applications, not only as representations of problems. The people who use this method of communication are skilled learners who rely on work instead of observation; they love to see what they have done; they are highly effective. These results reflect those of Massey et al. (2011), who also found similar findings after identifying the learning styles of undergraduate students enrolled in social work classes. Their study revealed that the active experimentation learning style was the most chosen one, and they defended the idea that AE means the willingness to engage in classes actively. As mentioned in the findings section, Concrete Experience learning has not been chosen much by the students; therefore, it means that learners not really into this style because they are more willing to learn a language with direct interactive human encounters, and they often tend to think rather than feel and experience. Moreover, Lu et al. (2007) reported that students with the Concrete Experience learning style prefer learning with peer interactions or discussions. (p. 193-194)

The Reflective Observation learning style was not the most chosen, but it was not least preferred neither, so findings indicated that it was the second high mean valued item. It can be said that the students who participated in this study are more willing to learn a language in a meaningful way since Kolb (1984) defends the idea that reflective observation is a way to mirror the knowledge of their own experiences. Also, instead of operating on a scenario on their imagination, they prefer to take into account the information, and they study and make their work relevant to their learning context.

Moreover, according to the results, Abstract Conceptualization had the third least mean value, which means some of the students who are particularly adept at abstract conceptualization also work on tasks that include a logical interpretation of thoughts and ideas. This method of learning is a preference that is based on analytical ability rather than behavioral abilities. Individuals who chose this mode are often involved in academic subjects that develop broad hypotheses and resolutions. Individuals of this style also value in-depth analyses of theories and well-developed concepts.

In another research, Lu et al. (ibid) claimed that students with Abstract Conceptualization learning styles prefer teacher-centered courses and abstract learning situations. Conversely, this study reported that students with AC tend to learn just by themselves, so it can be said that students with AC learning styles are autonomous learners. Supporting the findings of this study Huang (2003) suggests that, due to the lack of interaction between student and teacher, students seek new sources to support their learning, and this situation leads them to be autonomous learners. If a conclusion can be drawn from this, the results obtained from this study show that students with an abstract conceptualization learning style tend to prefer individual studies. Based on this result, if the online course environment is designed according to the silent way approach, students can get more efficiency from online courses and this method can be easily revealed by the teacher by performing a needs analysis.

Discussion of the 2nd Research Question

The second research question is: *What is the level of tertiary EFL students' online course engagement?* This question was asked to determine the level of students' engagement to online courses, and to find an answer to this question, the Online Student Engagement Scale (OSES) was used. The results prove that almost half of the participants (46%) agreed that they attend the online classes to get high grades for the lesson, showing that being successful in a lesson has a relationship with attending the

class. On the other hand, participants claim that online discussion forums do not influence their level of online engagement; consequently, 9% of participants reported positively who think that online forums affect their engagement. Furthermore, 23% of the participants state that their level of engagement increases when they do well on the tests/quizzes, and it shows similarity utilizing functionality with the item 'getting a good grade.' According to this inference, most students declare that being successful in online classes is vital for them, which positively influences their engagement. In the study by Mansor (2012) he conducted a study with 136 Malaysian EFL learners via Kolb's Learning Style Scale and he concluded that learners' learning styles do not refer to their classroom engagement at all. This finding is in contrast with the results of the current study. In this study, learning styles affect students' online course participation in both positive and negative ways.

Additionally, there are two statements in the questionnaire, 'always using additional resources in online education and 'helping other students in online lessons'; these statements were referred to as 'putting forth effort' and 'helping fellow students' by Dixson (2015) in his study. On the other hand, in this study, these statements present almost the same mean values as shown in Table 3. Correspondingly, students' willingness to participate in online classes is moderately high since 20% of them agreed with this statement. Also, 24% of the participants seek interactive human encounters because they are more likely to tend to peer interaction.

These findings are consistent with that of ChanMin (2017), who conducted a study with 22 participants in the USA in which he claimed that students' engagement could increase with the help of the instructors. He suggested that if it is aimed to increase the level of student engagement, it should be accepted that the teacher has an important role and therefore the classroom should be designed as teacher-centered. The results of this study emphasize the dependence of students with abstract conceptualization learning style on the student-based classroom environment. Therefore, the result of this study is in complete contrast with the results of Chanmin's research because this study demonstrates that students with abstract conceptualization learning style learn by their own efforts in online course environments and also revealed that they are responsible for their own learning and in addition, students are more inclined to individual studies. The most important reason for the contrast is that Chanmin's results advocate that the learning environment should be teacher-centered.

Discussion of the 3rd Research Question

The third research question, *'Is there a relationship between EFL learners' preferred learning styles and their online course engagement?'* seeks to explore the relationship between EFL learners' preferred learning styles and their level of engagement to online courses. The gathered data was analyzed through Pearson Correlation Analysis to expose the relation between variables. The findings section of the study handled with the results by investigating one by one, which means that it presented each relationship between independent (online engagement) variable and independent variable separately, for instance, concrete experience – online engagement, reflective observation – online engagement, abstract conceptualization – online engagement, and active experimentation – online engagement.

Concrete Experience and Online Engagement - As is presented in Table 6, there is no significant relationship between concrete experience and online engagement. It can be said that it has no affection on increasing or decreasing learners' engagement in online courses. As a result, there is a weak and negative relationship between concrete experience and online course engagement. It can be explained as students with this style prefer direct human encounters, activities based on physical energy, face-to-face interactions, and most importantly, they are concerned with reality instead of other learning styles, which are dependent on assumptions or hypotheses. Kolb (1984) defines concrete experience learners as intuitive learners. To conclude, as online student engagement might not based on face-to-face interaction; consequently, concrete experience learning is not related to online engagement.

Reflective Observation and Online Engagement - As it resulted in Table 6, the Reflective Observation learning style moderately relate to online engagement, and it can be said that there was an important and positive relationship between them. Table 3 specifically shows that the reflective observation learning style is mostly chosen by the students, and this data also proves that the students with this learning style have a high participation rate in online classes. Learners who prefer this learning style primarily focuses on the work, which means they mirror the knowledge or input into their study. They receive the information by observing others, and it can be done in both online education and face-to-face education since it is based on observation. Learners can observe their peers and instructors in an online course in that way; they put it on their own experience. Consequently, this learning style can be used in both ways, as is

mentioned above, and that is why the reflective observation style is moderately related to online engagement.

Abstract Conceptualization and Online Engagement - In the light of Table 6, it can be said that the Abstract Conceptualization learning style relates to online engagement but is not substantially significant; nevertheless, it still plays a role in terms of a relationship. As a matter of fact that working on theories by thinking has no link with engagement to online courses since it is a style that deals with abstractions. Learners with this style more likely tend to navigate online discussion forums on the internet, which is an individual activity, and it can be said that learners with autonomous learning systems have not much willingness to participate in online courses. Based on these arguments, Huang (2003) claims that students and teachers seek new sources to support their learning due to the lack of interaction between students and teachers. If students cannot reach the level of interaction in the online course environment, they start to search for resources to support their learning, and this search makes students autonomous learners. It is thought that this searching will reduce students' interest and participation in online lessons because their access to adequate interaction and information is partially limited. For this reason, it is necessary for teachers to make the lesson interesting, increase the number of materials and provide sufficient resources by considering the learning styles of the students as much as possible in online classroom environments.

Active Experimentation and Online Engagement - Table 6 presents that active experimentation has a remarkable and positive relationship with online engagement. It is a style that includes activities that depend on communication; consequently, participants stated that it strongly relates to their engagement. Considering the description of student engagement, it is generally the extent to which students actively engage by thinking, talking, and interacting with the course content, the other students in the course, and the instructor. Also, the CoI (conflict of interest) system claims that online education encourages a student-centered learning environment where students' perspectives are open to collaboration and interaction with others. Since active experimentation learning style's characteristics are mainly communication and interaction. According to Astin (1984), the first developer of the online student engagement theory, engagement requires psychological, mental, and physical energy. In conclusion, the active experimentation learning style is strongly related to online student engagement.

This finding is contrary to previous studies, for example, in her research Santo (2006) concluded that learning styles do not have positive or significant impact on learners' engagement to online courses. Santo (ibid) further claimed that learning style do not affect students' engagement at all. It was also suggested that learners' motivation may play more role than learning styles and even students' technological skills can affect their engagement more. Therefore, Santo (2006) argued that when learning styles are examined with online learning, the subject becomes more complex and that online learning can include different teaching methods and technologies in itself.

The main reason why this finding contrasts with the results of Santo's study arises from Santo's argument that learning styles do not affect students' participation in the lesson. However, in this current study, it has been shown that learning styles affect students' participation in the lesson negatively and positively in more than one way. To give an example to prove this, reflective observation learning style significantly affected students' participation in the online course because it was a learning style that advocated for students to integrate the knowledge gained by using their observation skills into their own learning, on the other hand, abstract conceptualization revealed that students were more inclined to individual work and this learning it was observed that the students who had the same style were less involved in the lesson. As a result, learning styles significantly affect students' participation in the lesson.

Discussion of the 4th Research Question

As a result of multiple linear regression analysis, a moderately significant effect of learning styles on students' online engagement was found. Firstly, the findings of this study revealed that the Concrete Experience learning style is not related to online engagement, as shown in Table 7. Correspondingly, this learning style was found to be a minor meaningful predictor in identifying EFL learners' online course engagement in this study. Thus, it can be concluded that concrete experience learning style does not affect the participating students' engagement in online courses, as mentioned before. This finding might be related to the concern of this style with physical movement activities. This learning style can affect learners' engagement when the online course is designed based on students' specific needs, such as kinaesthetic activities. It can increase engagement in the classroom and lead to more efficient and successful language learning outcomes if it is designed via those activities. Maddux, Ewing, Taylor, and Johnson (2002) indicated that the value of student learning styles in

developing educational methods is one part of ensuring the consistency of online course design and successful student outcomes. Based on this quote, it can be concluded that ineffective learning styles will be more beneficial if learning styles that lose their effectiveness in online training are supported by various activities and materials and the course can be designed according to these factors. As a result, the responsibility falls on the teacher at this stage, and the learning environment will be equally effective if the lesson is designed according to the needs and interests of the students, that is, the learning style.

In the scope of this study, the Reflective Observation learning style was measured to be a meaningful predictor in identifying EFL learners' online course engagement, as shown in Table 7. These results are consistent with the claim that students who adopt this learning style generally reflect the newly learned information on their own experiences after observing (Richmond & Cummings, 2005). Since this learning style can be used in both face-to-face education and online education, it can be predicted that this learning style increases students' engagement in online courses, and this prediction proves its accuracy based on the findings shown in Table 7. According to multiple linear regression analysis, a positive relationship was found between Reflective Observation learning style and students' tendency to participate in online courses, and these findings give a positive answer to this research question of the study "Do EFL tertiary students' preferred learning styles predict their online course engagement?" Another result to support this finding is also seen in Table 3 because the reflective observation learning style was the second most preferred learning style by the participants, which consistently shows that it affects students' engagement in online lessons.

The results obtained from the multiple linear regression analysis revealed that the Abstract Conceptualization learning style did not affect students' engagement in online lessons. According to the reviewed literature (Kolb, 1984) students with an Abstract Conceptualization learning style usually focus on theories and hypotheses and use online discussion forums in their studies, so students tend to work more individually. Accordingly, the engagement of students with this learning style in online classes is affected, but it would be more accurate to call it a negative effect because students prefer to work on different online sites. If an inference is made for the research question discussed, the Abstract Conceptualization learning style can predict the level of online course participation. This learning style can only be effective if the students have

theoretical lessons and it is created at a level that will attract the needs or interests of the students.

The Active Experimentation learning style specifically favours being physically active in the lesson. For example, the desire to participate in group project assignments or any activity that requires physical activity can increase their participation in the lesson. As Kolb (1984) suggested, students with this learning style consider themselves as fixers, and they feel better after they have finished the assigned work. Based on the data obtained from multiple linear regression analysis, active experimentation learning style moderately affects students' online course engagement, and this effect appears to be positive, and it can predict students' engagement level. As stated in the literature review earlier in this study, online courses require physical, mental, and psychological energy, which means that students actively use these energies in the online course, but their rates may vary. Accordingly, this learning style can predict students' participation in online courses and affect the level of participation, and the multiple linear regression analysis supports this with the findings as presented in Table 7.

Implications of the Study

It is known by all teachers that every student has a unique learning style, but the important thing is how much this knowledge is taken into account. As a result of years of research, it has been agreed that if students' needs, wishes, interests, and learning styles are taken into consideration, and an education that combines these elements is offered, the student's success increases to a visible level. In this study, one of these elements has been discussed, research has been done, and essential information has been obtained. In this study, it is argued that there is a strong relationship and connection between learning styles and students' participation in online courses.

This research provides supporting evidence that each learning style affects the student's participation in the lesson in a different way; there is no such thing as the best learning style; the best learning style consists of integrating more than one style. The most crucial role here falls on the teachers because it is in the instructor's hands to a large extent, if not entirely, to organize the lesson according to the needs of the students.

It has been discussed by Kumaravadivelu (1994) in the field of ELT, he introduced a new type of method which is called 'post method condition' and he claimed that it is a result of 'the widespread dissatisfaction with the conventional concept of method' (p. 43). This explanation implicates that teachers should make appropriate adaptations to

the classroom context and support the methods they have adapted with some macro strategies, rather than sticking to a traditional method in the classroom environment. At the same time, macro strategies increase the diversity of learning and it also improves student's self-autonomy. In the context of English Foreign Language teaching and learning, post method theory is seen as very important and stands out with increasing the quality of teaching and learning. Based on these theories, we can understand that English foreign language teachers should analyse the students' needs and design the course content with more than one approach and method.

One of the essential propositions to be drawn from this research is that learning styles significantly affect students' engagement in the online lesson, as mentioned previously in the study. Based on this result, all courses should be prepared on the students' learning styles, and especially online courses should be prepared according to these elements because they are more likely to contain limited activities. As a result of these analyses, English foreign language teachers should consider the learning styles of the students to a great extent, and these can be achieved with certain methods. For example, the total physical response method in the English foreign language class refers to the physical movement learning style, while the Silent Way method can also be applied with English foreign language students because the visual learning style comes to the fore, in addition, this method is an approach where the teachers are in the role of guide and the students are at the centre of the class. As a result, students' autonomy is significantly improved.

Limitations of the Study

This study has more than one limitation, and the research results have emerged depending on these limits. The most important of these limitations is that the inferences or conclusions made from the results are not subject to generalization because they were carried out in the context of a private university with a limited number of participants. Certain limitations of this study could be addressed in future research. For example, the method of applying the scales can be considered a limitation because the scales were applied to the participants over the internet; therefore, it was a challenging process to deliver the scales to the participants. Another limitation may be the ongoing pandemic worldwide because it would have been healthier to obtain data accordingly.

Suggestion for Further Studies

This study aimed to investigate which English foreign language students prefer according to Kolb's learning styles inventory and the relationship between these preferences and their participation in online lessons. The data obtained as a result of the research consists of a specific context and 150 participants; accordingly, as stated in the limitation section, this subject can be carried out in different contexts and with a more significant number of participants, providing more profound findings with the subject. Despite these limitations, the present study has enhanced our understanding of the relationship between students' learning styles as identified by Kolb's learning styles inventory (translated version, Akkoyunlu 1993) and their online engagement. The current research can hopefully stimulate further investigation of this vital area. In addition, this study can be carried out to collect different perspectives with a qualitative data collection tool. If a final suggestion is made, hoping that the pandemic will end in the future, a healthier study can be carried out if the data are obtained through face-to-face applications in the studies to be done on this subject.

Conclusion

Although the online education system has shown its necessity worldwide, it is improving itself day by day. Teachers and students are going through an adaptation process that is challenging for some and easy for others in this system, which continues its development dynamically. English foreign language teachers had to adapt the methods and approaches they used in the face-to-face education process according to the online education system and the changing learning styles of the students. English foreign language teaching teachers have an important role in determining the learning styles of the students in this change process. Because the course contents were subject to certain limitations in the online education process, the most important of which was the decrease in the variety of activities. For this reason, the participation levels of the students were significantly affected. As a result, in order to turn these effects into positive, EFL teachers should determine learning styles of students in English foreign language classroom and by this way it may increase EFL learners' engagement in online education.

In conclusion, a significant correlation was found between the English language learning students' preferred styles from Kolb's learning styles inventory and their engagement in online classes. These findings were obtained with quantitative data

collection tools and analyzed with more than one analysis type, and all data were presented objectively. As a result, while the Concrete Experience learning style has the lowest correlation value among other learning styles, the Reflective Observation learning style has a significant relationship, but these findings are not subject to generalizations. The abstract conceptualization learning style and the active experience style were relevant for students' engagement in online classes, without proper order. Based on these results, clear and satisfactory answers were found to the research questions, supported by more than one type of analysis, and at the same time, inferences were obtained for the studies to be done on this subject based on the answers obtained.



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APPENDICES

Appendix A: Ethic Committee Approval of Çağ University

T.C	
ÇAĞ ÜNİVERSİTESİ	
SOSYAL BİLİMLER ENSTİTÜSÜ	
TEZ / ARAŞTIRMA / ANKET / ÇALIŞMA İZİNİ / ETİK KURULU İZİNİ TALEP FORMU VE ONAY TUTANAK FORMU	
ÖĞRENCİ BİLGİLERİ	
T.C. NOSU	
ADI VE SOYADI	YUNUS ÖKSÜZ
ÖĞRENCİ NO	20198050
TEL. NO.	
E - MAİL ADRESLERİ	
ANA BİLİM DALI	İNGİLİZ DİLİ EĞİTİMİ
HANGİ AŞAMADA OLDUĞU (DERS / TEZ)	TEZ
İSTEKDE BULUNDUĞU DÖNEME AİT DÖNEMLİK KAYDININ YAPILIP-YAPILMADIĞI	2020 / 2021 - GÜZ DÖNEMİ KAYDINI YENİLEDİM.
ARAŞTIRMA/ANKET/ÇALIŞMA TALEBİ İLE İLGİLİ BİLGİLER	
TEZİN KONUSU	İngilizce Öğrencilerinin Öğrenme Sitilleri ile Çevrimiçi Eğitime Katılım Düzeyleri Arasındaki İlişki
TEZİN AMACI	Bu çalışmanın amacı, İngilizce öğrencilerinin öğrenme sitilleri ile çevrimiçi derslere katılımı arasındaki ilişkiyi araştırmaktır. Aynı zamanda öğrencilerin öğrenme sitillerinin çevrimiçi derslere katılımına olan etkisi de araştırılacaktır.
TEZİN TÜRKÇE ÖZETİ	Çevrimiçi eğitimin gün geçtikçe önem kazandığı bu zamanlarda öğrencilerin sınıf ortamında kolayca ortaya çıkarabildiği ya da öğretmenlerin öğrencilerin öğrenim sitillerine göre ders içeriği hazırlaması daha mümkündür. Hazırlanan bu ders içeriklerinin çevrimiçi eğitim göz önünde bulundurulduğunda öğrencinin çevrimiçi derse katılımı konusunda ne kadar etkili olduğu ve öğrencilerin çevrimiçi eğitime gösterdikleri katılım oranı buna göre değişim gösterebilir. Bu soruların cevapları Akkoyunlu (1993) tarafından çevirisi yapılan Kolb Öğrenme Stili Envanteri ve tarafımdan bu çalışma için çeviris yapılan Dixson (2015) Online Student Engagement (Öğrenci Çevrimiçi Katılım Ölçeği) ile araştırılacaktır.
ARAŞTIRMA YAPILACAK OLAN SEKTÖRLER/ KURUMLARIN ADLARI	Çağ Üniversitesi Meslek Yüksek Okulu
İZİN ALINACAK OLAN KURUMA AİT BİLGİLER	Çağ Üniversitesi: Meslek Yüksekokulu Müdürlüğü Mersin/Tarsus

(KURUMUN ADI-ŞUBESİ/ MÜDÜRLÜĞÜ - İLİ - İLÇESİ)	
YAPILMAK İSTENEN ÇALIŞMANIN İZİN ALINMAK İSTENEN KURUMUN HANGİ İLÇELERİNE/ HANGİ KURUMUNA/ HANGİ BÖLÜMÜNDE/ HANGİ ALANINA/ HANGİ KONULARDA/ HANGİ GRUBA/ KİMLERE/ NE UYGULANACAĞI GİBİ AYRINTILI BİLGİLER	Çağ Üniversitesi Meslek Yüksek Okulu'nda İngilizce dersi alan öğrencilere öğrenme stilleri ve çevrimiçi eğitim hakkında anketler uygulanacaktır.
UYGULANACAK OLAN ÇALIŞMAYA AİT ANKETLERİN/ ÖLÇEKLERİN BAŞLIKLARI/ HANGİ ANKETLERİN - ÖLÇELERİN UYGULANACAĞI	Ölçek A: David Kolb's (1993) Öğrenme Stilleri Envanteri Ölçeği Ölçek B: Dixson's (2015) Çevrimiçi Öğrenci Katılım Ölçeği
EKLER (ANKETLER, ÖLÇEKLER, FORMLAR, V.B. GİBİ EVRAKLARIN İSİMLERİYLE BİRLİKTE KAÇ ADET/SAYFA OLDUKLARINA AİT BİLGİLER İLE AYRINTILI YAZILACAKTIR)	Ölçek A: David Kolb's (1993) Öğrenme Stilleri Envanteri Ölçeği Ölçek B: Dixson's (2015) Çevrimiçi Öğrenci Katılım Ölçeği

ÖĞRENCİNİN ADI - SOYADI: YUNUS ÖKSÜZ		ÖĞRENCİNİN İMZASI: Enstitü Müdürlüğünde evrak aslı imzalıdır TARİH: 20 / 01 / 2021		
TEZ/ ARAŞTIRMA/ANKET/ÇALIŞMA TALEBİ İLE İLGİLİ DEĞERLENDİRME SONUCU				
1. Seçilen konu Bilim ve İş Dünyasına katkı sağlayabilecektir.				
2. Anılan konu İngiliz Dili Eğitimi faaliyet alanı içerisine girmektedir.				
1.TEZ DANIŞMANININ ONAYI	2.TEZ DANIŞMANININ ONAYI (VARSA)	SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRÜNÜN ONAYI	A.B.D. BAŞKANININ ONAYI	
Adı – Soyadı: Seden Tuyan	Adı - Soyadı: ...	Adı - Soyadı: Murat KOÇ	Adı - Soyadı: Şehnaz Şahinkarakaş	
Unvanı: Dr. Öğr. Üyesi	Unvanı: .	Unvanı: Doç. Dr.	Unvanı: Prof. Dr.	
İmzası: Evrak onayı e-posta ile alınmıştır	İmzası: ...	İmzası: Evrak onayı e-posta ile alınmıştır	İmzası: Evrak onayı e-posta ile alınmıştır	
/ / 20	/ / 20	/ / 20	/ / 20	
ETİK KURULU ASIL ÜYELERİNE AİT BİLGİLER				
Adı - Soyadı: Mustafa BAŞARAN	Adı - Soyadı: Yücel ERTEKİN (Y.)	Adı - Soyadı: Deniz Aynur GÜLER	Adı - Soyadı: Ali Engin OBA	Adı - Soyadı: Mustafa Tevfik ODMAN
Unvanı: Prof. Dr.	Unvanı: Prof. Dr.	Unvanı: Prof. Dr.	Unvanı: Prof. Dr.	Unvanı: Prof. Dr.
İmzası: Evrak onayı e-posta ile alınmıştır	İmzası: Evrak onayı e-posta ile alınmıştır	İmzası: Evrak onayı e-posta ile alınmıştır	İmzası:	İmzası:
/ /	Dr. Öğr. Üyesi Şenol KANDEMİR	/ / 20	/ / 20	/ / 20
Etik Kurulu Jüri Başkanı - Asıl Üye	Etik Kurulu Jüri Asıl Üyesi	Etik Kurulu Jüri Asıl Üyesi	Etik Kurulu Jüri Asıl Üyesi	Etik Kurulu Jüri Asıl Üyesi
OY BİRLİĞİ İLE	<input type="radio"/>	Çalışma yapılacak olan tez için uygulayacak olduğu Anketleri/Formları/Ölçekleri Çağ Üniversitesi Etik Kurulu Asıl Jüri Üyelerince İncelenmiş olup, 01/10/2020- 01 /06/ 2021 tarihleri arasında uygulanmak üzere gerekli iznin verilmesi taraflarımızca uygundur.		
OY ÇOKLUĞU İLE	<input checked="" type="radio"/>			
AÇIKLAMA: BU FORM ÖĞRENCİLER TARAFINDAN HAZIRLANDIKTAN SONRA ENSTİTÜ MÜDÜRÜNE ONAYLATILARAK ENSTİTÜ SEKRETERLİĞİNE TESLİM EDİLECEKTİR. AYRICA YAZININ PUNTOSU İSE 12 (ON İKİ) PUNTO OLACAK ŞEKİLDE YAZILARAK ÇIKTI ALINACAKTIR.				

Appendix B: Online Student Engagement Questionnaire

Dear participant, this scale has been prepared to measure your participation, thoughts, feelings and perspectives during distance education. After reading the items carefully, at what level you agree with the statements, write the number of the statement that suits you from the statements given below in the spaces at the end of the sentence. Your answers will only be used in this research and will not be shared with any person, institution or research group in any other way. Thank you for your contribution to the study.

To what extent do the following behaviors, thoughts, and feelings describe you? Please answer using the criteria below.

1. It is not my characteristic at all.
 2. It is not quite my characteristic.
 3. It is moderately my characteristic.
 4. It is a characteristic of me.
 5. It is my characteristic at all.
-
- 1) Studying the lessons regularly.....
 - 2) Always using additional resources in online education.....
 - 3) Giving importance to reading.....
 - 4) Checking notes before attending online classes.....
 - 5) Plan my work.....
 - 6) Getting good grades from online assignments.....
 - 7) Emphasizing online readings and listening.....
 - 8) Finding ways to use online course materials in real life.....
 - 9) Making online course materials relevant to real life.....
 - 10) Making online lessons interesting for me.....
 - 11) Trying to facilitate learning with online course resources.....
 - 12) Enjoying online chats, discussions, and interacting with the instructor or other students.....
 - 13) Actively participate in online group discussion forums.....
 - 14) Helping other students with online lessons.....
 - 15) Desire to get good grades in online classes.....

- 16) Getting good grades in online tests or quizzes.....
- 17) Participating in online chats.....
- 18) Posting regularly to online discussion forums.....
- 19) Getting to know other students in online classes.....

Researcher: Yunus ÖKSÜZ



Appendix C: Çevrimiçi Derslere Katılım Ölçeği

Değerli katılımcı,

Bu ölçek sizlerin uzaktan eğitim esnasında derslere olan katılımınızı, düşüncelerinizi, hislerinizi ve bakış açılarınızı ölçmek amacıyla hazırlanmıştır. Maddeleri dikkatlice okuduktan sonra ifadelerle hangi düzeyde katılıyor iseniz cümle sonlarındaki boşluklara aşağıda verilen ifadelerden size uygun olan ifadenin numarasını yazınız. Vereceğiniz cevaplar yalnızca bu araştırmada kullanılacak olup, bunun dışında hiç bir şekilde kişi, kurum veya bir araştırma grubu ile paylaşılmayacaktır. Çalışmaya katkınız için teşekkür ederim.

Aşağıdaki davranışlar, düşünceler, ve duygular sizi ne ölçüde tanımlamaktadır?

Lütfen aşağıdaki ölçütleri kullanarak cevaplandırınız.

1. Hiç benim özelliğim değil.
 2. Pek benim özelliğim değil.
 3. Orta derecede benim özelliğim.
 4. Bana göre bir özellik.
 5. Tam anlamıyla benim özelliğim.
-
1. Derslere düzenli bir şekilde çalışmak.....
 2. Çevrimiçi eğitimde her zaman ek kaynaklar kullanmak
 3. Okumaya önem vermek.....
 4. Çevrimiçi derslere katılmadan önce notları kontrol etmek.....
 5. Çalışmalarımı planlı yapmak.....
 6. Çevrimiçi verilen ödevlerden iyi not almak.....
 7. Çevrimiçi okumaları ve dinlemelere önem vermek.....
 8. Çevrimiçi ders materyallerinin gerçek hayatta kullanmanın yollarını bulmak.....
 9. Çevrimiçi ders materyalleri gerçek hayata alakalı hale getirmek
 10. Çevrimiçi dersleri kendim için ilgi çekici yapmak.....
 11. Çevrimiçi ders kaynakları ile öğrenmeyi kolaylaştırmaya çalışmak.....
 12. Çevrimiçi sohbetlerde, tartışmalarda, eğitmen veya diğer öğrencilerle iletişim halinde olmaktan keyif almak.....
 13. Çevrimiçi grup tartışma forumlarına aktif olarak katılmak

14. Çevrimiçi derslerde diğer öğrencilere yardım etmek
15. Çevrimiçi derslerden iyi notlar almayı arzulamak.....
16. Çevrimiçi testlerde veya quizlerde iyi not almak.....
17. Çevrimiçi sohbetlere katılmak.....
18. Çevrimiçi tartışma forumlarına düzenli olarak gönderi yayınlamak.....
19. Çevrimiçi derslerdeki diğer öğrencileri tanımak.....

Araştırmacı: Yunus ÖKSÜZ



Appendix D: Kolb Öğrenme Stilleri Ölçeği

Değerli Öğrenci, Aşağıda öğrenme stilinizi belirlemek amacıyla 12 adet yarım bırakılmış ifade verilmiştir. Lütfen her bir ifadeyi dikkatle okuyunuz ve size en uygun olan ifadeyi işaretleyiniz. Ölçekteki cümlelere doğru yada yanlış cevap verme gibi bir durum söz konusu değildir. Burada sizden istenen ve önemli olan bu cümlelerle ilgili sizin görüşünüzdür. Bu nedenle gerçek ve samimi duygu ile düşüncelerinizi yansıtmamız son derece önemlidir. Lütfen her maddeyi yanıtlayınız. Katkılarınız için teşekkür ederim.

ENVANTER SORULARI

1. Öğrenirken...,

- Duygularım ile öğrenirim.
- Öğrendiğim yeni bilgiler hakkında fikir oluşturmayı severim.
- Bir şeyler yapıyor olmaktan hoşlanırım.
- İzlemekten ve dinlemekten hoşlanırım.

2. En iyi öğrenme yolum...,

- Derslerimi dikkatlice izlerim ve dinlerim.
- Öğrendiğim bilgileri kendi düşüncelerimle harmanlarım.
- Sezgilerimi aktif olarak öğrenime uygularım.
- Çok fazla çalışırım.

3. Öğrenirken...,

- Edindiğim sonuçları mantığıma uygulamaya çalışırım.
- Öğrenimimden kendimi sorumlu tutarım.
- Dersi sadece izlemeyi tercih ederim.
- Derse aktif katılım sağlarım.

4. En iyi...,

- Duygularımla öğrenirim.
- Yaparak öğrenirim.
- İzleyerek öğrenirim.
- Fikirler üzerinde düşünerek öğrenirim

5. Öğrenirken...,

- Yeni bilgilere her zaman açığım.
- Edindiğim bilgileri detaylı bir şekilde incelerim.
- Konuyu kendim için bölümlere ayırırım.
- Yeni öğrendiğim bilgi ile uğraşmaktan keyif alırım.

6. Öğrenirken...,

- Gözlem yeteneğimi aktif olarak kullanırım.
- Aktif olurum.
- Çalışmalarımı duygularıyla yönetirim.
- Mantık benim için ön plandadır.

7. En iyi öğrenme yolum...,

- Konuyu farklı açılardan gözlemlemektir.
- Yeni konuları sınıf ortamında tartışmaktır..
- Yeni konuların içerikliğini teorilerle öğrenmektir.
- Yeni konuları önce denerim sonra uygulamam..

8. Öğrenirken...,

- Yaptığım çalışmaların sonucunda başarı görmeyi severim.
- Konunun dayandığı hipotezleri incelemeyi severim.
- Acele etmem.
- Öğrenme sürecine odaklanırım.

9. En iyi öğrenme yolum...,

- İzlemektir.
- Hislerimi ön planda tutmaktır.
- Öğrendiklerimi uygulamaktır.
- Kendi teorilerimi ön planda tutmaktır.

10. Öğrenirken...,

- Çekingen olurum.
- Yeni edindiğim bilgileri sorgulamadan öğrenmeye çalışırım.
- Sorumluluklarıma önem veririm.
- Edindiğim yeni bilgiler üzerinde aktif olarak düşünürüm.

11. Öğrenirken...,

- Ders aktivitelerinde aktif olurum.
- Ders aktivitelerine katılmadan izlerim.
- Edindiğim bilgileri değerlendirmeden geçiririm.
- Aktif olmaktan hoşlanırım.

12. En iyi öğrenme yolum...,

- Edindiğim bilgileri parça parça öğrenmektir.
- Yeni bilgilere her zaman açık olmaktır.
- Dikkatli olmaktır.
- Anlatılanları uygulamaktır.

Appendix E: Permission Granting Document

T.C.
ÇAĞ ÜNİVERSİTESİ
Sosyal Bilimler Enstitüsü

Sayı : 23867972-044-E.2000004415
Konu : Yunus ÖKSÜZ'e Ait Tez Anket
İzni Hakkında

03.12.2020

DAĞITIM YERLERİNE

İngiliz Dili Eğitimi Tezli Yüksek Lisans Programında 20198050 numaralı öğrencimiz olan **Yunus ÖKSÜZ**, “**İngilizce öğrencilerinin öğrenme stilleri ile çevrim içi eğitime katılım düzeyleri arasındaki ilişki**” konulu tez çalışmasını Üniversitemiz Fen-Edebiyat Fakültesi öğretim üyesi **Dr.Öğr. Üyesi Seden TUYAN** danışmanlığında halen yürütmektedir. Adı geçen öğrencinin tez çalışması kapsamında **Üniversitemize bağlı Meslek Yüksek Okulu Müdürlüğü bünyesinde halen İngilizce dersi alan öğrencileri** kapsamak üzere kopyası Ek'lerde sunulan bir anket uygulamasını yapmayı planlamaktadır.Gerekli iznin verilmesini rica/arz ederim.

Doç. Dr. Murat KOÇ
Sosyal Bilimler
Enstitüsü Müdürü



T.C.
ÇAĞ ÜNİVERSİTESİ
Meslek Yüksek Okulu

Sayı : E-98052352-044-2100005055
Konu : Yunus ÖKSÜZ'e Ait
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Hakkında

09.07.2021

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MÜDÜRLÜĞÜNE

İlgi : 03.12.2020 tarihli ve 23867972-044-E.2000004415 sayılı belge.

Sosyal Bilimler Enstitüsü'nün ilgi yazısında konu edilen İngiliz Dili Eğitimi Tezli Yüksek Lisans öğrencisi (20198050 numaralı) Yunus ÖKSÜZ "İngilizce öğrencilerinin öğrenme stilleri ile çevrim içi eğitime katılım düzeyleri arasındaki ilişki" konulu tez anket çalışmasının Yüksekokulumuz önlisans öğrencilerine uygulanması Müdürlüğümüzce uygun bulunmuştur.

Gereği için bilgilerinize rica ederim.

Prof. Dr. İlhan ÖZTÜRK
Meslek Yüksekokulu Müdürü