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*Full Length Research Paper*

## **Piano education in adults**

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**Piano education is one of the fundamental aspects of instrument training. As a polyphonic instrument, the piano, unlike other instruments, is popular with all age groups. This study examines factors of success in adult piano education and piano methods utilized in training in all aspects, including historical development. Data was generated by literature review, specialist lecturers were consulted for their opinions, and descriptive research method was implemented according to the objective. Results of the study show that adult piano education requires an extensive training process, and students might face physical problems due to their age as they play the piano as well as psychological issues when they are concerned about being unable to study, failing or being criticized. Also, based on the evaluation of piano methods, the study proposes that training through all of the series of a method alone does not have sufficient benefits, and utilization of other resources that facilitate technical development after the methods for beginners will have positive effects on overcoming deficiencies in method.**

**Key words:** Music, piano education, piano method book, interpretation.

### **INTRODUCTION**

Education is the entirety of efforts to facilitate learning new behaviors and information for specific purposes using the physical, emotional, social and mental skills of individuals to express themselves. The Great Turkish Dictionary defines education as "Direct or indirect facilitation of children and young people to obtain the information and gain the skills and insights necessary to participate in social life and develop their character in or outside the school" (URL-1, 2016). Based on this definition, there are two types of education: formal education and informal education. Formal education is the type of education where students are prepared for the next level in a systematic order of different levels of education (Sarıkaya, 2018). Today, it is known that

information in various fields loses its currency soon due to the rapid development in science and technology. In this respect, it is an increasingly important fact that education must be a lifelong process, independent of age or space. In informal education, which we will examine in this scope, people are within the context of education anytime, anywhere, and education can involve everything the society may or may not want because it is not programmed or supervised. The individual is educated by personal observations and experiences in the light of various remarks from the social circle or modern mass media (Güneş, 2014). This is closely related to the competence of accessing and structuring information in the creation of strong individuals and societies.

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Structuring a society of individuals of lifelong learning could undoubtedly be possible through the regulation of education systems.

Art education helps people of all ages become social, creative, productive and confident. The information and behavior people gain help them succeed in their professional lives and make the right decisions in social life, and establish creative and healthy relationships that are open to improvement.

Music training is one of the primary areas that support lifelong learning because music is one of the chief elements of common culture everyone needs to gain. As a basic expression of human emotion, music is one of the most important and powerful educational tools. According to famous Greek philosopher Plato, music is not only aimed at entertainment and its main function is to instill good ethics and build a good character (Demirgen and Esin, 2016). Undoubtedly, societies consisting of individuals trained in music also develop their cultural structure.

Many students opt for piano in instrument training as it requires less effort as a beginner compared to string and wind instruments, sounds are ready to use on the keyboard, and it is possible to get different colors by pressing the keys in different techniques. The fundamental skills instructors must teach their students at the start of piano education should be correct hand position, a solid sense of rhythm and the ultimate goal of overcoming technical problems and achieving a musical interpretation. It is important to choose the right approach and method to reach this goal and get the best outcome that will satisfy instructors and students. Method is important to teach these behaviors at the desired level. Method books are books of effective and constant learning, prepared to gradually teach how to play an instrument in stages. In his study on "Choosing a beginner's method book in piano education," Eroğlu (2018) mentions the gradual development and change in education and teaching methods, and notes that traditional teaching methods give way to contemporary methods. Therefore, according to Eroğlu, piano methods based on contemporary teaching methodologies replace older methods. Also, studies show that students with intrinsic motivation, which can be described as the joy of playing the piano, are more successful (Özmenteş, 2013). Certain studies on the cognitive, affective and psychomotor factors that influence achievement in piano education note that it is necessary to eliminate the tension stemming from concerns and preserve a healthy physical structure by warming up before studying a musical work in order to achieve good performance on the piano.

### **Problem**

There is change and development in art and music in parallel with the changing and developing world. Adaptation to these developments is a measure of

modernization in our time. In this context, instrument training can be regarded as a requisite for modernization (Orhan and Ercan, 2012). As there are few studies on adult piano education, the necessity of evaluating the subject and methods used to train adults constitutes the problem of this study.

### **Objective of the study**

The study aims at analyzing adult piano education. Answers are sought to the following questions:

- 1) What are the historical aspects of adult piano education?
- 2) Which methods are used in adult piano education?
- 3) What are the factors of success in adult piano education?

### **Significance of the study**

The significance of this study lies in the identification of problems encountered by piano students and the guidance provided for instructors in the form of suggestions. Also, the study stresses that families facilitate social and cultural development by directing their children to play an instrument.

### **METHODOLOGY**

This study discusses the factors of success in adult piano education, historical aspects of adult piano education, and the piano methods used in training according to the objective of the study. This qualitative study employs data collection methods of observation, professional experience, opinions of lecturers, and literature review.

### **FINDINGS**

#### **Findings on the historical aspects of adult piano education**

The earliest method written for keyboard instruments was a 3-part method titled "Fundamentum Organisandi", written in 1452 by Conrad Paumann, an organist who lived between 1410 and 1473. This was actually a book on counterpoint.

The earliest real method that contained methodological and pedagogic approaches originated in Spain. A friar named Thomas de Santa Maria presented a method titled "Arte de Tanor Fantasia" in 1565 after 16 years of work. The first volume of the 400-page book includes basic knowledge as well as practical examples, which were rarely seen in those times. Chapter 13 of the first volume discusses eight important attributes of good work.

- (i) Playing at the correct rhythm



- (ii) Correct hand position
- (iii) Correct sitting position on the piano
- (iv) Playing a clear and precise interpretation
- (v) Comfort with faster and slower passages
- (vi) Playing with correct fingering
- (vii) Considering the enjoyment of the audience
- (viii) Achievement in ornamentation of the musical work

Later on, according to Böhnova, French composer F. Couperin (1668-1733) mentioned almost identical training approaches in his method titled "Pieces de Clavcin." It is thusly understood that the foundation of the methods used today were laid down about 200 years prior to the invention of the piano.

The attempts to program piano education date back to the piano methods of composers like D.G. Turk (1789-1802), F. Kalkbrenner (1788-1849) and L. Köhler (1820-1886) since the invention of piano in 1711 (Eren, 2013). Authors of Oxford Piano Course (1928) published "The Beginner's Book of Older Pupils" for adult students in 1929. Contents of this method were designed to adapt to a more conceptual and quicker learning by mature students. Following these methods, "The Adult Explorer at the Piano," written by Ahean, Blake and Burrow and published in 1937, stressed on functional skills that will allow students to incorporate music into their daily lives and recognize it as a pleasant way of self-expression in addition to keyboard education, playing musical works and education. Later on, The Adult Preparatory Book (1943) by Thompson, "Adult Piano Course" by Aeron (1947) and "The Older Student" by Richter (1956) contained an introduction to the "middle c" system, traditional melody arrangements, folk tunes and some technical information.

A historical review of piano methods shows that methods published from the first half of the 20<sup>th</sup> century onwards started featuring basic elements of music, such as music theory, sight-reading, accompaniment and composing skills (Uszler and Mach, 1991).

### **Findings on the methods used in adult piano education**

Instrument method books are prepared to help students learn how to play an instrument in a system of phased progress. Music training requires serious and detailed work for professionals and amateurs alike. Within the contemporary definition, the important thing is that the method is consistent and gains international approval with the outcome of its application (Say, 2002). To benefit students, a piano method should:

- (i) Be appropriate for the age group, physical and psychological state of the student
- (ii) Spark interest and encourage students to study
- (iii) Be compatible with phased progress

- (iv) Help the student gain technical skills
- (iv) Be suitable for modern education and teaching
- (v) Develop the student's musicality
- (vi) Include creative work like improvisation along with theoretical information

The most frequently used methods in adult piano education are:

- (i) "The Older Beginner Piano Course" Level 1 and 2 by James Bastien
- (ii) John Thompson's Adult Piano Method Level 1 and 2
- (iii) Hal Leonard Adult Piano Method Level 1 and 2
- (iv) Burkard Piano Method
- (vi) Nancy Randall Faber Adult Adventure All-in-one 1, 2
- (v) Alfred Basic Piano Course All-in-one Course Level 1, 2 and 3

Instructors in Turkey have written several methods for beginner piano students. In these methods, it is observed that instructors include their own compositions as well as the works of other composers. However, the same cannot be said of adult methods. Other than compilations, there is unfortunately no piano method structured for adults. Therefore, traditional Turkish folk music and exercises to solve technical problems are employed as training aids while the aforementioned methods are used for basic training.

### ***"The older beginner piano course" level 1 and 2 by James Bastien***

The Older Beginner's Piano Course consists of 2 levels. Each level is comprised of a main method and four complementary books.

- (i) The main method generally features original piano works in phased progress, meticulously picked to make training more enjoyable
- (ii) Musicianship: It includes exercises of examining the bass movements in 4-measure motifs presented in the main method, transposition of motifs to certain tones and performance in the transposed tones, and accompaniment.
- (iii) Theory: It is aimed at guiding students towards a harmonically functional approach on piano pieces and helping them interpret music more deliberately.
- (iv) Sight-reading: It covers the skills of playing a piano piece at first sight and capturing the interpretation conceived by the composer without going back to correct mistakes.

### ***John Thompson's adult piano method series, level 1 and 2***

The first book in the series predominantly features the

author's compositions. The second book includes pieces from the classical repertoire. Introductions of famous composers feature only the opening themes of their works. It was seen that most of these pieces are orchestral works rearranged for the piano or simplified accompaniments, and B themes in some of the musical works in the method were changed completely.

### ***Hal Leonard adult piano method level 1 and 2***

This method consists of solo, technical and theoretical sections:

- (i) Information on basic musical concepts, musical symbols and rhythm time signatures are given in Unit 1, and the method moves on to playing in 3 different positions.
- (ii) Only 6 tones are discussed in level 1 and 2, and other common subjects are not included. Also, ornaments are not featured in any of the units.
- (iii) The series includes improvisation and sight-reading work from start to finish. It can be said that the method progresses slower compared to the adult student (Eroğlu, 2018).

### ***Burkard piano method***

Written by Alexander Burkard in 1906, the book is based on Burkard's method, known as "Middle C," which was used in piano method books published later on. This method begins with finger 1 of both hands on the middle C. Middle C forms a bridge between F and G keys and makes it easier to learn the F key. It was republished in Turkish in 2016 by "Türkiye'de Müzik Eğitimi Yayınları." The method is based on movements of 5 fingers without the use of a key on the staff in the first 14 exercises, each with a different learning objective and 12 measures. Left hand accompaniment is livened up by replacing monotonous fourth notes with instructive eighth notes, but the method does not focus on training each hand independently with, for instance, exercises of playing legato on one hand and staccato on the other or comfortably resuming after rest notes.

### ***Nancy Randall Faber adult adventure all-in-one 1, 2***

The first book of this 196-page method series introduces music notation, chords and musical forms. Level 2 stands out with cadences accompanied by chords, and keyboard harmonics, but it cannot be said that the melody content is satisfactory. The prominent aspect of this method is that it reflects the teaching theory of the Fabers. The objectives are abbreviated as ACE: Analysis, Creativity and Expression.

A - Analysis will help the student understand the musical work

C - Creativity will lead the student to self-discovery, and

E - Expression will build the student's artistic skills.

The conclusion is that the method is adequate in terms of teaching approach and complementary content.

### ***Alfred basic piano course all-in-one course level 1, 2 and 3***

This series gathers basic training, theoretical and technical information and popular piano pieces in one book. "Introduction to the Piano Music," the opening unit of book 1, explains and illustrates hand and finger exercises to be done before playing, breathing exercises, and basic information on how to make soft and strong sounds and includes studies on these subjects.

Level 2 handles compound meters, nuance terms and pedal use.

Level 3 consists of four sections:

- (i) A review of old key signatures
- (ii) New key signatures and concepts
- (iii) Just for fun section
- (iv) Ambitious section

The most important aspect of the Alfred Basic series is that it includes suggestions and exercises to help students learn each part easily. The method aims at instilling a solid sense of music theory and accompaniment skills in addition to playing the piano by using cadences under melodies and utilizing various accompaniment patterns. Many of the methods analyzed here are used today in classical piano education across the world.

### **Findings on the factors of success in adult piano education**

Piano education is more difficult compared to many other fields because of the complex structure of the interaction between training methods and physical, cognitive and affective aspects. The interest of adult students in the keyboard, their physical and psychological differences will surely affect their achievement level. In this respect, an evaluation of the factors of success in training will help develop the education process and achieve training goals. We can divide the factors of success in 3 groups.

#### ***Cognitive skills***

Instrument training is an individualistic endeavor. It is known that personality traits are variable. According to American psychologist Gates, "learning" is the process

where an individual gains new behavior or changes old behavior as a result of his interaction with his surroundings according to his maturity level (as cited by Binbaşıoğlu, 1991). The individual must be ready in order to learn. Real learning begins when the individual becomes ready to learn (Binbaşıoğlu, 1991).

- (i) Students who start piano education earlier than adult students learn inadvertently. They don't know what they learn or why. However, adults learn by questioning, thinking and reasoning (Orhan and Ercan, 2012).
- (ii) Adult students concentrate on the class for longer periods compared to younger students.
- (iii) According to teaching experiences, it is believed that the ability to track notes on two keys from the lower staff to the upper staff and instantly press both keys while playing a piano piece in 2 different keys with two hands depends on personal attributes in addition to the age factor.
- (iv) Some adult students start playing by heart before learning the piece completely in order to avoid sight-reading. This leads to mislearning in terms of incorrect notes, rhythm, fingering and interpretation. It becomes more difficult and takes time to correct the mistakes embedded by early memorization. Instructors should guide students on how to prevent such cognitive differences.

### ***Affective skills***

We can define "motivation" as the intrinsic power that initiates student action and behavior and energizes the student. Undoubtedly, students who like their instruments will improve their performance skills by studying regularly. The piano stands out, attracts students and directs them to training because:

- (i) It has a richer repertoire compared to many other instruments
- (ii) It makes positive contributions to ear-training thanks to the consistency of sound created by fixed intervals
- (iii) It develops polyphonic hearing
- (iv) It has a broad sound range
- (v) It is easy to play in accompaniment
- (vi) It allows for teaching of music appreciation (Yücetoker, 2009).

We can list the other causes that steer adults towards learning how to play the piano as:

- (i) The desire to utilize training as a grounds for socialization, join peers in a group environment, and enjoy self-expression by playing a few pieces
- (ii) The desire to correctly sight-read a composition, and accompany songs or a choir with the appropriate chords
- (iii) Parents can also start taking lessons because they

believe it would be better to play the piano and accompany their children as they play other instruments (Uszler et al., 1991).

Adults who choose to play the piano have specific ideas about why they are interested in the piano. All adults expect the experience to be a pleasant one, but they have different opinions on what constitutes that enjoyment. Some students are satisfied if they enjoy it for a brief period of time and play a few famous melodies, while others prefer a more extensive training, to sight-read musical works and know how to use their fingers and pedals. Students who place importance on music theory aim at learning about chords and the harmonic structure of the pieces they play. However, none of them intend to become a pianist. However, it is difficult for instructors to imagine piano education without ensuring technical development and building a solid repertoire. Instructors plan their training programs by assuming that young students will ultimately achieve their goals, their hands will grow, their attention span will expand, they will sight-read more fluently and they will make progress through an extended period of time. In teaching adults, instructors generally aim at expediting phased progress according to their experiences and observations (Uszler et al., 1991). First of all, the teacher-student relationship is an important motivator. The factor of teacher is as important an external motivator as family, friends, and community. The straightforward approach an instructor takes to solve problems makes considerable impact and gets a more interested student.

### ***Psychomotor skills***

Playing the piano is a mainly psychomotor skill with cognitive and affective dimensions that can only be improved through work and exercise. Independent muscle and nervous systems work together to make the motions necessary to play the piano. We can define technique as the control over these motions. All motor skills depend on the precise and correct timing of muscular movements. The factors that make piano education easier for adult students compared to younger students are:

- (i) They meet the physical requirements of height and strength, and can easily reach pedals and ends of the keyboard
- (ii) They can reach octaves easily and implement accompaniment styles on the piano
- (iii) They have the power and control necessary to create higher tonal resonance and color diversity in interpretation compared to younger students.

However, we have observed during our teaching experiences that many adult students face problems as

they study despite their advantage in height and strength, which younger students lack.

Physically matured adults lose flexibility in their finger and arm movements, which are in place among younger students. Adults are accustomed to using their bodies in specific ways, and they can have difficulty getting used to new patterns of movement and reprogramming neural information transmitted to muscles and limbs during early stages of piano education. In this case, beginner students, especially those who quit piano education when they were young, can feel guilty if they fail to achieve the success they desire despite making an effort and think they could have avoided such problems had they not quit at an earlier age. It is much more difficult for them to accept failure compared to children. At this point, instructors can put them at ease by sympathizing with them, and minimize physical issues by choosing the repertoire carefully.

Instructors should frequently remind their students that new movement patterns can only be developed by repetitive work and exercise, and ultimately achieve a fast and correct style of performance. Students should be instructed to do warm-ups and soften their rigid arm muscles before studying, gradually extend their daily study time, avoid challenging technical passages and solve their problems.

## DISCUSSION

This study includes a literature review on the historical development process of adult piano education, the methods used in training and factors of success, and most of the results in literature were in parallel with the study. Some of the studies on method found that methods have distinctive strengths and weaknesses.

This study shows that the methods, especially at final stages, feature simplified versions or only the opening themes of certain important pieces. Featuring simpler versions of the parts of musical works by famous composers so that students can overcome various difficulties will undoubtedly have positive effects in the development of students who study in phased progress.

Eroğlu (2018) in his study titled "Determining a Beginner Piano Method Book" found that methods include information on notation and note values, tone, measures, tempo and nuance signs but they do not adequately cover complementary elements like music theory, chords and accompaniment in line with modern teaching methods.

Akbulut (2010) in his doctoral thesis stresses that the F. Beyer piano method continues in the C position for 28 exercises and on the G key for 53 exercises, the melody is always played on the right hand, and the left hand is used for accompaniment. Akbulut criticizes the method on the grounds that students have to work on improving their left hand.

Another important method is the "middle C" method, which was developed by Burkard and sets a certain position to start playing the piano. While it is proposed that this method helps establish the correct hand position by playing the thumbs of both hands on the middle C and forming a bridge between G and F, and thereby facilitating symmetrical movements, which our minds are more inclined towards (Güven et al., 2012), Akbulut argues that the method is more suitable for preschoolers in his dissertation, supported by the opinions of teachers.

Coşkuner (2015), who studied amateur piano education in his dissertation, carried out a survey with instructors and found that the "Middle C" method had the highest rate with 57% and the system of starting both hands on the G key had the lowest rate with 7 percent. These results are in parallel with this study.

Based on the evaluation of methods, we can say the series titled "Faber Adult Adventures" and "Alfred Basic Adults" cover piano education in its entirety, and they are more suitable for modern piano education. According to the literature review on research question 3.

Özmenteş (2013) in his survey titled "Student performance and motivation" examined the opinions of teachers. Instructors who participated in the interviews expressed overlapping opinions on teacher-student communication, empathizing with the student, and recognizing the differences between students as external motivation factors. Another factor that affects student motivation negatively is the possibility of student failure when the repertoire is beyond their level, which emphasizes the importance of repertoire selection. This result is in parallel with this study.

Orhan and Ercan (2012) in his study titled "Problems and Solution Suggestions in Instrument Training of Adult Students" interviewed professional adults who take instrument lessons at private schools or community centers, and 58% of adults said they get bone and muscle pain when they play, and 24% said they partially feel pain. This can be because of the age factor but also due to incorrect practices and exercise times. Adult students stated that they play the piano without warming up and study irregularly, like not studying for three days and studying very hard for one day. 61% of adults said negative criticism by their instructors dampens their spirits. Conversation outside the class has positive psychological effects on 76% of the adults. It has been observed that this social environment encouraged students to continue with their lessons without postponement. It can be said that this result is in line with this study.

Coutts (2018) mentions the positive impact of rewarding students as they fight against difficulties to improve their piano skills. He argues that this should continue until students achieve study goals.

## CONCLUSION AND PROPOSALS

This study aims at identifying positive and negative

factors of adult piano education and proposing solutions. From the 20<sup>th</sup> century onwards, composers have been creating new musical works in different forms. The goal of education should be to introduce works of different styles as well as the classics. In this respect, phased progress will be more productive in any method when the instructor designs the best training program based on his own opinions for the student make better progress and gain information on new compositions in different rhythms and forms instead of continuing with the same method series. At this stage, the role of instructor stands out as an important external motivator. Instructors should consider the following as they plan a repertoire for a student:

- (i) Are the musical works selected at the appropriate challenge level for the student?
- (ii) How beneficial are they in reinforcing skills and knowledge of the adult student?
- (iii) Can they establish the foundation necessary to enhance their knowledge and skills?

Information on the period of a musical piece is necessary to interpret musical works correctly, and the most fitting interpretation should be sought according to the characteristics of its composer. The instructor explains the existing melodic, rhythmic and harmonic outlines to the student and helps the student comprehend the musical approach the composer wanted in order to achieve the perfect interpretation. After all, the interpreter of a musical piece can only be called responsible when the interpretation reflects the information on the period, style, aesthetics and form of the piece. An appropriate repertoire selected for this system will surely put the student at ease with the positive impact of music. Students will have an easier time fighting against difficulties in their personal lives and be happier in life as they utilize their leisure time (Türkmen, 2010).

Another proposal is that allowing students to perform easy pieces they like for an audience at concerts will boost their confidence and motivation. It should be remembered that piano education involves more than technical skill, and while technical competence is an instrument of creating beauty, the goal is to embed musical behaviors that will help students express themselves through music (Ercan, 2003).

Adult piano methods are written in foreign languages, which make them difficult to understand. The Burkard method, written in 1906, was published in Turkish by Müzik Eğitimi Yayınları in 2016. Publishing "Faber Adult Piano Adventures" and "Alfred Basic Adult All-in-one Course" in Turkish will allow these methods to be used and understood by the majority. Families should be encouraged and informed about getting their children private piano training, and the number of instrument education establishments should be increased, thereby spreading the positive behavior families observe in their children across a broader part of society.

In conclusion, it is believed that the proposals in this study, which are intended to help adult piano students develop various behaviors, will provide guidance for further research.

## CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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*Full Length Research Paper*

# Internet addiction and loneliness as predictors of internet gaming disorder in adolescents

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**The purpose of this research is to present the relationship of teenagers' internet gaming disorder (IGD) with their levels of internet addiction and loneliness, as well as to test the created model in terms of these relations. This research analyzes the predictive relationships among adolescents' IGD, internet addiction and loneliness through the statistics program in accordance with the structural equation model. The research's study group has been selected among teenage students in different schools in Ankara, during the 2018-2019 academic years using the random sampling method. Of the students, 305 are male and 101 are female. The participants were 406 students (males = 75.12%, female = 24.87%, Mage = 15.63 years, SDage = 1.11) aged between 14 and 18 years. The variables predicting IGD are internet addiction ( $\beta = 0.54$ ) and loneliness ( $\beta = 0.11$ ). Additionally, loneliness significantly predicts internet addiction ( $\beta = 0.24$ ,  $p < 0.01$ ).**

**Key words:** Internet gaming disorder, internet addiction, loneliness, adolescents.

## INTRODUCTION

With the increase in the use of technology in social areas, there have been some changes in game and entertainment preferences. There is no significant difference between online gaming as an entertainment tool and other forms of entertainment such as sports, dance, work and workouts (Aarseth et al., 2016). The common point among all these recreational vehicles is that they have the potential to be rewarding, so that they are capable of making addiction (Wenzel et al., 2012). Despite the fact that the game-playing behaviour on the Internet is an entertainment event that many people

around the world enjoy without problems, it is clear that problematic game-playing behaviour cannot be ignored. In recent years, researches about Internet games have started to address the extreme and problematic game-play behaviors that cause significant psychological problems and various distortions in the individual's life, rather than making the game problematic, which is a healthy entertainment method (Griffiths et al., 2017).

It is found that playing games on the Internet in a healthy way has a positive impact on educational, social and therapeutic aspects (Granic et al., 2014; Colder et

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al., 2018; Griffiths et al., 2017; Nuyens et al., 2019). King and Delfabbro (2014) state that the game playing behavior can improve self-esteem and that self-esteem can be a contributing factor to the problematic nature of game addiction. According to Yee (2006), one of the positive things about playing games on the internet is that it gives the possibility of coping with stress or avoiding stressful situations. However, in some individuals, when used dysfunctionally, playing may be one of the criteria that meet dependence as a result of cognitive, psychological and emotional effects (Griffiths, 2005; Pontes and Griffiths, 2015).

According to the ICD-11, digital or video gaming disorder is defined as a behavior pattern characterized by the deterioration of the individual's ability to control the play, gaming's taking the place of individual's other interests and daily activities, and keeping up gaming and increase in gaming, despite negative results (WHO, 2017). The notion of internet gaming disorder (IGD) was included in DSM-5 in 2013 (Wartberg et al., 2019). The IGD was evaluated in a behavioral addiction category, and was included in the Diagnostic and Statistical Manual in the 5th edition of the DSM-5 (American Psychiatric Association, 2013) in order to enable performing further research. DSM-5 defines IGD as excessive and long-term internet gaming behavior in which cognitive and behavioral symptoms are observed, including loss of control, tolerance development and withdrawal symptoms similar to the ones seen in substance use disorder, in the last 12 months (APA, 2013). Here, the term *similar to the ones seen in substance use disorder* clear the main way of defining the IGD as an addiction (Arıcak et al., 2018).

Excessive game playing on the internet can lead to negative outcomes like poor academic performance, risky life relationships, family communication problems and physical problems (Kuss and Griffiths, 2012). The weakness of interpersonal relationships, dissatisfaction with physical appearance and weakness of problem-solving skills can be counted among the factors that increase the IGD (Young, 2009). The IGD seems to be more common among adolescents (Kuss and Griffiths, 2012; Schneider et al., 2017). This situation seems to have contributed to performing further researches on the addiction of adolescents. On the other hand, social functions cut a wider swath in factors starting or maintaining games. For all age groups, social functions like helping others in starting or maintaining games, joining a group and being invited to play are important (Griffiths et al., 2004). Digital game addiction, high hyperactivity and carelessness (Wartberg et al., 2019; Stavropoulos et al., 2019), low self-efficacy (Jeong and Kim, 2011), academic failure, sleep problems (Ferguson et al., 2011), anxiety (Wei et al., 2012; King and Delfabbro, 2014), low self-esteem and impulsivity (Billieux et al., 2015; Gentile et al., 2011), incompatible cognitions (King and Delfabbro, 2014), depression and

stress (Loton et al., 2016; Mentzoni et al., 2011), were associated with problematic internet use (Andreassen et al., 2016).

In recent years, researches have been carried out on psychosocial problems related to IGD; however, since everyone may not display symptoms and outcomes in the same way, the researchers working on problematic game playing work on different symptoms (Aarseth et al., 2016). For this reason, IGD and loneliness variables, which are thought to be related to internet game playing behavior, are considered as predictive variables in this study.

Nowadays, the internet is widely used (Frozzi and Mazzoni, 2011) because of its many functions such as social communication and facilitating daily life. Conducted by TÜİK (Tuik, 2018) in Turkey, the use of information technologies in households' survey revealed that the rate of household with access to the internet was 25.4% in 2008 and 80.7% in 2017, with an increase every year. There was an increase in the number of households with internet access and the number of internet users reached 35.8% in 2008 and 66.8% in 2017.

The problematic internet use process is conceptualized as a behavioral addiction in which symptoms such as being busy with the internet, urgent use expectancy, using longer than expected, withdrawal and signs of tolerance and significant deterioration in life are displayed (Widyanto and Griffiths, 2006). Factors that contribute to this include the availability, utility, advertising and the quality of the activity (Maiti, 2019). Internet addiction prevalence rates tend to be the highest among adolescents (Kuss et al., 2014). For some adolescents and adults, abuse of the internet may be a risk factor (Anderson et al., 2016; Öztemel and Traş, 2019). Because of mobility and easy access to the internet for adolescents with smartphones, dependence properties in users can be triggered (Jang et al., 2008; Kim et al., 2012). Significant relationships were found between cyberbullying and hopelessness in adolescents (Dilmaç, 2017). This finding is noteworthy in terms of showing negative results due to negative use of internet.

Today, the use of social media through the internet has a very important place especially in the lives of young people (Boyd, 2014; Keipi et al., 2017; Kuss and Griffiths, 2017). However, depending on the reasons or results of using the internet, its role in reducing/increasing the problems may change (Mazzoni et al., 2016). It is obvious that individuals who are dependent on the internet spend more time by playing multiplayer games instead of using communication tools such as e-mail or social networks (Young, 2009).

Staying away from the internet as a result of excessive use can cause negative psychological effects in some individuals (Kuss et al., 2014). Excessive use of the internet was found to be similar to the psycho-addictive substance dependence which has a neurobiological basis

(Maiti, 2019). Young (2009) described the problematic internet use as a psychiatric disorder. Psychological/social factors in the internet addiction are important because of their role in changing behaviors as are in substance abuse (Maiti, 2019). When the literature is examined, it was found that the internet addiction was named by researchers in various ways. Internet dependency, pathological internet use, problematic internet use, excessive internet use, internet abuse and internet addiction disorder can be counted as examples (Dinç, 2016).

When the findings of the study were examined, researches on explaining the relationship of internet addiction with insecure attachment styles (Eichenberg et al., 2017; Monacis et al., 2017), ADHD (Ko et al., 2012), physical or sexual abuse and insecure attachment attitudes in childhood (Schimmenti et al., 2014), anxiety and depression (Ebeling-Witte et al., 2007), obsessive-compulsive symptoms (Dong et al., 2011), individualism and psychological needs (Arpacı et al., 2018) and social phobia (Yen et al., 2007) were found. There have been researches stating that loneliness feeling is displayed in individuals who are addicted to internet games (Kim et al., 2009; Nowland et al., 2017; Snodgrass et al., 2018). It is understood that excessive internet use lie at the bottom of Facebook intensity, fear of missing out and smartphone addiction (Traş and Öztemel, 2019). Although individuals often state that they utilize internet socialization function of the internet, excessive internet use decreases the participation in social relations paradoxically (Davis et al., 2002) and consequently, loneliness and lack of social contact may be seen more.

One of the basic needs of humans, the need of belonging (Baumeister and Leary, 1995) refers to being in a social community such as a family, class or group. People whose social contact needs are not sufficiently met can experience a sense of loneliness as a result of an emotionally intense, unwanted subjective experience resulting from inadequacy perceived in social relations (Perlman and Peplau, 1981). Due to the diminution of the social contact of the individual and the inadequate social relations, perceived loneliness may occur as a result of the weakness of communication (Heinrich and Gullone, 2006; Hughes et al., 2004; Masi et al., 2011). Loneliness is a feeling that can be overcome as a result of people's trust in others and social contact with the individuals they can feel socially connected to (Nowland et al., 2017).

The feeling of loneliness, which can be seen in every developmental period in human life, may have more effects on adolescence and young adulthood (Qualter et al., 2015). In adolescents and young adults, loneliness is a risk factor for many psychosocial difficulties such as depression (Matthews et al., 2016). At the same time, loneliness was found to be associated with various addictive behaviors (Bian and Leung, 2015; Kuss et al., 2014) and risky behaviors such as substance use

(Stickley et al., 2014). Some significant relationships were found between adolescents' sense of loneliness, problematic online games (King et al., 2010) and excessive internet use (Kuss et al., 2014). Feeling of inadequacy of individuals who felt lonely in social settings becomes a motivation factor for participation in online communities (Barak et al., 2008; Csipke and Horne, 2007). Individuals tend to use supporting online networks as an alternative to offline relations they are not satisfied with (Kwon et al., 2011).

Researches on IGD among adolescents in Turkey, who has a very young population rate, are becoming increasingly important. In this context, the purpose of this research is to investigate the direct effects of internet addiction on IGD and their indirect effects on loneliness, as well as the direct effects of loneliness on IGD.

## Hypothesis

In accordance with the aim of the research, the following hypotheses were tested:

1. Internet addiction has a relationship on IGD.
2. Internet addiction has a relationship on loneliness.
3. Loneliness has a relationship on IGD.

## METHODOLOGY

### Research model

The purpose of the research is to present the relationship among teenagers' IGD, internet disorder and loneliness, as well as to test the created model in terms of these relations. The relational survey model, a sub-type of the general survey model, has been used in the research. Relational survey is a research model conducted in order to define the relationships among two or more variables and in order to obtain clues concerning cause-and-effect relationships (Büyüköztürk et al., 2008).

### Study group

Simple random sampling was employed to select the study group, which consists of 406 high school students studying at four five schools in Ankara during the 2018-2019 academic years. The study group was composed of 406 students, 101 (24.87%) female and 305 (75.12%) male students. Ages of participants vary between 14 and 18, and the average age is 15.63 ( $S_s = 1.11$ ).

### Measurement tools

#### *Internet gaming disorder scale-short form*

The nine-item internet gaming disorder scale – short form (IGDS9-SF) is one of the most popular instruments developed based on DSM-5 to assess gaming addiction internationally. Given the number of common instruments to assess and diagnose gaming disorder cross-culturally, validity and reliability studies of instruments such as the IGDS9-SF have become more important. Validity of the IGDS9-SF was assessed in two ways; confirmatory



factor analysis (CFA) and criterion-related validity. CFA revealed that IGDS9-SF was one-dimensional. A significant correlation between IGDS9-SF and internet addiction scale indicated criterion-related validity. One supportive finding for the validity was the significant difference found between the upper and lower 27-percentile groups in terms of IGDS9-SF scores. The IGDS9-SF also showed satisfactory levels of reliability using Cronbach's alpha (0.82), Guttman's split-half (0.75), and test-retest reliability coefficient (0.78). It is concluded that the IGDS9-SF appears to be a valid and reliable scale to assess IGD among Turkish adolescents and young adults (Arıca et al., 2018).

### **Internet addiction scale**

This scale constitutes the diagnosis survey adapted by Young (1998) from the diagnostic criteria for pathological gambling in the American Psychological Association's Diagnostic Service Manual (Version 4, 2000). The scale is a 6-point Likert-type whose answers are *never, rarely, sometimes, mostly, very often* and *always*. These options are scored respectively from 0 to 5. Scores of 80 or higher indicate an *internet addict*; scores from 50 to 79 indicate *limited symptoms*; and scores under 50 indicate *no symptoms* (Bayraktar, 2001). The scale was translated by Bayraktar (2001), investigated by five instructors from the Faculty of Literature, Ege University, and adjusted for suitability to adolescents between 12 and 17 years old. Cronbach's Alpha for the translated test was 0.93, and the Spearman-Brown value for reliability is 0.87.

### **UCLA loneliness scale**

Russell et al. (1978) re-examined all the materials in the UCLA loneliness scale they developed to measure individuals' levels of loneliness with the assumption that this leads to systematic bias in negative statements. Half of the items were transformed into negative expressions (Demir, 1989). 10 of the 20 items that make up the UCLA loneliness scale were reverse-coded. In each of the scale's items, feelings and thoughts about social relations were presented, and individuals were asked to mark the Likert-type scale on how often they experienced these expressions. The answers *never* (4), *rarely* (3), *sometimes* (2), *often* (1) are possible, sometimes reverse-scored. The total scores that individuals receive from all the items give their overall loneliness score. The highest score that can be gained in the scale was 80 and the lowest score was 20. A high score indicates a high level of loneliness. In addition, the Cronbach's alpha value for this scale was 0.88.

### **Sociodemographics**

The survey also included questions concerning sociodemographic characteristics of the participants including gender, age, game genre and gaming experience.

### **Procedure and data analysis**

Data were collected face-to-face using a paper-and-pen form in classrooms with student volunteers. Prior to distributing the data collection instruments, the students were informed that participation in the study was voluntary. Data were collected from students who verbally stated that they would participate in voluntarily. It took approximately 25 min for the students to complete the form.

It was first investigated as to whether there existed any missing data, and it was determined that all the data were present in the

variable set. After testing for univariate and multivariate outliers, 9 observations were excluded from the data set, leaving a total of 406 participants whose data were analyzed. This research analyzes the predictor relationship among adolescents' IGD, internet addiction and loneliness using the program, AMOS 19, in accordance with structural equation modeling. Structural equation modeling is a statistical approach that reveals causative and reciprocal relationships between observed and latent variables (Schumacker and Lomax, 2004). The model proposed in this study relating to the relationships among subjective IGD, internet addiction and loneliness is presented in Figure 1.

## **RESULTS**

In the final model ( $\chi^2 / sd = 1.26, p < .001$ ), there is one exogenous (loneliness) and two endogenous (IGD and internet addiction) data. Each of the paths shown in the model was statistically significant. The Bentler-Bonett normed fit index (NFI), the Tucker-Lewis coefficient of fit index (TLI) and other fit indices showed that the model was well-aligned as shown in Table 1. Each of the two-way correlations between the endogenous data in the model had high values and was statistically significant.

When the compliance values in Table 1 are examined, it is found that  $\chi^2 / sd = 1.26, RMSEA = 0.03, SRMR = 0.02, NFI = 0.98, CFI = 0.99, GFI = 0.99, AGFI = 0.97, TLI = 0.98$ . In general, it is understood that the model has the desired level of compliance values (Bollen, 1989; Browne and Cudeck, 1993; Byrne, 2010; Hu and Bentler, 1999; Kline, 2011; Tanaka and Huba, 1985). The tested single-factor model is shown in Figure 1. All paths shown in the model are significant at the level of 0.001.

When the model in Figure 1 is examined, it is seen that the most important independent variable ( $t = 13.31, p < 0.01$ ) affecting IGD of adolescents is internet addiction. The link coefficient value for this factor is  $\beta = 0.54$ . When the predictive relationship between adolescents' internet dependencies and game dependence variables were examined, it was determined that there was a positive linear relationship between them. In other words, the findings show that the increase in internet addiction increases the IGD.

When the values in Table 2 are examined, it is seen that the second independent variable ( $t = 2.74, p < 0.01$ ) which affects IGD is loneliness. The link coefficient value for this factor was determined as  $\beta = 0.11$ . When the adolescents' predictive relationships between loneliness and game dependencies were examined, it was determined that there was a positive linear relationship. In other words, the findings suggest that the addiction of the adolescents will increase as their loneliness increases.

Moreover, when the Table 2 are examined, the predictive effect of loneliness on internet addiction ( $t = 5.19, p < 0.01$ ) was observed in the model tested. The link coefficient value for this factor was determined as  $\beta = 0.24$ . When the predictive relationships between

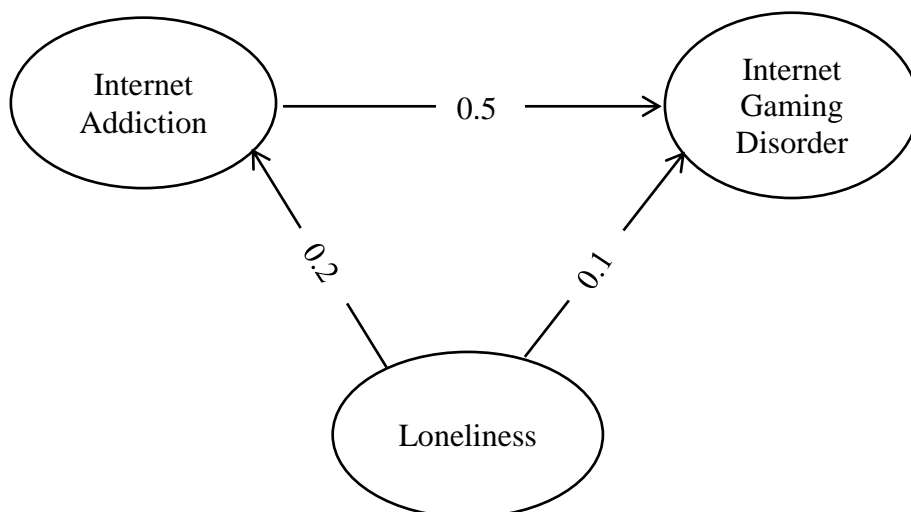


Figure 1. The path diagram of the study's model.

Table 1. Statistical values related to the structural equation model's fit index.

Measure	Good fit	Acceptable fit	Fit index values of the model
(X2/sd)	≤ 3	≤ 4-5	1.26
RMSEA	≤ 0.05	0.06-0.08	0.03
SRMR	≤ 0.05	0.06-0.08	0.02
NFI	≥ 0.95	0.94-0.90	0.98
CFI	≥ 0.97	≥ 0.95	0.99
GFI	≥ 0.90	0.89-0.85	0.99
AGFI	≥ 0.90	0.89-0.85	0.97
TLI	≥ 0.95	0.94-0.90	0.98

Table 2. Model on predictor relations among internet gaming disorder, internet addiction and loneliness for protecting adolescents.

Predictor variable	Dependent variable	Total effect	Direct effect	Indirect effect	Standard error	Critical value
Internet addiction	Internet gaming disorder	0.54	0.54	-	0.03	13.31*
Loneliness	Internet gaming disorder	0.24	0.11	0.13	0.02	2.74*
Loneliness	Internet addiction	0.24	0.24	-	0.04	5.19*

\*p <0.01.

adolescents' loneliness and internet addiction were examined, a positive linear relationship was determined. In other words, the findings suggest that the increase in loneliness levels of adolescents will increase internet addiction.

### Conclusions and discussion

In this section, the findings of the study are examined and

interpreted by examining the predictive relationships between the IGD, internet addiction and loneliness levels of adolescents constituting the study group.

According to the first hypothesis of the research, internet addiction predicts internet game addiction. It is seen that the findings of the researches confirm this hypothesis. Excessive use of the internet may cause adverse effects. In literature, researches having a significant correlation between excessive internet usage and digital gaming addiction (Andreassen et al., 2016)

support this finding. Playing internet and video games has become one of the most popular leisure activities regardless of culture, age and gender (Király et al., 2014; Kuss, 2013). Psychosocial factors such as low self-esteem, loneliness, depression, high anxiety and stress appear to be common behavioral addictions (Griffiths, 2015). Despite this, numerous instruments continue to include screening items for tolerance in gaming and internet use disorders (King et al., 2013; Lemmens et al., 2015; Lortie and Guitton, 2013).

According to the second hypothesis of the study, a significant relationship was found between loneliness and IGD. As a result of insufficient family relations of adolescents, search for socialization through internet games (Li and Wang, 2013) can be interpreted as an attempt to deal with the feeling of loneliness. The games played on the internet can be interpreted as the socialization effort of the individual to communicate with other players, to take part in a team and to perform difficult tasks with the support of other players (Smahel et al., 2008). Some researches with problematic internet gaming have attracted attention to the parent-child relationship (Schneider et al., 2017). Positive family relationships (Adams et al., 2018) and positive father relationship (Schneider et al., 2017) can be counted among IGD protective factors. Therefore, high levels of perceived online social support may lead to excessive internet use (Hardie and Tee, 2007). These findings show that gaming-related distress can be experienced by the internet gamers' experiences of loneliness (Kim et al., 2009; Nowland et al., 2017; Snodgrass et al., 2018). In online environments, that especially adolescents feel social pressure to actively participate in peer activities (Turel and Osatuyi, 2017) can be considered as a way to deal with loneliness. Therefore, this can cause negative consequences such as internet addiction and IGD. These findings also reveal the importance of social isolation that follows problematic game playing, addiction and loneliness that may arise as a result of addiction (Kim et al., 2009; Nowland et al., 2017). The findings of this study may be beneficial in several ways. Very little is known about the psychodynamic mechanisms that initiate and maintain the excessive use of the internet, loneliness and IGD. According to the findings obtained, there is a positive linear relationship between adolescents' IGD and loneliness levels. Findings of the study are supported by the research findings suggesting that individuals who use the internet excessively but do not have enough social skills show more internet game disorder where the face to face interaction is seen less (Caplan, 2003; Davis, 2001; Davis et al., 2002).

According to the third hypothesis of the study, loneliness predicts internet addiction. This finding is supported by the results of a research in which internet addiction, which is one of the negative consequences of excessive internet use, is found to be related to

loneliness (Kuss et al., 2014). Those findings also suggested the importance of loneliness and social isolation in addictive and problematic gaming, which echoed a now substantial body of literature (Kim et al., 2009; Nowland et al., 2017; Snodgrass et al., 2018). The findings of this study are supported by the findings that show social media platforms can reduce the loneliness of users (Pittman and Reich, 2016). This finding of the research is supported by the literature stating that some people find online interaction is safer, more efficient and more suitable than real-life interactions, and that it is a better option for individuals who are socially inadequate (Caplan; 2003). However, this situation makes it difficult for individuals to develop social relations outside the online environment (Davis et al., 2002) and hence create a cycle between loneliness and internet addiction. According to the findings of the research hypothesis, it is shown that addictive feature of IGD needs for a standard conceptualization (Aarseth et al., 2016; Petry et al., 2014; Pontes and Griffiths, 2015). However, further research is needed to clarify the relevance of dependence (Pontes et al., 2014).

Internet games can be quite appealing especially for adolescents. In this study, the IGD was predicted (explained) by internet addiction and loneliness. The results of this study are thought to be helpful in revealing possible problems in adolescents who are at risk of being addicted to internet games. Further research is needed to better understand the psychological dynamics of adolescents who are at risk of IGD. With the results of the study, the benefits and risks of IGD were tried to be explained better.

Despite the strengths of the study, there are some limitations. First of all, this study was carried out cross-sectional, so the causal mechanisms could not be studied. In future studies, different psychosocial reasons that can reveal IGD can be studied. In addition, longitudinal studies can provide detailed information about factors associated with IGD. Secondly, this study was conducted in Turkey and on adolescents. However, more research is needed for individuals of different age groups and other developmental stages. Thirdly, impact sizes may be relatively low. It can be suggested that working groups should be formed from different socio-economic groups, different geographical regions and school types.

Based on the findings of this study, it can be suggested to identify, prevent and develop strategies for early intervention in individuals who are at risk of developing IGD. Király et al. (2014) suggests that a one-size-fits-all solution does not exist considering the fact that there are players with different motivations and different developmental characteristics. Moreover, researches have shown that the same behavior, such as playing for 14 h a day, does not lead to comparable problems among players (Griffiths, 2010). It may be advisable to

take into account the different characteristics defined as IGD symptoms among the adolescents. In researches on adolescents, preventive guidance studies (Korkut, 2004) and more causal research findings are needed.

## CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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*Full Length Research Paper*

# **An analysis of English as a foreign language (EFL) teachers' pedagogical competence and readiness in maintaining the implementation of the 2013 curriculum**

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**This study tried to portray English as a foreign language (EFL) teachers' pedagogical competence and readiness in maintaining the 2013 curriculum. The demands of the 2013 curriculum lead the teachers to have a good quality of teaching. It is essential to know teachers' pedagogical competence because that aspect will be piloting the implementation of the curriculum in the classroom. This study aimed to investigate the EFL teachers' pedagogical competence and readiness in the implementation of the 2013 curriculum. This study used mixed methods with triangulation design. The data were collected by semi structure interview and close ended questionnaires. The data were then analyzed, described, and interpreted comprehensively. The result of this study revealed that EFL teachers' pedagogical competence is appropriate to the demand of the 2013 curriculum. The teachers show their enthusiasm and readiness in implementing the 2013 curriculum.**

**Key words:** Pedagogical competence, the 2013 curriculum, curriculum development, instructional plans, teachers' role.

## **INTRODUCTION**

The curriculum is undoubtedly an inseparable part of education. In Indonesia, education curriculum has already undergone several changes. The 2013 curriculum is a product of the changes of education in 21st century. Curriculum is developed in order to give the solution in some cases in Indonesia. The Indonesian minister of education and culture, Muhammad Nuh, assumed that Indonesian student achievement was left behind and he believed that Indonesian curriculum has to be changed, developed and adjusted to the world educational trend.

As the world educational trend changes, the Indonesian curriculum must be based on the reasoning reinforcement, not only memorizing. As a result, from those perspectives, the 2013 curriculum was constructed. In developing the appropriate curriculum, many practitioners and expertise are mixed up.

Teachers are the centralized factors in implementing the curriculum. Lengkanawati (2004) highlighted that teachers are the forefront implementers of the curriculum. It is also supported by Uno (2009) as cited in Evanita

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(2013), the success in the implementation of the curriculum is determined by the ability which is owned by the teachers. The importance of the teachers in the successful implementation of curriculum programmed is very essential, as the one who directly interacted with the students, and the one who implemented the curriculum in the classroom to the students. As regards, teachers should be familiar with the competencies expected by the curriculum in order to fulfill the significant role of teachers' competence in the implementation of the present curriculum. Atomatofa et al. (2013) argued that the duty of the classroom teachers is to translate the curriculum goals from theory to practice after the curriculum activities are planned and adopted for use in the school system. It is also supported by Lengkanawati (2004) who says that the implementation of curriculum needs some supporting factors such as teachers' familiarity of the curriculum being implemented and teachers' competence.

Many opinions arise in terms of the development of the curriculum. The changing of the curriculum proved that teachers have an important role in the transformation of the curriculum. A good curriculum should be interconnected with the capability of the teacher in implementing the classroom. The curriculum doesn't run well if the teachers do not have ability in executing the curriculum. No matter what kind of curriculum should be implemented in the classroom, but if the teachers have the competences in operating the curriculum, the curriculum will be accepted and suitable for the students' learning. Yusuf (2007) as cited in Evanita (2013) states that in the implementation of the 2013 curriculum, the school's readiness covers the materials and non materials such as, a set of curriculum, school's infrastructure, education's financial plan and teachers' readiness. Sisdiknas (2012) states that there are two big factors in determining the success of the 2013 curriculum. The first factor is the suitability of educators' competence and education personnel in which they have to possess with reference to curriculum and textbooks in teaching the students. The second determining factor is the supporting factor which consists of three elements, namely: (i) The availability of books as teaching materials and learning resources that integrate the standards, forming the curriculum; (ii) strengthening the role of government in the guidance and supervision; and (iii) strengthening management and school culture.

The demand of the new curriculum enforces the teachers in teaching the lesson based on integrative thematic. Besides that, teachers not only should be able in professional competence but also pedagogical competence, sociability and personality. In addition, the 2013 curriculum asks the teacher to accomplish the teaching and learning with scientific approaches. It is crucial to know the teachers' pedagogical competence because it would be reflected in the implementation of the curriculum and learning process.

In pedagogical competence, teachers are required to

understand the characteristics of learners in order to implement the curriculum practice spontaneously in any learning process; consequently, the students can meet the attitude competence. Moreover, teachers are expected to be doing further research on other competencies such as personality, social and professional. To determine the critical success factors of the first curriculum regarding the suitability of the competence of educators in particular pedagogical competence against 2013 curriculum and the readiness of teachers in the implementation of 2013 curriculum in English as a foreign language (EFL) learning, it is necessary to analyze the suitability of teachers' pedagogical competence readiness in supporting the implementation of the 2013 curriculum.

### **Statement of the problems**

The present study seeks to answer the following research questions:

1. How is the compatibility of pedagogical competencies possessed by the teachers regarding the demand of the 2013 curriculum implementation?
2. How is EFL teacher's readiness for the 2013 curriculum implementation?

### **Research objectives**

The aims of this study are to describe the teachers' compatibility on pedagogical competence in the 2013 curriculum, and also to analyze the teachers' readiness in the implementation of the 2013 curriculum, especially in EFL contexts.

### **The scope of the study**

To give the clear understanding and to avoid the ambiguity, the study is narrowed as follows in the statements below:

1. This study explores teachers' pedagogical competence which is the ability of the teacher in organizing the learning process such as, students' understanding, planning, implementing, evaluating.
2. Teachers' understanding toward the 2013 curriculum which will be reflected in the implementation of the classroom. It consists of teachers' strategy development, actualization information and response in terms of the transformation of the curriculum.
3. The subject focuses on the English foreign language teachers.
4. The analysis, findings and conclusions of this study are limited to and based on the analysis of the data obtained from participants only. There are no extraneous factors in affecting the research questions.



### Significance of the study

1. For the teachers, the findings of this research are expected to increase the teachers' professional ability and competence in accordance to the demand of the 2013 curriculum. Theoretically, the study is expected to add some reflection to the teacher and some institutions in implementing the 2013 curriculum better.
2. For the researcher, the results of this study will provide some information and knowledge in terms of the readiness and the compatibility with the teachers' competence.

## LITERATURE REVIEW

### Curriculum

The curriculum is one of the essential elements in the educational system. The function of the curriculum is to provide the teachers and students with guidelines, which consist of some competences and learning goals that should be acquired during the teaching-learning process. It is also supported by a Richards (2001) statement which says a curriculum in a school context refers to the whole body of knowledge that children acquire in schools. Another definition of curriculum study comes from Posner (1992), who defines curriculum as an end means. End describes as the learning outcomes, while means indicate instructional plans. Curriculum is a part of direction which leads the teachers to think about what to teach, how to teach and what is expected.

According to Pratt (1994), curriculum refers to plans for instructional acts, not the acts of instruction themselves. He states that curriculum is analogous to the set of blueprints from which a house is constructed. A curriculum can be viewed as a blueprint for instruction. For teachers, the curriculum is often a statement of what the school authorities, the state government, or some groups outside the classroom requires the teacher to teach (Doll, 1996).

Board of National Education Standard in Indonesia (BNSP) (2006) also draws the definition of curriculum as a set of plans and rules which deal with goals, contents, teaching materials and methods that are used as guidance in the teaching learning process in order to achieve certain educational goals.

Based on several definitions, it can be concluded that the curriculum is guidance for the teachers in conducting their teaching. Curriculum is a part of direction which leads the teachers to think about what to teach, how to teach, and what is expected.

### Curriculum development

The beliefs and methods which have been used in the

past time are the key factors in determining the curriculum development which will be transformed into the syllabus design in the classroom. The development of the curriculum is an important process that is managed by the institutions. The principle of curriculum development and or language curriculum development is that it is focused on the process of establishing needs, knowledge, experience and norms or values, and how teaching and learning process is conducted and evaluated in order to generate intended outcomes. Richards (2001) states that curriculum development is an essential practical activity since it seeks to improve the quality of language teaching through the use of systemic planning, development and review practices in all aspects of a language program. Curriculum development includes needs analysis, planning, goals and outcomes, course planning, teaching, materials development and evaluation.

Richards (2001) and Brown (1995) defines curriculum development as a series of activities that contribute to the growth on consensus among the staff, faculty, administration and students. It involves a number of separate elements; need assessment, goals, and adjectives, testing, materialism teaching and program evaluation. Brown (1995) also explains about the overview of the curriculum; according to him, approaches, syllabus, techniques, and exercises are important factors in determining the curriculum development. He argues that in general, teaching activities are related with curriculum activities, however, each context has independent role.

Lim (1998) cited in Ho (1994) and Richards (2001) defines that curriculum development includes needs analysis, goal setting, syllabus design, material design, language program design, teacher preparation, implementation of program in schools, monitoring, feedback and evaluation. The process of the development of curriculum has been described as an *ends means model* because in getting what the language learner needs, there was a process of determination of the kinds of language skills the learner needs in order to accomplish specific roles. Briggs (1977) states that in curriculum studies, there are procedures and rules which are known as a systemic design model; this context is defined as an integrated plan of operation of all components of system, which is designed to solve a problem or meet a need. The development of the curriculum is seen as a rational and technical process which is believed by some practitioners that this was the key to the design of successful educational programs.

In accordance with the curriculum development which is described by some experts, it can be terminated that the development of the curriculum is the central point in establishing and completing the educational purposes. Curriculum should be evaluated, revised, and developed in order to get more comprehensive and beneficial educational knowledge and value for educational practitioners. The process of planning, implementing,

developing or renewing a curriculum is called curriculum development. The process is focused on need analysis, situational analysis, planning, learning outcomes, course organization, selecting and preparing teaching materials, providing for effective teaching, and evaluation. Those processes are interconnected to each other, if one of the elements is changed, it would impact on other parts.

The 2013 curriculum is one of the products of the development of the curriculum. Government and educational institutions who are respected for attaining the educational goals, conducting a research toward the need's analysis and situational analysis of Indonesia's learners which lead to one of the considerations to the revision and development of national curriculum which is launched in 2013.

### **The emergence of curriculum 2013 and educational needs in the 21st century**

The 2013 curriculum is developed by the government and applied in some pilot project schools by purposes. The 2013 curriculum is attempting to answer some problematic issues in Indonesia, which tend to be negative and it occurring among people in the society, including children, teenagers, and adults, particularly in terms of values, norms, and attitudes such as corruption, sexual abuse, violence among children and teens, cyber crime and many others. Therefore, character building is becoming essential to be internalized and is integrated into the curriculum.

In 2007, the survey conducted by Global Institute, titled *trends in International Math and Science* revealed that there were only 5% of Indonesian students that could accomplish the difficult reasoning questions. As a comparison, Korean students could accomplish as much as 71%. On the contrary, 78% Indonesian students could accomplish the easy memorizing questions, whereas, only 10% Korean students could accomplish it. Besides that, another fact revealed by the Program for International Student Assessment (PISA) (2009) that from 65 countries as PISA participant, Indonesia occupied the 10<sup>th</sup> rank, from the bottom. Meanwhile, the assessment criteria consisted of students' cognitive skills and their proficiencies in reading, mathematics, and also science. From that assessment, almost all of Indonesian students could only accomplish the subject not more than 3<sup>rd</sup> level. Whereas, other developed countries' students mostly accomplished the subject until 4, 5, or even 6<sup>th</sup> level.

The Indonesian minister of education and culture, Muhammad Nuh assumed that Indonesian student achievement was left behind and he believed that Indonesian curriculum has to be changed and developed, and adjusted to the world educational trend. As the world educational trend changes, the Indonesian curriculum must be based on the reasoning reinforcement, not only

memorizing, so that, from those perspectives, the 2013 curriculum was constructed.

The 2013 curriculum is in fact the extension of the schools based curriculum in several components. The main purpose of this curriculum is to shape the individuals who are faithful in God, good in the character, confident, successful in learning, responsible citizens and positive contributors to the civilization (Ministry of Education and Cultures, 2013b). This framework has been supported by Government Regulations Number 32 Year 2013 (The revision of Government Regulations Number 19 Year 2005 about the National Standards of Education). This regulation is elaborated by Education and Culture Ministry's Regulations Number 67, 68, 69 and 70 on fundamental framework and curriculum structure from elementary to senior secondary and vocational secondary school.

Curriculum 2013 is a curriculum of values that is preoccupied by character building. The values can be tracked from the core competences, abbreviated with KI-1 to KI-4. KI-1 is designed for spiritual competence, KI-2 for social competence, KI-3 refers to knowledge competence and KI-4 is for learning process through with the KI-3, KI-2 and KI-1 can be observed. Basic competence which is abbreviated with KD is the reference for teachers to develop achievement indicators.

### **Teachers' role in curriculum development**

The curriculum 2013 is basically a refinement of the previous curriculum. The target of curriculum change is none other than the teacher as the direct implementers in the classroom. While the curriculum is the planned program, teachers are the actors that implement the program through teaching and learning process. This is the relationship between teachers, curriculum and learning.

According to Nur et al., (2014), there are several roles that teachers should play in implementing the 2013 curriculum:

- i. Teacher as a learning designer: As a professional teacher, he/she designs learning plan which will be conducted in the classroom. The study design is expected to be both structured and practical.
- ii. Learning motivator: One of the hardest roles of teacher is maintaining the willingness of students to explore the learning material as much as possible. Motivation, as revealed in many studies, is a very potential factor to make students excited to learn optimally.
- iii. Learning Mediator: The presence of teachers in the teaching and learning process could serve as an intermediary actor between the sources of learning and students. The teacher presents the subject matter to students' learning and students receive, examine, and discuss the matter so that it becomes theirs. As a mediator, the teacher lays the platform for the teaching

and learning process. The teacher interposes something within the environment with which the students interact.

iv. Learning Inspiration: Teachers become a major source of inspiration for students in managing the subject matter. Thinking and strategy delivered by the teacher will encourage students to learn independently and creatively.

### Teachers' pedagogical competence

According to Lengkanawati (2004), teachers are the forefront implementers of the curriculum. It is also supported by Uno (2009) as cited in Evanita (2013), the successful implementation of the curriculum is determined by the ability which is owned by the teachers. In order to create the best learners and to achieve educational goals, teachers' pedagogical competence is necessary for delivering the material and what have been stated in the curriculum to the students. According to Indonesian law No. 14 of 2005 on Chapter IV, Article 8, further clarified in Article 10, Paragraph 1 about teachers/lecturers competence is referred to one which states that the competence of teachers/lecturers includes pedagogical competence, personal competence, social competence, and professional competence acquired through professional education. Pedagogical competence is the ability of understanding of learners, design and implementation of learning, evaluation of learning outcomes, and the development of learners to actualize different potentials (Sukanti et al., 2008) as cited in Astuty (2015). Pedagogical competence includes the sub competence:

1. Understanding the characteristics of learners from the physical aspect, social, moral, emotional, cultural and intellectual.
2. Understanding the background of the family and the community of learners.
3. Understanding the needs of the students in a cultural context.
4. Understanding the learning styles and learning difficulties.
5. Facilitating the development of potential learners.
6. Mastering the theory and principles of learning and educational learning.
7. Developing a curriculum that encourages the involvement of students in learning.
8. Designing learning to educate.
9. Evaluating the process and learning outcomes.

In addition, Febrianis et al. (2014) describe that pedagogical competence also stated in Indonesian Government Regulation No. 74, 2008 on teachers defines that teachers' pedagogical competence is the ability of teachers in learning management of the learners. Pedagogical competence is a specific competence that distinguishes teachers from other professions which demonstrates the ability of teachers to organize learning material so it can be easily understood by the learners

(Rosnita, 2011).

Associated with the 2013 curriculum, there are many previous studies made. The first study by Ahmad (2014) focused on the 2013 curriculum (K-13) implementation in the four targeted senior secondary schools of K-13 implemented in Makassar, South Sulawesi, Indonesia. It involved three policymakers and 11 English. The study found and concluded that the issues underlying the change from the school-based curriculum (SBC) to K-13 were the failure of the former curricula, the anticipation of demographic and economic circumstances in the future, and the benefits offered within the change.

In line with the teachers' knowledge and belief system towards the change, their perception on the K-13 led to two main trends: (1) Positive, innovative, creative and give impact to the transformation from the traditional view of learning to a modern pedagogical dimension; and (2) negative and superficial that the only change in conceptual level and would likely have the same effects with the previous changes. The teachers' interpretation on the K-13 also led to two main trends: (1) The correct and comprehensive interpretation when dealing with the general concepts in K-13 in ELT practices; and, (2) the partial interpretation towards the applicable concepts according to their understanding, procedural knowledge and the convenience of the application offered by the changing elements. The implementation of K-13 in ELT practices was found to be partial, biased and tended to be traditional from the planning to the assessing process. The constraints to successful implementation of K-13 were found to root in the teacher's fixed mindset and within the implementation.

The second research is conducted by Nur and Madkur (2014); their research aimed at providing a picture of challenges, opportunities and teachers' perception of the use of this curriculum in English teaching. The data were collected through in-depth interview to six English teachers in six pilot schools in Bogor and Lampung. The analysis shows that most teachers accepted the curriculum; however, according to them, the curriculum should be evaluated and further developed.

### METHODS

This study utilized mixed methods (triangular design). According to Cresswell (2014) as cited in Malik and Hamied (2016), mixed method research is the combination of quantitative and qualitative approaches which provides a more complete understanding of a research problem than either approach alone. Mixed methods research use two paradigms and there is the sequence on how to use it. Triangulation design's purpose is to obtain different, but complementary data on the same topic to best understand a research problem and also to bring together the different strength and non-overlapping weaknesses of quantitative methods with those of qualitative methods (Malik and Hamied, 2016).

This study was conducted in March 2016 by acquiring the data from six different English teachers and also supported by 30 questions in order to know the pedagogical competence of the teachers. The six English teachers were chosen because they were

accessible to conduct the study.

As stated by Malik and Hamied (2016), the sample in a qualitative study is typically by the reason on *who they are and what they know*. Therefore, in determining the sample of this study, purposive sampling technique will be used to select 6 EFL teachers as the sample. The reason of choosing six teachers is based on Polkinghorne (1998), as cited in Ashari (2013), stating that the purposive sampling should provide rich and varied insights into the phenomenon and the quantity for the samples are from 5 to 25 people. It might be appropriate to this study because this study tried to investigate the teachers' pedagogical competence and their readiness for the implementation of the 2013 curriculum. In addition, a questionnaire was given to the 30 teachers in order to see the teachers' pedagogical competences. The questionnaire is defined as a set of questions that has been formulated to obtain information from respondents (Ashari, 2013).

### Research instruments

There were two instruments of this study; in-depth interview and questionnaire. The questionnaire was a close ended questionnaire and distributed to 30 English teachers. Moreover, some related questions were delivered to the 6 English teachers. The questionnaire was chosen as the research instrument for the study to gain a large amount of data in effective time. As stated by Malik and Hamied (2016), questionnaires allow the researcher to collect a large amounts of data in a relatively short amount of time. According to Malik and Hamied (2016), interview is a purposeful interaction where a researcher tries to obtain information from the subject who agrees to participate in research.

According to Hennink et al. (2013) as cited in Malik and Hamied (2016), interview is a conversation with a purpose to gain insight into certain issues using a semi-structured interview guide. This style of interview is not two-way dialogue as only the interviewee shares his/her story and the interviewer's role is to elicit the story, but rather than asking questions in an emphatic way in achieving in-depth information and the error based perspective of the interviewees.

### Data collection procedure

In collecting the data, two instruments were used; semi-structured interview and close-ended questionnaire. The questionnaire was distributed to find out the teachers' pedagogical competence in teaching the students. In addition, the interview was utilized in order to get the in-depth information of the teachers' readiness in implementing the 2013 curriculum. The researcher will use semi-structured interview technique and recorded in the audiotape. Each participant will be interviewed for about 15-30 min. The data were transcribed in order to make the researcher easier to code the data.

### Data analysis

The strategy that the researcher used in data analysis is data transformation, where the researcher may quantify the qualitative data. This involves creating codes and themes qualitatively, then counting the number of times they occur in a text data. This quantification of qualitative data, then enables a researcher to compare quantitative results with the qualitative data (Malik and Hamied, 2016). The recorded interview data will be transcribed, after which, the researcher puts the data into the researcher's computer in the form of a text and saved them into folders. The researcher tried to get a sense of information for each interview before the researcher divided them into categories, which was done based on what Cresswell (2003) suggested on to obtain a general

sense of information and to reflect on its overall meaning.

The next step is that the researcher divided the data into; related to codes, theme or category. Malik and Hamied (2016) state that coding is the concrete activity of labeling data which gets data analysis under way and which continues throughout the analysis. Coding represents the operations by which data are broken down, conceptualized and put back together in new ways.

Finally, at the end of the step, the researcher analyzed and reanalyzed the individual interview data by using within-case and cross-case displays and analyses (Miles and Huberman, 1994) to; (1) spread interviews data so researchers could find a relevant topic and understand the data, (2) create clusters of meanings by organizing, grouping into themes or meaning units, and (3) remove or reduce overlapping and repetitive data.

## FINDINGS AND DISCUSSION

This session provides the findings and discussion of the research on the teachers' compatibility on pedagogical competence in supporting the 2013 curriculum, and also to analyze the teachers' readiness in the implementation of the 2013 curriculum, especially in EFL contexts. This section will present the teachers' pedagogical competence based on the questionnaire that was given to them, which will be influencing on the teachers' readiness in supporting the implementation of the 2013 curriculum. The questionnaire is a close ended questionnaire consisting of 28 questions divided into some indicators based on the Minister of National Education Number 16/2007. In this research, there are 30 teachers who participate in filling out the data questionnaire, but only 24 teachers who answered the whole questions, while in order to get the deepest explanation of teachers' readiness, the interview was delivered to six EFL teachers.

### R.Q 1. How is the compatibility of pedagogical competencies possessed by the teachers regarding the demand of the 2013 curriculum implementation?

Teachers are agents who directly interacted with the students. Lengkanawati (2004) describes that teachers are the forefront implementers of the curriculum. It is also supported by Uno (2009) as cited in Evanita (2013) that the most successful implementation of the curriculum is determined by the ability which is owned by the teachers. Teachers have the responsibility as the implementer and developer of the curriculum in the classroom. The teacher must have an ability in order to maintain the curriculum in the classroom, which is known by pedagogical competence. There are ten indicators of teachers' pedagogical competencies as cited in the Minister of National Education Number 16/2007 about the academic qualification standards and competence required.

### *Understanding the characteristics of the learners from the physical aspect, social and moral*

The first indicator can be concluded that the teachers'

pedagogical competencies are classified in a very good competent way. The data revealed that 79.55% teachers show their positive responses in understanding the different students' characteristics, identifying the materials, and testing the students in the beginning of the lesson.

### ***Mastering the learning theories and the educating principles***

The data indicate that almost 70% of the teachers' responses are good. The teachers claim that comprehending the theory and implementing some approaches are essential in adjusting to the learners' ability.

### ***Developing a curriculum related to the subject of teaching***

Curriculum is a guidance of the teachers in implementing the subject in the classroom. It is roughly 76% of the teachers who are classified into having good competence in developing a curriculum related to the subject of the teaching. For example, teachers argue that they need to know the goals of the learning which will be reflected in the development of the curriculum to determine the materials and approaches suitable with the learners' need.

### ***Organizing educates' learning***

The data depict that approximately 78% of the teachers believed that to be a teacher means they need to prepare everything. A good planning will determine how prepared the teachers are in the classroom.

### ***Utilizing information and communication technology for learning***

In this globalization era, the ability of the teachers in the technology is needed. The enthusiasms of the teachers in using some technology and information in the classroom are positively excellent. It is about 84% of the teachers who are very good at using the media such as laptop, projector, and internet connection. In addition, Hermawan (2006) explains that education in 21st century consists of some learning methods and two of them are (1) *Cyber* (E-Learning) which means that this learning involves the technology such as computer and internet or it can be said as WEB (Web-Based Instruction). (2) (*Open and distance learning*), the type of this model is where the teachers and students are not in one room, in the same time, and also there is no face to face activity.

But they can communicate in two ways with the help of communication technology and information.

### ***Facilitating the development of student potentials to actualize their potential***

The results of the study show that over 72% of the teachers' pedagogical competences in facilitating the students are categorized into good perspective. This means that the awareness of the teachers in recognizing and supporting the students' potential shows better quality, such as asking the students to brows some material related to their subject and also to practice the speaking skill with the native.

### ***Communicating effectively, empathetically and politely with learners***

Interaction and communication are two things that cannot be separated; the way how the teachers deliver some information is the pivotal point, and also, this helps both the teachers and students in avoiding the mis-understanding on the classroom. The students can be easier in catching the information, and feeling safe if the teachers are communicating in a good way. According to the data, it shows that over 84% teachers' pedagogical competence in building an effective communication with the students is successful.

### ***Conducting an assessment and process of evaluation of learning outcomes***

The data show that roughly 75% teachers can perform better in assessing and evaluating the students. The teachers say that they need to take some tests in getting to know students' comprehension of the subject.

### ***Utilizing the results of assessment and evaluation of learning needs***

The teachers use the result of the assessment with the aim of determining the standard of the students. It can be seen that over 80% of the teachers' pedagogical competence in this indicator are very good items. Teachers also explain that they always communicate with the students in terms of the students' score.

### ***Taking the reflective action to increase the quality of learning***

There are many things that the teachers do in order to make good quality of learning and to achieve the

educational goals which reflected the students' need. One of them is by taking the reflective action to improve their ability in teaching. It can be shown that over 74% of the teachers are categorized into good items, while only 48% teachers who ever take an action research in order to know the problems in the classroom.

## **R.Q 2. How is EFL teachers' readiness of the 2013 curriculum implementation?**

### ***The teachers' understanding toward the changing of the curriculum and the reason of the development***

Based on the interview, five out of six English teachers said that they have implemented the 2013 curriculum in their own school. But the 2013 curriculum was applied only in a half of the semester, after the minister of education in Indonesia was changed. Based on the training that the government has given to them, the teachers explained that the 2013 curriculum gives many advantages especially in designing the syllabus and material's book. The design of the standard competence, syllabus and textbook for the teachers and students gives the big impact for the teachers such as:

1. Those things act as a guideline for the teachers in teaching; but of course, teachers' creativity is needed in developing the curriculum in the classroom.
2. It makes the teachers easier in planning the learning process.
3. Teachers believe that they are not good enough in developing their own syllabus like previous curriculum. Based on the teachers' experience in the school based curriculum before, they claim that they only adopt the curriculum from another school and modify it. They thought that it was only as an identity outside, but inside actually, it's still the same. In addition, the teachers can develop their own materials based on the students' need. This is in line with the purposes of the 2013 curriculum developer's aim which helps the teachers in organizing the syllabus, and other instruments.

In addition, Ahmad (2014) explains that this reassignment was aimed to minimize the teachers' administrative tasks and it was expected that the teachers could focus more on the teaching practices in classrooms. Hence, the teachers still found it challenging to design their own lesson plans. Based on the teachers' statements, the designing of the lesson plan was quite difficult as they had not been fully equipped with the procedural knowledge and skills in designing the appropriate lesson plans in English lesson. As a result, the teachers were still entangled in the old practice of administrative tasks in which the teachers tended to acquire a sample of lesson plan of other subjects and made some adaptations.

On the other hand, one English teacher contradicts with this goal. He claims that the syllabus which has been

designed for the teachers gives some limitation for the teachers to construct their own material. The teacher just only focused on the guideline.

**Actualizing the information to the development of the 2013 curriculum:** There are many sources that the teachers get in terms of the information on the 2013 curriculum. In general, the teachers get some training from the government, colleagues, internet and news. Moreover, they believe that the master teacher will cover all of the EFL teachers in Indonesia in understanding the implementation of the 2013 curriculum. This way is effective and efficient in spreading the information; But, it would be better if the training that the government has given to the teachers is still continuing. As a result, the government can see the teachers' development in implementing the 2013 curriculum.

**The teachers' knowledge toward the structure and the development of the 2013 curriculum:** Most of the teachers agree that the 2013 curriculum helps the learners to think critically, and extend themselves in the learning process. Students' centre is important in order to make the students be more active and informative. The teachers' role is needed to support and motivate the students in the implementation. The development of the 2013 curriculum let the students in determining their major in the first grade. This phenomenon gives some responses from the teachers. Most of the teachers argue that the students should not ask to choose their major because they think that the students are not mature enough in deciding their major of study.

**The teachers' response to the curriculum changing:** Several responses came from the teachers' minds for the reformation of the curriculum. Teachers' assumption is very needed in order to establish the new curriculum; so, the understandings of the teachers are the pivotal point in implementing the new curriculum. Teachers believed that the 2013 curriculum is good at recovering the needs of the students in Indonesia. The teachers show their optimism for the 2013 curriculum and there are some suggestions for the 2013 curriculum, which are:

1. Teachers still questioned about the reducing of the total hours of English subject. They think that English is a part of the subject which will be tested in national examination, and also teachers consider that English is much needed in this globalization era. The impact of the number of hours in teaching English is not only for the students which are not getting any exposure of the subject, but also from the teachers, especially the teachers who have gotten the certification. It would be better if the government gives much time for the EFL teachers like another subject. It is also in line with Sahiruddin (2013) who conducted a research about *the implementation of the 2013 curriculum and the issues of*

*English language teaching and learning in Indonesia.* He argues that the numbers of hours of learning English in class in the new 2013 curriculum are less than that of the previous curriculum. This brings a big challenge for both teachers and students to work harder in achieving the learning goals in a limited time. In addition, schools should also be aware of this condition in which opportunities for additional English learning and exposure could be one effort to improve students' learning mastery of English.

2. Teachers thought that training is the basic information that they got in order to advance their quality in teaching, and to expand their pedagogical competence. Teachers agree that the government should give more training to the teachers, not only once, but continuously. In addition, teachers suggest for the instructor or the trainer of the new curriculum to give the practical example, not only explanations and theories so the teacher's mind is opened.

## DISCUSSION

Based on the teachers' responses, it is clear that most of them have a good ability in pedagogical competence. This is in line with the demand of the 2013 curriculum which asks the teachers in facilitating the students on learning. The 2013 curriculum requires teachers to implement scientific approach in the instructional process, as this approach is expected to be able to help the learners improve their attitude, skills and knowledge (Ministry of Education and Culture, 2013b). In the process, the 2013 curriculum highlights the scientific approach, encouraging learners to explore information by observing, questioning, experimenting, data or information processing, presenting, analyzing, associating, summarizing and creating (Ministry of Education and Culture, 2013b).

Teachers need all that abilities in order to facilitate the students in achieving the goal of learning. Among the many requirements that an English teacher must possess, pedagogical competence plays an important role in developing teachers' expertise. The Ministry of National Education (2007) elaborates that pedagogical competency is a teacher's competency to manage an instructional practice involving learners. This knowledge is defined as teachers' understanding and enactment of how to assist learners to understand the various skills through thorough preparations, representations and assessments in the learning environment.

Moreover, the purpose of this educational goal also in line with Kennedy (1990) asserts that rather than experiencing what scientists do, what learners will go through is to experience the procedures of specific and acknowledged experiments, which later develop and sharpen their critical thinking as well as generic reasoning strategies. Thus, the implementation of the scientific

approach would develop the learners' knowledge, skill and attitude. It cannot be denied that the party who knows and understands the learners and who is able to select the most appropriate solution to develop and improve their achievements and competencies best is the teacher (Sumintono, 2006).

Furthermore, it is indispensable that the teachers should have enough knowledge in order to understand and support the implementation of the 2013 curriculum. Lengkanawati (2004) says that teachers are the forefront implementers of the curriculum. Teachers should know the essence of the new curriculum in order to encourage the students' empowerment. Bringing students into the right conception about the language being learnt is essential for achievement in language learning target as students and teachers would have the same perception about their target language teaching and learning (Faisal, 2015). From the interview, it can be concluded that most of the teachers understand the conception of the 2013 curriculum, even though there are small parts which make the teachers interpret differently. This result shows a good result for the teacher because the teachers' knowledge about the new curriculum is unquestionable.

The 2013 curriculum focuses on the students-centered. Reilly (2000) states that in the implementation of new curriculum which changes the teacher from being information centered to be a facilitator toward their learning should gear the concept of student-centered classroom. Learner-centeredness should be embraced since it could maximize the learner's focus on form and meaning and their achievement. Consequently, it is important for teachers to know and understand what the intended curriculum objectives are so that they can tailor the materials, as well as plan, execute and evaluate the instructional practices. Knowing the curriculum mandates which are vital, the changes can be brought into the curriculum in Indonesia. Moreover, there are more demands in the 2013 curriculum, such as how to integrate the scientific approach into an effective teaching of writing appropriately, which all the demands will be fulfilled if the teachers' mastery in their pedagogical competence is good.

## Conclusion and recommendation

The teachers' pedagogical competence is in accordance with the demands of the 2013 curriculum. The criterion of indicator number 1, 5, 7, and 9 are classified into very good competence, while other categories as good competence. It means that the pedagogical competence of the teachers reveal the positive responses. The better teachers' pedagogical competence, means that the easier it will be for the teachers in implementing the 2013 curriculum.

The EFL teachers show their readiness regards to the implementation of the 2013 curriculum. They believed that the 2013 curriculum is good for the students in the

learning process. Based on the teachers' answers and their opinions regarding the implementation of the curriculum, it proves that the teachers are concerned with the development and implementation of the curriculum in the classroom.

Furthermore, there are some recommendations for the implementation of the 2013 curriculum based on this study. The college students, lecturers and other educational practitioners should be aware of the implementation of the 2013 curriculum. As a result, this curriculum will be the reformation from the previous curriculum. The product of this 21st century education attempts to answer some problems which have gained currency in Indonesia. If all the elements of education are considered in changing the curriculum, the educational purposes will be achieved.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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*Full Length Research Paper*

# Challenges facing information and communication technology implementation at the primary schools

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The importance of information and communication technology (ICT) in education in the 21st century cannot be overemphasized. A number of initiatives have been put in place in Ghana to ensure that information and communication technology is extensively used and taught at all levels of our education. The study utilized a descriptive survey design and employed cluster and simple random sampling technique to collect data from 525 pupils in 34 schools in the Cape Coast Metropolis, Ghana. The cluster was made up of six communities in the Metropolis, namely, Aboom, Bakaano, Cape Coast, Efutu, Ola, and Pedu/Abura. The sample was chosen on the basis of Cohen et al. recommendation for choosing representative samples. These two sampling techniques helped to arrive at a sample that was fairly representative of the population. The study addressed four research questions: (1) How available are the ICT facilities to pupils and teachers in Cape Coast Metropolis primary schools? (2) How does the use of ICT equipment affect the implementation of ICT programmes in primary schools in the Cape Coast Metropolis? (3) How does the attitude of primary school pupils affect the implementation of ICT in Cape Coast Metropolis? and (4) How does the attitude of teachers teaching ICT in the primary schools affect the implementation of ICT in the Cape Coast Metropolis? The analyses of responses from questionnaires revealed the unavailability of ICT equipment and pupils' lack of access to ICT infrastructure. The study recommends that Ghana Education Service (GES) should institute technology and technical support units in the various schools to handle technology integration challenges.

**Key words:** Information and communication technology (ICT) challenges, access to ICT, implementation, primary school.

## INTRODUCTION

In the last two decades information and communication technologies (ICT) has changed and transformed the way things are done. ICT has become one of the basic

building blocks of the current information-driven society. Digital skills and computer literacy are now regarded basic requirements for employment and part of the core

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of education, alongside reading, writing and numeracy in many countries.

Understanding about the critical role ICTs play in our every life continues to increase and this is not only found in business, industries or economics but in teaching and learning (Barak and Rafaeli, 2004; Dori et al., 2003). Education as the bedrock for acquisition of knowledge have embraced emerging technologies in a bid to increase knowledge. Digital and advanced technologies are now part of the teaching and learning process in classrooms. These technologies, according to Barak et al. (2006) have the capability of becoming a significant component of today's education, as well as to change the manner class interactions and information flows.

In spite of the increasing advancement in ICT facilities in western and Asian countries, African countries remain stagnated in ICT implementation, and that continues to further widen the digital and knowledge divides. According to Kiptalam and Rodrigues (2010), the major challenge confronting most African countries has been the lack of access to ICT facilities, with a ratio of one computer to 150 pupils compared to the ratio of 1:15 pupils in the developed countries. The Ghanaian educational system appears to lag behind despite the positive results indicating that ICT has penetrated many sectors including banking, transportation, communications, and medical services. Additionally, the National Council for Science and Technology (2010) recently reported that computer use in Ghanaian classrooms is still in its infancy, and concluded that the perceptions and experiences of teachers and administrators do play a critical role in the use of computers in Ghanaian classrooms.

It is generally acknowledged that for Ghana to make any appreciable progress in its socio-economic development efforts, substantial resources will need to be directed at improving educational delivery. The key role that Information and Communication Technologies (ICTs) can play in widening access to education to a wider section of the population and literacy education for facilitating educational delivery and training at all levels has been recognized as a key priority area under the current Education Reforms of 2007.

In Ghana, various governments continue to place a strong emphasis on the role of ICT in transforming the country's economy. These are captured in the country's medium-term development plans including the Ghana Poverty Reduction Strategy Paper (GPRS I&II) and the Education Strategic Plan 2003-2015 that recognise the use of ICT as a vehicle for reaching out to the poor in Ghana (Government of Ghana, 2003). The Ghanaian Parliament, in 2004, legislated the Ghana's ICT for Accelerated Development (ICT4AD) policy into law, and is now at various implementation stages. The Ministry of Education, in 2007, produced an ICT in education policy for Ghana to integrate ICTs in schools. An effort at developing a policy for the education sector precedes the

national ICT policy. "The objectives of the policy were to:

- (1) Ensure that pupils have ICT literacy skills before coming out at each level of education
- (2) Provide guidelines for integrating ICT tools at all levels of education
- (3) Provide means of standardizing ICT resources for all schools
- (4) Facilitate training of teachers and pupils in ICT
- (5) Determine the type and level of ICT needed by schools for teaching and administrative purposes.
- (6) Promote ICT as a learning tool in the school curriculum at all levels" (Government of Ghana, 2005).

It not enough to ask whether technology can improve education because it is similar to asking whether experiments can improve science education. As Noss (2003) declares, it all hinges on what kind of technology is introduced, how it is used, its design and how teachers are supported to use it. For this reason, Ghana has put in place an ICT policy that aims to improve the livelihood of Ghanaian by ensuring the availability of accessible, efficient, reliable and affordable ICT services. The sections the national policy addresses include Broadcasting, Telecommunications and Postal Services and Information Technology. However, it is the section on information technology that spells out the aims and strategies regarding ICT and education.

In spite of the initiatives, it appears there are some challenges. This is supported by research findings on barriers to ICT application in other levels of education. Some of the findings of these studies are enumerated subsequently. For instance, lack of teacher's confidence and teacher's computer anxiety has been the foremost challenge (BECTA, 2004). This is followed by the lack of teacher's competency as a result of lack of time for training, lack of pedagogical training, lack of skills training, and lack of ICTs focus in initial teacher training (BECTA, 2004; Yusuf, 2005). Lack of access to resources in terms of lack of hardware, poor organization of resources, poor quality hardware, inappropriate software, and lack of personal access for teachers are placed third. Fourth, is lack of time to use ICTs due to school time table (BECTA, 2004). The fifth relates to technical problems which comprise lack of technical support, lack of telecommunication, fear of things going wrong and other infrastructure, and erratic of electricity supply (BECTA, 2004). Others include lack of clear vision, lack of or ineffective technological leadership in schools, lack of incentives for teachers, lack of teachers' involvement in planning for ICT integration (Spodark, 2003).

### **Purpose of the study**

The purpose of the study was to investigate the

challenges facing ICT implementation, the primary schools in the Cape Coast Metropolis. In this regard, the study addressed the following research questions:

- (1) How available are the ICT facilities to pupils and teachers in Cape Coast Metropolis primary schools?
- (2) How does the use of ICT equipment affect the implementation of ICT programmes in primary schools in the Cape Coast Metropolis?
- (3) How does the attitude of primary school pupils affect the implementation of ICT in Cape Coast Metropolis?
- (4) How does the attitude of teachers teaching ICT in the primary schools affect the implementation of ICT in the Cape Coast Metropolis?

## LITERATURE REVIEW

### Importance of ICTs to everyday life

Literature reviewed show that information and communication technologies (ICT) have become indispensable tools in today's information age, making a dramatic impact on the lives of people globally. This effect is most significant in education. Computer has become a motivating tool for teaching and learning in schools (Mossom, 1986; World Bank, 1999). Internet allows cost-effective information delivery services, collaborative and distance education, more than has ever been imagined (Clyde, 1995; Mbeki, 1996; Todd, 1997).

ICT can help provide equal opportunities for the neglected groups and communities. However, the irony of the matter is that for those marginalised groups that are behind the digital divide, ICT is yet another means to further widen the gap. Education is therefore expected to play a major role in solving this problem. Thus, unless ICT becomes part of both the delivery and content of education, the disadvantage will intensify and progress will suffer.

In today's information age, ICTs and emerging technologies have become vital tools, having a significant impact on people's lives globally. This effect is not only mostly felt in business, industry, and economics but also significantly impacting on education. The computer has become a motivating tool for teaching and learning in schools (Mossom, 1986; World Bank, 1999). For instance, the Internet permits cost-effective information delivery services, collaborative and distance education, individualized learning and more than has ever been imagined (Clyde, 1995; Mbeki, 1996; Todd, 1997).

### Pupils' and teachers' access to ICT facilities

Availability of ICT infrastructure is another vital variable of ICT integration in schools. Ottesen (2006), in his doctoral dissertation revealed that lack of computer infrastructure

is one major problem facing ICT integration in schools today. Relatedly, Norris et al. (2003) revealed that appropriate access to technology infrastructure is another key factor in the effective technology integration process. The study revealed substantive correlation between technology access and use. In another study, Yildirim (2007) revealed that teachers agreed that access to ICT infrastructure is one of the effective means to integrate ICT in classrooms.

### Teachers' pedagogical skills in teaching ICT in primary school

Most research on teachers' use of information and communication technology (ICT) in their teaching describes low levels of usage and minimal pedagogical change and Mishra and Koehler (2006) suggest that it is of a necessity that teachers develop all-encompassing knowledge of teaching, content, and technology, called Technology Pedagogy and Content Knowledge (TPACK). In the 21st century, TPACK is becoming a required area of expertise for teachers in new technology-led learning environments. Schmidt et al. (2009) state that TPACK is a theoretical framework for describing the interaction and integration of technology, pedagogy, and content knowledge needed to successfully integrate technology use into teaching. As far back as, Shulman (1986), first asserted that teachers needed content knowledge (CK), pedagogy knowledge (PK), and pedagogical content knowledge (PCK). His work was extended by Mishra and Koehler's (2006) work who added technological knowledge (TK) and came up with the term TPACK. In addition, Mishra and Koehler (2006) stated that the TPACK framework consists of seven domains: CK, PK, TK, PCK, technological content knowledge (TCK), technological pedagogical knowledge (TPK), and technological pedagogical content knowledge (TPCK). Other researchers argue that TPACK emphasizes the dynamic interaction and integration of knowledge with the use of technology for teachers based on the three main knowledge categories (that is, content, pedagogy, and technology) (Schmidt et al., 2009; Thompson and Mishra, 2007). TPACK, therefore, describes the use of technology as an instructional technique and the use of technology to support particular pedagogies within a specific content coverage. In a nutshell, TPACK describes how technology is used to help teachers improve student learning (Schmidt et al., 2009; Thompson and Mishra, 2007).

As an instructional technique, it is also critical to know teachers' specific ICT skills and how these skills translate to classroom teaching and learning. ICT skills are the core skills needed to use generic ICT tools (e.g. Word, Excel, Outlook, PowerPoint) to function in the information society and in working life. According to Owston (2006), in the past 15 years, research work has indicated the

significant influence of teacher competence and ICT skills on student achievement. Teachers are therefore required to have the necessary knowledge and competence to incorporate ICT in their everyday teaching and learning. This will maximize their ability to help improve student's digital competence. The relationship between teacher's digital competence and their utilisation of ICT in the classroom is well established in literature. In as much as training teachers how to use specific ICT equipment, the internet and general utilisation are important, it is also worth knowing that without feeling competent in how to integrate ICT into teaching appropriately, both from the pedagogical perspective as well as the specific viewpoint of the subject being taught, teachers are less likely to use ICT in the classroom for teaching and learning. There is therefore the need for more professional development opportunities on the pedagogical use of ICT and particularly subject-specific training on learning applications, by fewer teachers. Consequently, participation in professional development activities can significantly influence teachers' ICT use (Fredriksson et al., 2008; Valiente, 2010).

In the light of the aforementioned issues, it is worth knowing that teachers do not merely use technology for its use sake but their acceptance of technology in teaching is based on a critical analysis of the benefits technology allure to teaching and learning. In order to encourage teachers to use new technology in practice, it is necessary to provide them a suitable infrastructure/system, to enable them to use technology easily without any problem. This can be done by providing technology that meets subjects' content and learners' characteristics.

### **Pupils' readiness to learn ICT**

Pupils in our schools today are all excited about using technology and ICT tools in learning and exploring their world. This excitement and other behaviour change exhibited by pupils in technology enabled lessons in classroom go a long way to influence their readiness to integrated ICT in their learning process or otherwise. According to previous studies (Dabholkar, 1994; Mick and Fournier, 1998; Parasuraman, 2000; Parasuraman and Colby, 2001), a mixture of positive and negative beliefs about technology is responsible for the domain of technology readiness. For instance, both Dabholkar (1994) and Mick and Fournier (1998) asserted that information technology/information system (IT/IS) consumers with more positive beliefs are more receptive and ready to use the various new technologies. In addition, Dabholkar (1994) found that individuals simultaneously harbour positive (favorable) and negative (unfavorable) beliefs about technology. The positive beliefs propel individuals towards new technologies, while negative beliefs may hold them back. Parasuraman and

Colby (2001) defined technology readiness as people's predisposition to accept and use new technologies at home and at the workplace. This suggests that pupils should develop more positive ICT integration to indicate their readiness to use and explore the benefits technology stands to provide their learning process in classroom. Hence, curriculum developers, designers and institutional providers must carefully consider the needs and value of learners, and to ensure that ICT and emerging technologies effectively fit the needs and demands of today's learners in classroom. In this regard, to encourage pupils to continue with ICT lessons, the teachers of subject matter need to ensure that ICT lessons are very flexible, easy to use and useful to improve students' academic performance. Specifically, the 'skeptics' and 'paranoids' must be convinced of the importance of using technology-driven classroom environment.

In classroom learning environment, implementation of ICT in schools cannot be successful without active involvement of the students. Technology acceptance greatly depends on personal attitude of students, as personal attitudes are major factors that affect individual ICT usage. Hence, to develop an appropriate technology-enabled environment, it is necessary to understand students' attitude towards ICT usage (Sánchez-Franco et al., 2009). In that regard, the technology acceptance model (TAM) is used as based model to explore the students' readiness towards learning of ICT. In the Information Systems Research, Technology Acceptance Model (TAM) has been extensively used to collect user reactions to information systems. The TAM model basically examines users' views of Usage, Usefulness, and Ease of Use. As some researchers opine, TAM is one of the most extensively used models to investigate adoption of a new technology or the intentions to adopt a new technology as it is seen as a powerful theory by the IS community (Lucas and Spittler, 1999; Venkatesh and Davis, 2000). However, the main weakness of TAM pointed out by researchers is its inability to explain the external variables affecting users' perceived usefulness and perceived ease of use (Legris et al., 2003). Although different researchers have studied student readiness with respect to learning ICT (Cheon et al., 2012; Hussin et al., 2012; Mahat et al., 2012), but the concept of student readiness towards technology is still evolving. Review of literature on ICT in education indicates an absence of a concise and well-established survey instruments to assess student readiness towards learning ICT (Khadage and Knezek, 2013). Pupils' readiness to learn ICT in school has the power to power to reduce the digital gap. Learning ICT encourages independent and collaborative learning, improves self-confidence and self-respect of the learner, enhances numerical skills, "promotes education in informal settings, and engages learners for longer periods" (Attewell, 2005).

## METHODOLOGY

### Research design

The current study utilized the descriptive survey design. While a survey research is appropriate when a researcher attempts to study some aspect of a population by using unbiased sample of a population who are asked to complete a set of instruments to solicit for vital information to be used in the research work, descriptive study is primarily concerned with finding out “what is” and provide a clear picture of existing phenomena. This design allowed the research to collect large amount of data in a short time to address the research questions.

### Participants

The current study was carried out in the Cape Coast Metropolis, of the Central Region of Ghana. The participants comprised 525 students selected from 34 schools, with a population of 15964. This was done through cluster and simple random sampling techniques. The cluster was made up of six communities in the Metropolis, namely, Aboom, Bakaano, Cape Coast, Efutu, Ola, and Pedu/ Abura. The sample as chosen on the basis of Cohen et al. (2007)'s recommendation for choosing representative samples, these two sampling techniques helped to arrive at a sample that was fairly representative of the population. In addition, 34 teachers were also selected randomly from the six communities in the Metropolis.

### Procedure

Two questionnaires were used for this study; one for pupils and the other questionnaire for teachers. These questionnaires were adapted from the work of Adebisi-Caesar (2012). Each instrument had four main sections: A to D. While section A elicited data on respondents' demographic information, sections B, C and D gathered data on availability of ICT facilities, pupils' readiness to learn ICT, knowledge of competencies of ICT teachers, and the pedagogical skills of ICT teachers in the municipality, respectively. Most of the questions were five-point Likert scale items with responses ranging from strongly agree to strongly disagree.

The instruments were pilot-tested to determine their reliability vis-à-vis the suitability for this study. Using the internal consistency method, the instrument for teachers yielded a Cronbach alpha of 0.79 while the instrument for the pupils yielded 0.85 of Cronbach alpha which were considered satisfactory. The data collection process took place at one time.

## RESULTS

The data collected through the questionnaires were analysed using descriptive statistics. The analysis was carried out in accordance with the research questions. The results were presented in the following.

### Research Question 1: How available are the ICT facilities to pupils and teachers in Cape Coast Metropolis primary schools?

The data that addressed the research question 1 are

shown in Table 1.

Data in Table 1 shows that out of the 525 respondents, majority disagreed (n=311, 59.2%) that each pupil has access to computers at school while a few (n=173, 33.0%) indicated that they had computers to practice with during ICT lessons. Again, a few agreed that they had computers laboratories for practical ICT lessons while majority disagreed they had computer laboratories. It also shows from the Table 1 that majority disagreed to the availability of ICT equipment such as scanners, digital cameras, microphones, etc. Equipment like printers and projectors were available in just a handful of schools.

### Research Question 2: How does the use of ICT equipment affect the implementation of ICT programmes in primary schools in the Cape Coast Metropolis?

The second research question sought to find out the effect of the use of ICT equipment on the implementation of ICT programmes in primary schools in Cape Coast Metropolis. The data is shown in Table 2.

Results in Table 2 indicate that majority (n=273, 52.0%) of the respondents disagreed that they are given regular access to computers while the rest disagreed. Also, majority of the respondents disagreed that ICT equipment are used for only ICT lessons, pupils benefit from ICT training and the fact that pupils make use of email facility. However, majority (n=272, 52.0%) agreed that pupils are able to access information on the internet when they are given assignments, and that pupils use computers for other purposes (Games, Social Networks) other than ICT lessons. It can be concluded that although pupils benefit from ICT equipment, they are not used to support ICT lessons.

### Research Question 3: How does the attitude of primary school pupils affect the implementation of ICT in Cape Coast Metropolis?

The third research question aimed to find out how the attitude of primary school pupils affects the implementation of ICT in Cape Coast Metropolis. The results are as shown in Table 3.

Results in Table 3 show that majority (n=410, 78.4%) agreed that they like ICT lesson and visit Internet Cafes to use their services after school hours (n=254, 48.5%). Also, a majority (n=331, 63.7%) indicated that additional time should be added to ICT period on the timetable and that they find ICT lessons interesting and insightful (n=405, 77.9%). However, more than half of the respondent (n=298, 57.2%) disagreed that they had personal computers at home. From this analysis, it can be concluded that primary school pupils in Cape Coast had

**Table 1.** Availability of ICT facilities to pupils and teachers.

Statement	Responses/frequency					Total
	SD	D	I	A	SA	
<b>Students' response</b>						
Each pupil has a computer to practice during ICT lessons	171	140	39	75	98	523
We use the computer laboratory for other subject lessons	247	123	43	40	65	518
We have other ICT equipment like camera, scanners, microphones, speakers etc.	179	96	63	70	115	523
We have projector in our computer laboratory	183	93	66	68	107	517
<b>Teachers' response</b>						
Computers in the laboratory are network	13	9	0	4	7	33
We have Internet access at school and pupils use it	16	5	1	6	5	33
We have an ICT technician to manage school computer laboratory	15	8	1	5	5	34
We have printer at the school computer laboratory	15	7	0	5	7	34
We have scanner at the school computer laboratory	25	6	2	1	0	34
There is projector installed to aid teaching and learning of ICT lessons	22	4	0	2	6	34

**Table 2.** Uses of ICT equipment for the implementation of ICT programmes in Primary Schools in the Cape Coast Metropolis.

Statement	Responses/frequency					Total
	SD	D	SD	A	SA	
<b>Students' response</b>						
We are given regular access to the computers	174	99	55	70	125	523
Technical problems hinder ICT teaching and learning	181	90	77	77	94	519
ICT equipment/facilities are used for only ICT lessons	138	78	71	79	157	523
Pupils benefit from more ICT training	43	34	28	113	305	523
The use of ICT enhances teaching and learning in other subject areas	90	74	87	111	161	523
Pupils are able to access information on the internet when given assignments	99	60	40	116	208	523
<b>Teachers' response</b>						
Pupils make use of E-mail	11	8	2	10	3	34
Pupils are taught how to use printers with Computers	13	9	0	9	3	34
Pupils are taught how to use scanners with Computers	15	13	2	4	0	34
Pupils use computers for other purposes (games, social network, etc.) either than ICT lessons	3	2	4	14	11	34

positive attitude toward ICT and is affecting ICT implementation positively in Cape Coast Metropolis.

#### **Research Question 4: How does the attitude of teachers teaching ICT in the primary schools affect the implementation of ICT in the cape Coast Metropolis?**

The forth aim of the study was to investigate how the attitude of ICT teachers in the primary schools affects the implementation of ICT in the Cape Coast Metropolis. The data is shown in Table 4.

Results in Table 4 show that the teachers responded in

affirmative to all the questions. For instance, all the 31 (91.2%) out of 34 teachers agreed to the statement that they like teaching ICT lessons and 29 (85.3%) out of 34 also agreed that they will opt for advance training in ICT to improve subject competence. This suggests that the primary school ICT teachers in the Cape Coast Metropolis hold positive attitude that affect ICT implementation positively.

#### **DISCUSSION**

The importance of information and communication technology (ICT) in the 21st century cannot be

**Table 3.** Primary school pupils' attitude that affect the implementation of ICT in Cape Coast Metropolis?

Statement	Students responses/frequency					Total
	SD	D	I	A	SA	T
I like ICT lessons	36	50	27	131	279	523
I visit Internet Café to use their service after school hours	144	86	40	83	171	524
Additional time should be added to ICT time table period	70	58	60	122	209	519
I would like other teachers to use computers to teach their subjects	137	82	55	83	163	520
I have a personal computer at home	208	89	27	60	137	521
I have my personal ICT textbook apart from school textbook	156	90	23	76	176	521
I find ICT lessons boring	185	88	51	79	119	522
I find ICT lessons interesting and insightful	47	30	38	107	298	520

**Table 4.** Attitude of ICT teachers in the primary school that ICT implementation in the Cape Coast Metropolis.

Statement	Teachers responses/frequency					Total
	SD	D	I	A	SA	T
I like teaching ICT lessons	0	1	2	20	11	34
I use Applications such as Word Processing, Spreadsheet, etc., in teaching	3	6	5	14	6	34
I use Visual aids to reinforce pupils understanding of ICT lessons	2	6	0	20	6	34
I help other teachers to use computer in teaching their subject	5	6	2	11	10	34
I will opt for advance training in ICT to improve subject competence	1	0	3	9	20	33

overemphasized. The use of ICT in education continues to redefine teaching and learning processes. However, the implementation of these tools is faced with challenges that sometimes hinder their significance. The aim of this study was to assess the challenges facing the implementation of ICT programmes in the Cape Coast Metropolis. The results revealed that a majority of pupil had no access to computers individually at school while a few indicated that they had computers to practice with during ICT lessons. Again, it was found that basic schools in the Metropolis lack computer laboratories for practical ICT lessons. This suggests that ICT lessons have not been as effective as expected. These findings concur with Ottesen (2006) who revealed that one fundamental problem facing ICT integration in schools is the lack of computer infrastructure. In a related study, Norris et al. (2003) revealed that appropriate access to technology infrastructure is another key factor in the effective technology integration process.

The rippling effect of the unavailability of computers and other ICT resources in the Basic Schools in the Cape Coast Metropolis was evident in this study. The study revealed that pupils in the Metropolis lack regular access to ICT equipment which hinders effective use of computers. Pupils indicated that they do not have access to the internet when needed for assignments thereby having a negative effect on ICT programme implementation. Access to ICT is as critical as its

availability; hence, there is the need to ensure it is available and accessible when needed. Soomro et al. (2018) state that not everyone has equal access to ICT. They intimated that the consequence of limited access to ICT is the lack of effective participation in society. Limited access has the tendency of denying students from taking control of their learning.

One key factor that militates the adoption of ICT in teaching and learning has been attitude towards technology. While positive attitude encourages the use of ICT, negative towards ICT impedes its adoption and usage. The results from the current study showed that pupils held positive attitude towards ICT in spite of unavailability and access to digital technologies. The results are consistent with Papaioannou and Charalambous (2011). Berteau (2009) declares that favourable attitude shows a greater possibility that learners will accept and use technology. This study also recorded positive attitude on the part of the ICT teachers in the Cape Coast Metropolis. This is also positive for ICT implementation in the metropolis.

## CONCLUSION AND RECOMMENDATION

The purpose of this study was to investigate the challenges militating against the implementation ICT programmes in primary schools in the Cape Coast

Metropolis. On the basis of the findings, this study concludes that challenges of ICT programmes implementation in Cape Coast Metropolis emanate from lack of ICT equipment both at home and schools. ICT equipment such as computers, printers, scanners, projectors, digital cameras, and the internet are not available in most schools in the metropolis. This has also created limited access to these devices. Pupils do not have access to ICT laboratories where basic ICT skills could be practiced to enhance knowledge in ICT and improve the implementation of ICT programmes. In spite of these challenges, teachers and pupils hold positive attitude towards ICT programmes and lessons which are sometimes thought theoretically. On that score, the study recommends that the government, through the Ghana Education Service should institute technology and technical support unit in the various schools to handle technology integration challenges and provide rapid responses to teachers' technological needs. The provision of this unit will go a long way to combat such challenges as accessibility to hardware, technical infrastructure, and software availability, adequate computer in laboratories and internet access and regularity.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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*Full Length Research Paper*

# Health belief levels of individuals who do sports actively in terms of different variables

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This research was carried out in order to determine health belief levels of individuals who do sports actively in Ağrı İbrahim Çeçen University campus in terms of different variables. In the research, a method based on descriptive survey which aimed to reveal current situation, was used. A total of 120 people, of whom 60 were male and 60 were female, participated in the research. In the research, "Sports Health Belief Scale" and "Personal Information Form" were used. In the analysis of data, normality test was performed and as a result, non-parametric analysis methods were used since data were not distributed normally. While Mann Whitney U test was used for paired comparisons, Kruskal Wallis H test was used for multiple comparisons. In multiple comparisons, Mann Whitney U test was used in order to determine from which groups this significant difference resulted. Significance level was determined as  $p=0.05$  in the research. As a result of the research, it was concluded that participants differed significantly according to gender, age, educational status, marital status, wealth level, weekly frequency of doing sports and recreational activity; they did not differ significantly according to other variables which were weekly spare time and for how long they had been doing sports. In terms of participants, it is possible to say that period of doing sports and recreation does not affect health beliefs.

**Key words:** Recreation, sports health, belief, spare time.

## INTRODUCTION

People have tried to survive from past to present and the most important one of these efforts has been their health status which is their greatest value. All individuals were sensitive about health and looked for treatment methods. In other words, to be healthy and belief in health have been the basis for doing all works and achievements at all levels of society. Staying healthy and sustaining their lives depend on being active for individuals. Individuals have to be active in order to sustain their lives and these

activities have decreased. It is seen that this decrease leads to new diseases and becomes a threat for health (Zorba, 2007). Activity has always been a need for people and it has been revealed that it must be done in a planned way to protect health. An active lifestyle is touted as one of the most important requirements for physical fitness and adult cardiovascular health (WHO, 2009). Being sedentary is an independent risk factor for obesity, Type 2 diabetes, heart disease, dementia and other

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health conditions (Finch, 2007; O'Donovan et al., 2005; Vuori, 2004). Physical inactivity has even been identified as a "pandemic" and the fourth leading risk factor for global mortality (WHO, 2009). Despite the importance of physical activity for reducing morbidity and mortality and for promoting healthy aging, two-thirds of U.S. adults age 18+ never engage in vigorous leisure-time physical activities lasting 10+ minutes per week, and only 25% engage in such activity 3+ times per week (Adams and Schoenborn, 2006). Only 18% of U.S. adults engage in aerobic activity of at least moderate intensity for 150+ minutes per week and muscle-strengthening activities at least twice per week, as recommended as a key *Healthy People 2020* objective (HP, 2012).

Spiritual relaxation is an option to be healthy. Because impairment of spiritual health affects social organization of people and disrupts their communication. In addition, it affects nervous system, so this causes some systems to be adversely affected (Özden, 1993). Sense of contemporary public health argues that protection from disease before becoming sick is cheaper health service than treatment. Although preventive health services are very important fact, treatment of a patient is a factor that affects people more (Fişek, 1983). In addition to these preventive services, of course an active life is important. Recreation and also doing sportive activities are considered as preventive measures to protect individuals' health. Sports culture has been the most important factor in protecting and improving societies' health. Lifelong sports activities and creation of sports culture reveal importance of health for societies.

Physical activity during the adult years has been shown to have protective effects against a number of chronic diseases, including type 2 diabetes, atherosclerosis, ischemic heart disease, heart failure, depression, and several cancers including colon and breast (Brown et al., 2007). Possible mechanisms in which physical activity may reduce the risk of these diseases include a reduction in hypertension, dyslipidemia, and inflammatory and hemostatic biomarkers (Mora et al., 2007), an increase in plasticity of the hippocampus, an area of the brain involved in depression (Gomez-Pinilla et al., 2002), and a decrease in adiposity, sex hormones, insulin resistance, and adipokines (Friedenreich, 2011).

Beliefs indicate individuals' moods about different aspects in their world. When individuals want to reveal their knowledge and considerations, they act according to these attitudes and behaviors (Eren 2000). Situations created by definitions and perceptions of people in their inner world indicate belief. Beliefs deal with opinion, knowledge and religious feelings. Sometimes they have become source of principles of people. People's health takes shape generally depending on these attitudes and behaviors. With this effect, health belief models were started to be introduced (Özmen, 2004). These health belief models which have been introduced are a model

that has been recently used frequently to explain behaviors related to health. Basis of health belief model is protection of individuals' health before becoming sick (Glanz et al., 2008).

In general, it can be said that health belief model deals with issues such as what should be done and what should be needed to protect health. In this respect, except sports competitions, activity is of high importance for protecting health. Creating lifelong sports activities, making sports culture and also creating spare time activities can be considered as protective measures to be introduced in terms of protection of health. Place of sport and physical education activities in protection of health cannot be denied and it is seen that units related to sports are involved in medical science. Bronikowski (2010) states that "increase sense of coherence and promote self-responsibility in health-related lifestyle, which led to an increase in frequency of leisure physical activity".

Thus, this research has been carried out in order to reveal status of health beliefs of individuals doing sports.

## METHODOLOGY

### Research model

In the research, screening model which aims to describe attitudes, tendencies and opinions numerically or quantitatively by performing studies on a sample group chosen from a population, has been used (Creswell, 2013). This method can be identified as describing a situation in the past or present as it is. What is important in this method is to be able to define an event, individual or object as it is in its conditions and to observe it without changing the current situation (Karasar, 2012). In the research, survey technique which is frequently utilized in screening studies, has been used as data collection technique (Erkuş, 2013).

### Population and sample

Population of the study consists of individuals who do sports actively in Ağrı İbrahim Çeçen University campus. Sample group consists of 120 students (Female=60/Male=60) using sports centers in the campus. Sample group of the research was determined by filling scales randomly. Mean age of participants was 32.86±15.51 years and sports training years was 3 years at least for all participants.

### Data collection tools

In the research, "Sports Health Belief Scale" with 5 sub-dimensions and developed by Ertüzün (2013) and "Personal Information Form" developed by researchers were used.

### Sports health belief scale

Survey developed by Ertüzün (2013) was applied to 400 people at first and four weeks later, it was applied to 323 people from study group again and relationship between measurements in two

**Table 1.** Frequency and percentage distributions regarding demographic information of participants.

Variable	Sub-variable	f	%
Gender	Female	60	50.0
	Male	60	50.0
Age group	17 -20 years	26	21.7
	21 -25 years	34	28.3
	26 -30 years	29	24.2
	30+ years	31	25.8
Educational status	High school	27	22.5
	Associate degree	42	35.0
	Bachelor's degree	43	35.8
	Master's degree	8	6.7
Marital status	Married	49	40.8
	Single	71	59.2
Wealth level	Low	16	13.3
	Moderate	55	45.8
	High	49	40.8

applications was calculated with Pearson product-moment correlation coefficient and t-test was performed for discriminatory relationship sample. For reliability analysis, Cronbach alpha internal consistency coefficient was calculated as 0.88. Reliability results in terms of sub-dimensions were calculated as follows: perceived seriousness= 0.82, perceived obstacles= 0.50, physical benefit = 0.82 for psychosocial benefit = 0.87, self-efficiency= 0.76 (Ertüzün, 2013).

#### Data analysis

SPSS 22 program was used to analyze data obtained in the research. Cronbach's alpha internal consistency coefficients for scale sub-dimensions were found as follows: perceived seriousness (924), perceived obstacles (711), physical benefit (836), psycho-social benefit (845) and self-efficiency (924) and these values show that data of sub-dimensions are reliable for analysis. Non-parametric analysis methods were used since data related to sub-dimensions were not distributed normally. While Mann Whitney U test was used to compare sub-dimension scores of scale according to participants' gender and marital status, Kruskal Wallis H test was used to compare sub-dimension scores of scale according to participants' age groups, educational status, wealth level, number of days when they do sports in a week, for how long they had been doing sports, sufficiency status of weekly spare time and frequency of difficulty in recreation.

#### FINDINGS

50% of the participants are female, 50% are male and 21.7% of the participants are in age group 17-20, 28.3%

are in age group 21-25, 24.2% are in age group 26-30, 25.8% are in age group 30+. 22.5% of the participants are high school graduate, 35% have associate's degree, 35.8% have bachelor's degree, 6.7% have master's degree. 40.8% of the participants are married, 13.3% of them state that their wealth level is low while wealth level of 45.8% is moderate and wealth level of 40.8% is high (Table 1).

When Table 2 is examined, it is seen that participants' perceived seriousness, perceived obstacle, physical benefits and psycho-social benefits belief levels are above medium and self-efficiency belief level is medium.

When Table 3 is examined, it is seen that there is no statistically significant difference between psycho-social benefits and self-efficiency levels of the participants according to their genders ( $p>0.05$ ), belief levels of female participants are significantly higher than belief levels of male participants in terms of perceived seriousness, perceived obstacles and physical benefit ( $p<0.05$ ).

When Table 4 is examined, it is seen that there is no statistically significant difference between perceived seriousness, perceived obstacles and physical benefit belief levels of the participants according to their age groups ( $p>0.05$ ), there is statistically significant difference between psycho-social benefits and self-efficiency levels of the participants according to their age groups ( $p<0.05$ ). In psycho-social benefit belief, belief level of the participants in age group 21-25 is significantly higher than

**Table 2.** Descriptive statistics regarding participants' sports health belief scale sub-dimension scores.

Sub-dimension	N	X	Ss
Perceived seriousness	120	3.99	866
Perceived obstacles	120	3.56	859
Physical benefit	120	3.84	830
Psycho-social benefit	120	3.75	753
Self-efficiency	120	2.79	1,225

**Table 3.** Comparison of participants' sports health belief scale sub-dimension scores according to their gender.

Sub-dimension	Gender	N	X	Ss	Mean rank	Rank sum	U	p
Perceived seriousness	Female	60	4.21	811	70.83	4250.00	1180.0	0.001
	Male	60	3.78	871	50.17	3010.00		
Perceived obstacles	Female	60	3.71	905	67.99	4079.50	1350.5	0.017
	Male	60	3.41	789	53.01	3180.50		
Physical benefit	Female	60	3.99	778	67.21	4032.50	1397.5	0.033
	Male	60	3.68	860	53.79	3227.50		
Psycho-social benefit	Female	60	3.77	784	62.91	3774.50	1655.5	0.447
	Male	60	3.72	725	58.09	3485.50		
Self-efficiency	Female	60	2.93	1,313	63.66	3819.50	1610.5	0.318
	Male	60	2.65	1,124	57.34	3440.50		

belief level of the participants in age group 17-20 ( $p < 0.05$ ). In self-efficiency belief, belief level of the participants in age group 17-20 and age group 21-25 is significantly higher than belief level of the participants in age group 26-30 and age group 30+ ( $p < 0.05$ ).

When Table 5 is examined, it is seen that there is no statistically significant difference between perceived seriousness, perceived obstacles, physical benefit and psycho-social benefit belief levels of the participants according to their educational status ( $p > 0.05$ ), there is statistically significant difference between self-efficiency belief levels of the participants according to their educational status ( $p < 0.05$ ). In self-efficiency belief, belief level of the participants who have associate's degree is significantly higher than belief level of the participants who have bachelor's degree ( $p < 0.05$ ).

When Table 6 is examined, it is seen that there is no statistically significant difference between perceived seriousness, perceived obstacles, physical benefit and psycho-social benefit belief levels of the participants according to their marital status ( $p > 0.05$ ) and in self-efficiency belief, belief level of the participants who are single is significantly higher than belief level of the participants who are married ( $p < 0.05$ ).

When Table 7 is examined, it is seen that there is no statistically significant difference between perceived obstacles, physical benefit and psycho-social benefit belief levels of the participants according to their wealth level ( $p > 0.05$ ), there is statistically significant difference between perceived seriousness and self-efficiency belief levels of the participants according to their wealth level ( $p < 0.05$ ). In perceived seriousness belief and self-efficiency belief, belief level of the participants whose wealth level is high, is significantly higher than belief level of the participants with moderate level of wealth ( $p < 0.05$ ).

## DISCUSSION

Different variables (Gender, Age, Educational Status, Marital Status and Wealth Level) were chosen to determine health belief status of individuals doing sports and in terms of these variables, following results were obtained in the research:

When demographic variables are examined in the research, 50% of the participants are female and 50% are male. As a result of examination of the participants according to their age groups, age group 21-25 has the

**Table 4.** Comparison of participants' sports health belief scale sub-dimension scores according to their age groups.

Sub-dimension	Age group (years)	N	X	Ss	Mean rank	$\chi^2$	p	Difference between groups
Perceived seriousness	17-20	26	3.77	1,138	55.88	1,933	0.586	-
	21-25	34	4.11	934	67.24			
	26-30	29	4.05	595	59.12			
	30+	31	4.00	739	58.27			
Perceived obstacles	17-20	26	3.24	955	49.40	3,734	0.292	-
	21-25	34	3.65	1,001	65.94			
	26-30	29	3.64	766	63.07			
	30+	31	3.65	638	61.44			
Physical benefit	17-20	26	3.62	996	53.00	3,777	0.287	-
	21-25	34	4.03	823	69.51			
	26-30	29	3.82	834	59.78			
	30+	31	3.82	656	57.58			
Psycho-social benefit	17-20	26	3.41	832	44.96	8,606	0.035	1<2, 1<3
	21-25	34	3.97	713	71.00			
	26-30	29	3.78	677	63.53			
	30+	31	3.76	727	59.18			
Self-efficiency	17-20	26	3.14	1,013	72.75	16,278	0.001	1>3, 1>4, 2>3, 2>4
	21-25	34	3.26	1,273	73.53			
	26-30	29	2.45	1,211	49.78			
	30+	31	2.29	1,099	45.97			

highest rate which is 28.3% while age group 17-20 has the lowest rate which is 21.7%. In educational status variable, students in higher education institutions (Associate's Degree 35% and Bachelor's Degree 35.8%) have the majority and those in master's degree group (6.7%) have the lowest rate. When marital status is examined, it is seen that 59.2% of the participants are single and 40.8% are married. When wealth level of the participants has been reviewed, it has been determined that wealth level of 45.8% is moderate and wealth level of 40.8% is high and wealth level of 13.3% is low.

As a result of examination of health belief levels of the participants according to sub-dimensions, it has been determined that participants' perceived seriousness, perceived obstacle, physical benefits and psycho-social benefits belief levels are above medium and self-efficiency belief perceptions are medium.

When sports health belief scale sub-dimensions of individuals who participated in the study have been examined, it has been determined that there is a significant difference according to gender variable. It is seen that psycho-social benefits and self-efficiency sub-dimensions of health belief scale do not differ significantly, but in other sub-dimensions which are

perceived seriousness, perceived obstacles and physical benefit, belief levels of female participants are significantly higher than belief levels of male participants.

When relevant literature has been examined, Vural and Çoruh (2017) have found that sports health belief scale sub-dimensions of individuals (Perceived seriousness, perceived benefit, physical benefit and psychological benefit) significantly differ according to gender variable in their study called "Determination of sports health beliefs of individuals who do sports for recreational purposes". In another study, Yalçın and Arslan (2016) have revealed that psycho-social benefit and self-efficiency sub-dimensions which are sports health belief scale sub-dimensions, differ significantly according to gender variable in their study related to recreational activities of university students. These studies share similarity with the present research results. In the study related to sportive recreational activities and conducted by Ertüzün et al. (2013) with health belief scale, they have revealed that female participants have health belief levels. When studies which were conducted, have been examined generally, it is possible to say that sport health belief perceptions of women are higher than men.

In the literature, there are also studies that do not

**Table 5.** Comparison of participants' sports health belief scale sub-dimension scores according to their educational status.

Sub-dimension	Educational status	N	X	Ss	Mean rank	$\chi^2$	p	Difference between groups
Perceived seriousness	High school	27	3.81	1,155	58.19	1,444	0.695	-
	Associate degree	42	4.06	922	64.58			
	Bachelor's degree	43	4.06	636	59.90			
	Master's degree	8	3.91	462	50.13			
Perceived obstacles	High school	27	3.28	1,183	55.67	2,489	0.477	-
	Associate degree	42	3.57	850	59.68			
	Bachelor's degree	43	3.74	608	66.27			
	Master's degree	8	3.42	611	50.13			
Physical benefit	High school	27	3.55	1,070	53.00	4,912	0.178	-
	Associate degree	42	4.04	802	69.63			
	Bachelor's degree	43	3.80	654	56.10			
	Master's degree	8	3.91	743	61.50			
Psycho-social benefit	High school	27	3.60	945	57.78	1,449	0.694	-
	Associate degree	42	3.83	775	64.12			
	Bachelor's degree	43	3.79	611	60.74			
	Master's degree	8	3.58	624	49.38			
Self-efficiency	High school	27	2.76	1,192	59.69	15,011	0.002	2>3
	Associate degree	42	3.32	1,216	75.85			
	Bachelor's degree	43	2.34	1,139	46.91			
	Master's degree	8	2.50	866	55.75			

**Table 6.** Comparison of participants' sports health belief scale sub-dimension scores according to their marital status.

Sub-dimension	Marital status	N	X	Ss	Mean rank	Rank sum	U	p
Perceived seriousness	Married	49	4.03	813	61.16	2997.0	1707.0	0.861
	Single	71	3.97	906	60.04	4263.0		
Perceived obstacles	Married	49	3.65	812	64.32	3151.5	1552.5	0.313
	Single	71	3.50	891	57.87	4108.5		
Physical benefit	Married	49	3.76	808	57.19	2802.5	1577.5	0.384
	Single	71	3.89	847	62.78	4457.5		
Psycho-social benefit	Married	49	3.68	776	58.01	2842.5	1617.5	0.513
	Single	71	3.79	738	62.22	4417.5		
Self-efficiency	Married	49	2.49	1,169	51.32	2514.5	1289.5	0.016
	Single	71	2.99	1,229	66.4	4745.5		

coincide with the results of the present study; in other words, there are studies finding that sports health belief scale sub-dimensions do not differ significantly according

to gender variable. In one of these studies conducted by Peker and Zengin (2019), health belief levels of health services vocational high school students do not differ

**Table 7.** Comparison of participants' sports health belief scale sub-dimension scores according to their wealth levels.

Sub-dimension	Wealth level	N	X	Ss	Mean rank	$\chi^2$	p	Difference between groups
Perceived seriousness	Low	16	3.95	993	59.88	6,251	0.044	2<3
	Moderate	55	3.88	707	52.61			
	High	49	4.14	976	69.56			
Perceived obstacles	Low	16	3.63	860	63.84	739	0.691	-
	Moderate	55	3.51	809	57.59			
	High	49	3.59	926	62.67			
Physical benefit	Low	16	3.56	788	46.72	2,950	0.229	-
	Moderate	55	3.92	633	62.30			
	High	49	3.83	1,016	62.98			
Psycho-social benefit	Low	16	3.70	673	56.31	276	0.871	-
	Moderate	55	3.81	628	61.41			
	High	49	3.69	900	60.85			
Self-efficiency	Low	16	2.56	1,280	53.72	10,722	0.005	2<3
	Moderate	55	2.47	1,124	51.39			
	High	49	3.22	1,210	72.94			

significantly according to gender variable so level of doing sports actively of students do not differ significantly according to gender variable.

When sports health belief scale sub-dimensions of individuals who participated in the study is examined, it is seen that there is a significant difference according to gender variable. It is has been determined that perceived seriousness, perceived obstacles and physical benefit sub-dimensions do not differ significantly, psycho-social benefits and self-efficiency levels differ significantly according to participants' age groups. In psycho-social benefit belief, belief level of the participants in age group 21-25 is significantly higher than belief level of the participants in age group 17-20. In self-efficiency belief, belief level of the participants in age group 17-20 and age group 21-25 is significantly higher than belief level of the participants in age group 26-30 and age group 30+. In other words, it is possible to say that sports health belief levels of participants who are close to middle age are higher than levels of participants who are younger.

When relevant literature is examined, it is seen that there are studies finding that health belief levels differ significantly according to age variable. In one of these studies conducted by Peker and Zengin (2019), they have concluded that health belief levels of health services vocational high school students differ significantly according to age variable. As a result of the research, they have revealed that participants in age group 21 and older use psycho-social benefit sub-dimension more

highly than individuals in age group 17-20. The study is in parallel with our research results as it is.

When sports health belief scale sub-dimensions of participants have been examined, it is has been determined that perceived seriousness, perceived obstacles, physical benefit and psycho-social benefit sub-dimensions do not differ significantly according to educational status variable, self-efficiency belief levels differ significantly according to participants' educational status. In self-efficiency belief, it has been concluded that belief level of the participants who have associate's degree is significantly higher than belief level of the participants who have bachelor's degree. Vural and Çoruh (2017) who have found similar results with the present research findings, have determined that sports health belief scale sub-dimensions of participants which are perceived seriousness and perceived obstacles sub-dimensions differ according to gender variable in their study called "Determination of sports health beliefs of individuals who do sports for recreational purposes". This may be due to the family environment (Bronikowski et al., 2016). And another one might be related to developmental stage and physical education in school setting (Prochaska et al., 2001).

When sports health belief scale sub-dimensions of participants have been examined according to marital status, it is has been determined that perceived seriousness, perceived obstacles, physical benefit and psycho-social benefit sub-dimensions do not differ



significantly and in self-efficiency belief subdimension, belief level of the participants who are single is significantly higher than belief level of the participants who are married. When self-efficiency characteristics are considered (self-belief, determination and high self control), it is possible to say that single participants use these characteristics more highly than those who are married. In other words, participants who are single have more self-control, determination and confidence. It is thought that this is due to characteristic of taking risk easily since single people take risk more easily because they don't have family responsibility.

When health belief scale sub-dimensions of participants have been examined according to wealth level, it is has been determined that perceived obstacles, physical benefit and psycho-social benefit belief levels do not differ significantly, and perceived seriousness and self-efficiency belief levels differ significantly according to wealth levels of the participants. In perceived seriousness belief and self-efficiency belief, it has been concluded that belief level of the participants whose wealth level is high, is significantly higher than belief level of the participants with moderate level of wealth.

When relevant literature has been examined, Peker and Zengin (2019) have determined in a study conducted by them that health services vocational high school students' sports health belief sub-dimensions which are perceived seriousness, physical benefit and self-efficiency differ significantly. As a result of the research, they have revealed that participants with moderate level of wealth have higher level of belief in perceived seriousness and self-efficiency sub-dimensions than those with normal level of wealth. They have also determined that participants with low wealth level have higher belief in physical benefit dimension than others.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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