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Full Length Research Paper

The effect of using word processor in teaching writing skill among secondary students in schools in Jordan

Yaser Aladwan

Department of Language Centre, Faculty of Art, The World Islamic University for Science and Education, Jordan.

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The study aims to identify the effect of using word processor in teaching writing skill among secondary students in private schools in Jordan, clear out the differences in writing skill between the control group taught in the ordinary method and the experimental group taught using word processor. The study follows the descriptive and experimental approach to identify the effect of using word processor in teaching writing skills among secondary students in schools in Jordan. The study sample selected in random way consisted of 30 in Al - Jubaiha secondary school in the second semester (2018/2019). The study found that there are significant positive differences in the achievement of the students (experimental group) in writing skill as a result of using word processor in their teaching. The study also found that there are significant positive differences in the achievement of students (experimental group) in spelling and grammar because of the use of word processor in their teaching. This indicates the effectiveness of the word processor for the ninth grade students in writing skills. In the light of the results, the study recommends the use of word processor for teaching because of its effect on the achievement of the ninth grade students in writing skill.

Key words: Word processor, teaching writing skill, secondary students.

INTRODUCTION

Writing is important in the four language skills. This importance stems from the fact that it reflects the writer's culture and thought, where writing is described as ideas on paper (Khudair, 2016). Writing in this perspective is a very complex mental process and a challenge to the writer when he accomplishes any written work, not an impromptu work. This process requires that before he begins to choose the topic to write on he should consider the public to whom he will write, and the extent of his knowledge and experience with this audience, as well as the subject to write on (Abu and Mokdadi, 2007).

In the process of writing, learners do not move in a straight line. At some stage of the writing process,

students can go back, check their ideas, and review them. So writing process is a repetitive method. The authors can wrap around their texts and make the necessary changes. Learners must organize their ideas in order to create a balanced text (Yilmaz and Erkol, 2015). As the use of word processing in student writing becomes increasingly commonplace, the need to understand its impact on the processes and products of composition is made more pressing. Owston et al. (1992) showed that the positive effects of word processing on students' writing and revision have helped to fuel the use of computers in composition. Some arguments, which are highly credible, have been made to support the claim that

E-mail: yaseraladwan@yahoo.com.

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some features and capabilities of word processing environments can facilitate writing and editing. There is some evidence that the work of rewriting by hand may be a serious impediment to revising. It has been suggested that by eliminating the drudgery of re-composition composition, allowing text modification much easier, the use of text editors can reduce students' resistance to review and encourage more frequent writing style (Owston et al., 1992). Word processing is an application program that allows students to create letters, reports, newsletters, tables, form letters, brochures, and web pages. Using this application program student can add pictures, tables and charts to your documents. Students can also check spelling and grammar (Ryan, 2004).

Study questions

- (i) What is the effect of using word processor in teaching writing skill among secondary students in private schools in Jordan.
- (ii) Are there differences in writing skill between the control group taught using the ordinary method and the experimental group taught using word processor?

Significance of the study

The significance of the study is that it focuses on a modern educational strategy that will benefit teachers, students and schools in improving the educational process and raise the level of achievement of the study among the ninth grade students. The current study may benefit English teachers in learning the effectiveness of one of modern education methods to improve the writing skill of the ninth grade students and thus raise the level of their academic achievement.

Study objectives

The study aims to:

- (i) Identify the effect of using word processor in teaching writing skill among secondary students in private schools in Jordan.
- (ii) Are there any significant differences between control group and experimental group related to spelling and grammar

THEORETICAL FRAMEWORK

Word processing includes text entry, editing, and formatting. Recently, word processors have become so powerful that the line between them and desktop publishing programs has become unclear (Smith et al.,

2017). Word processing software is the most widely used application in office automation, and most, if not all, management organizations use it in their daily work (Khudair, 2016). By the end of the 20th century, word processors on personal computers replaced most typewriters worldwide, except for places deprived of basic energy infrastructure (Abu and Mokdadi, 2007). The word processor is used to create, control, display, screen, store, retrieve, and print the document electronically (Khudair, 2016).

What is word processor?

A word processor, or word processing program is what the name implies; it deals with words. It also processes paragraphs, pages and full sheets. Some examples of word processing programs include Microsoft Word, WordPerfect (in Windows only), AppleWorks (Mac only), and OpenOffice.org (Sharpened Productions, 2018). Bani Abdelrahman defined word processor as “a computer program used for editing texts, checking and correcting grammar, style, and spelling errors” (Bani, 2013: 1.5).

Word processor is known as programs designed to write, edit, save and print texts such as documents, memos, speeches, research and so on. It is one of the most common computer programs used by PC users (90% of users). There are multiple word processing programs, including Microsoft Word, Word Perfect, Microsoft Work, and Clarise Works. One of the most popular and easy-to-use programs is Microsoft Word (Abu and Mokdadi, 2007).

In general, word processing is the program used to process a text document, such as a CV or report. Usually you enter text by typing, and the program provides tools for copying, deleting and different types of formatting. Some word processing software functions include: (a) Create, edit, save, and print documents. (b) Copy, paste, move, and delete text within the document. (c) Format text, such as font type, black type, underline, or italic. (d) Create and edit tables. (e) Insert elements from other programs, such as illustrations or photographs. Finally, (f) correct spelling and grammar (Zandbergen, 2018).

What are the benefits of word processor?

There are many advantages and benefits of word processor programs. Levinson (2016) pointed out that word processor helps in writing and printing reports, letters, articles, pamphlets and books. Word processor programs also save documents to files for reuse or modification as needed in addition to spell checking and grammar of the document or part of it, and suggest correction. It also provides basic file functions such as creating documents, editing, saving, printing, retrieving and deleting them on demand, as well as the possibility

of inserting a letter, word, line, or line between previously typed data (Han et al., 2015).

It also provides basic file functions such as creating documents, editing, saving, printing, retrieving and deleting them on demand, as well as the possibility of inserting a letter, word, line, or line between previously typed data. The program also allows move or copy a word, line, paragraph, or section from one place to another within a document or other document (Levinson, 2016). Riyadi and Wulandari (2017) showed that word processor helps control the display of the document on the screen by moving inside the document page up or down and folding the screen up or down one line or a full page and the possibility of changing the font on the screen. In addition, it helps in searching for a word or text within the file or document and the possibility of replacing it with a word or another text. It also helps control the document's shape by selecting the margins, beginning and end of the page, selecting the export and numbering of the page footer, choosing to display the printed page, and the number of lines and spaces between the lines and the print line (Riyadi and Wulandari, 2017).

According to Graham (2008) there are 7 ways word processing helps develop writers, which are:

- (i) Legibility of text
- (ii) Potential for publishing in variety of formats
- (iii) Ease of revision
- (iv) Fluent production of text (while composing, note taking, etc.)
- (v) Likelihood of supporting applications (for spelling, grammar, semantic mapping).
- (vi) Portable, easy-to-replicate electronic text (easy to share and provide feedback; hard to lose)
- (vii) Potential for links to electronic source material

More clearly, word processing programs can be benefited in two areas (business and classroom). Dowdell (2017) indicated that the benefits of word processing in business include:

- (i) Makes it Easier to Create Templates: where in Office Setup, the most common documents are often customized to fit individual scenarios. This is usually done by creating templates using a word processing program.
- (ii) Makes it Easier to Save and Secure Documents: The "Save" or "Save As" characteristic that word processing documents allow users to give memorable names within the same file location or in different file locations.
- (iii) Saves Time and the Environment: When using word processing software features in conjunction with good organizational skills, this saves time for users.

While in classroom, the benefits of word processing are:

- a) Spelling, Word processors involve an electronic

spelling checker, where the student writer has immediate feedback about misspelled words. b) Legibility, Teachers benefited by getting a readable and easy-to-read version. Students with weak handwriting can increase their scores with better research papers. c) Security, Teachers and students have a sense of security about lost assignments. When a student saves her work, she avoids the possibility of losing the job or placing it in its place. d) Mobility, Work on a word processor and online wallet is highly portable and accessible from any computer connected to the Internet (Saylor, 2018).

What are the uses of word processor in education?

There are several uses of word processor in the field of education, which are used by teachers as well as administrators. Khudair (2016) noted that the use of the word processor for teachers includes writing and keeping letters and reports, writing plans and plans of daily lessons, in addition to writing tests and storage and use when needed. Teachers also use the word processor to design and print bulletins, educational aids and certificates of appreciation, preparation of transparent slides, in addition to writing guidance panels. Whereas administrators use word processor in writing letters, reports, tables, designing models and records, as well as writing and designing advertisements for various school events. Administrators use the word processor to write student level reports, design and print cultural publications, and prepare tools and illustrations (Hassan, 2015).

RELATED LITERATURE

Study of Van der Steen et al. (2017) aimed to address the current debate about the beneficial effects of text processing software on students with different working memory during the process of academic writing, especially with regard to the ability to display higher-level conceptual thinking. 54 graduate students wrote one essay by hand and one by keyboard. A hierarchical cluster analysis was used to detect distinct performance groups in the sample. The study showed the beneficial effect of text processing software, in terms of qualitative and quantitative writing output.

Study done by Torres (2014) aimed to compare the quality and quantity of student writing using a computer word processor and a pen and paper. This study was conducted during the 2012-2013 school year at a low socio economic high school located in California's Central Valley. Student writing data were analyzed using an independent t-test to determine if a significant difference existed in student writing using a computer word processor compared to a pen and paper. The study showed that there was no significant difference in student

Table 1. The means and standard deviations (St.d) of the study sample marks on writing skill's scale.

Teaching Group	No. of group members	Pre- test		Post- test	
		Means	St.d	Means	St.d
The experimental group	22	13.75	3.26	18.81	4.03
The control Group	22	13.60	5.15	15.16	4.83

Table 2. One-way ANCOVA analysis of study sample marks on the post- test according to the variable of teaching method.

Source	Total squares	df	Average Squares	F	Significant
Pre- test	662.04	1	662.04	128.17	0.00
Teaching method	125.82	1	125.82	22.09	0.00
Error	230.22	42	5.24		
Total	1018.08	44			

Table 3. One way ANOVA differences between control group and experimental group related to spelling and grammar,

ANOVA						
		Sum of squares	df	Mean Square	F	Sig.
Spelling	Between groups	17.818	1	17.818	101.944	0.000
	Within groups	7.341	42	.175		
	Total	25.159	43			
Grammer	Between groups	9.738	1	9.738	44.246	0.000
	Within groups	9.244	42	.220		
	Total	18.983	43			

writing using a computer word processor compared to a pen and paper.

Study of Noël (2013) employed an ecological metaphor to illustrate the impact of using word processing to teach writing. The study compared the effects of planting genetically modified crops to the impacts of using word processors in education. Although their contexts are particularly different, scientists and consumers consider both revolutionary in their fields, but their use has particularly adverse consequences. The study showed that scientists thought genetically modified plants would transform the nature of agriculture by eliminating the need for pesticides and herbicides, increasing harvestsize and providing additional nutrients. After using on a large scale and for an extended time, scientists realized they have significant disadvantages. However, at this point, it is nearly impossible to control their adverse effects. Similar to transgenic crops, word processors offer numerous advantages and have negative consequences. The example of genetically modified plants and their hazardous affects should be taken into consideration when planning the use of word processing software.

Study of Morphy and Graham (2012) aimed to understand the effects of word processing with lower-achieving students. The study attempted to retrieve the full population of studies published in English since 1983 that examined the effectiveness of word processors with struggling writers/ readers. This included all published papers, reports, dissertations, or theses. The year 1983 was selected as the start-point for searches, as it was the date of the earliest word processing study cited in Bangert-Drowns (1993)'s review. The following additional criteria were used to identify potential studies. The study was based on statistical procedures such as calculating effect sizes and maintaining statistical independence of effect sizes for analyses. The study showed that descriptive information for the 27 studies included in this review is presented in Tables 1, 2, and 3. The median year of publication was 1992, and the most common source was a dissertation study (n = 16). Almost all studies had a pencil and-paper control condition (the only exceptions were Franzke et al., 2005; Utay, 1992). Some studies employed both paper and pencil and basic word processor controls.

Study of Cheung (2012) aimed to present a critical review on studies that compared the effects of word processing-assisted writing and pen-and-paper writing on the quality of writing and higher level revisions. The study showed that, the mixed results can be attributed to flaws in the research design, including forcing students who were skilled in writing with computers to compose with pen and paper during the data collection, using thinking-aloud protocols for evaluation, and failing to state the time limit for and the venue of conducting the writing task.

Study of Dalton and Hannafin (1987) aimed to examine the effects of a year-long word processing program on holistic writing skills. Learners in the treatment group used a word processor three times per week to complete writing assignments. Students in the control group used conventional pen- and-paper writing techniques to complete their writing assignments. An analysis of writing samples taken upon completion of this study suggested that word processing alone was of little consequence for able learners, not proportionately most effective for low-achieving students. These effects were found despite logistical problems encountered during the study that probably precluded more results that are dramatic.

METHODOLOGY

The study follows descriptive approach and experimental approach to identify the effect of using word processor in teaching writing skills among secondary students in schools in Jordan.

Community and the sample of the study

The study population includes all ninth grade students in Al - Jubaiha secondary school for boys. Ninth grade students were chosen due to the sensitivity of the stage; a stage which requires the introduction of modern technology as the students have enough skills and knowledge to deal with modern programs in education. The study sample consisted of 30 students in the second semester (2018/2019). Students were selected in a simple random way. The students were divided into two groups: experimental group taught using the word processor and the control group taught using the usual methods.

Study tool

For the purposes of this study, writing skill exam was developed according to the opinion of the teachers of English language in the ninth grade.

The scale and stability of the scale

Verification of the stability of the scale was carried out by applying the scale on students from study community and outside the sample. The correlation coefficients between the first and second application of the scale were found at a time interval of 14 days; from the first application the stability coefficient of the scale as a whole is 0.938 which is high and appropriate values. It indicates the stability of the scale.

(i) Internal consistency: The equation of Cronbach's Alpha was used to test the arithmetic, where the stability coefficient of the scale as a whole is 0.897, a value indicating the stability of the scale. According to Sekaran and Bougie (2013) it was higher than 0.70.

Statistical methods used

The following tests were performed:

1. Percentages, frequencies, arithmetic mean values and standard deviations.
2. ANCOVA was conducted to test differences questions.

RESULTS

What is the effect of using word processor in teaching writing skill among secondary students in schools in Jordan?

To answer this question, the means and standard deviations (St.d) of the study sample marks were calculated on the pre - and post scale of writing skill according to the variable of the teaching method (Table 1).

Table 1 shows that the mean of the experimental group members' marks on writing skill scale in the pre- test was 13.75; while the mean of the control group members' marks on writing skill scale was 13.60. This indicates the convergence of the two groups in writing skills in the pre-test. Table 1 also shows that the mean of the experimental group members' marks who studied by using word processor on writing skill scale in the post-test was 18.81. This is higher than the mean of the control group members' marks who studied using traditional way (15.16).

In order to determine whether the difference between the two averages was statistically significant at ($\alpha = 0.05$), (ANCOVA) analysis of the study sample marks was carried out on post- writing skill scale according to the variable of the teaching method. This was done after taking into account their grades in the pre- test, which was considered as an accompanying variable. Table 2 shows the results of this analysis.

Table 2 shows that there are statistically significant differences at ($\alpha = 0.05$) between the mean of both experimental group's marks, who studied by using word processor, and control group, who studied by traditional methods on writing skill scale in the post- test, where (f) value reached 22.09. This value is statistically significant at 0.00. According to the means of the study sample marks on the post-test, as shown in Table 1, it was found that these differences were in favor of the experimental group (18.81), which is higher than the mean of the experimental group marks that were taught using traditional method (15.16). This result shows that the students who studied writing skill by using word processor have surpassed their counterparts who studied

using traditional method.

Are there any significant differences between control group and experimental group related to spelling and grammar?

This question is divided in two questions as follows:

First question: Are there any significant differences between control group and experimental group related to spelling?

Second question: Are there any significant differences between control group and experimental group related to spelling?

In order to determine whether there is significant differences between control group and experimental group related to spelling and grammar at ($\alpha = 0.05$), ONE WAY ANOVA was carried out on both group. The One-Way ANOVA produces a one-way analysis of variance for a quantitative dependent variable by a factor (independent) variable. This technique is an extension of the two-sample t test. The results are shown in Table 3. Table 3 shows that there are statistically significant differences at ($\alpha = 0.05$) between the mean of both experimental groups in spelling and grammar.

First question: Are there any significant differences between control group and experimental group related to spelling where f value reached 101.994, and which was statistically significant at 0.00?

Second question: Are there any significant differences between control group and experimental group related to spelling, where f value reached (44.246), and which was statistically significant at 0.00?

DISCUSSION

The study found that there are significant positive differences in the writing skill of the experimental group as a result of using word processor in their teaching and the control group taught in the traditional way. This finding is consistent with the findings of Noël (2013) which showed that using word processing offer numerous advantages in teaching writing.

The study found that there are significant positive differences in the achievement of the experimental group in spelling and grammar because of them being taught using word processor. This finding conflicts with the findings of Torres (2014) which showed that there was no significant difference in student writing using a computer word processor compared to pen and paper.

This indicates the effectiveness of the word processor for the ninth grade students in writing skills. This result coincides with Van der Steen et al. (2017) which showed that there is a beneficial effect of text processing

software, in terms of both qualitative and quantitative writing output.

In the light of the results, the study recommends teaching using word processor because of its effect on the achievement of the ninth grade students in writing skills. Further study related to word processor needs to be done due to its effect in improving the level of students' absorption and ability to interact in the school quota.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

REFERENCES

- Abu SH, Mokdadi M (2007). The effect of using the word processor in correcting the spelling errors common among the ninth grade students in Zarqa Governorate and their attitudes towards its use. Unpublished PhD Thesis, Yarmouk University.
- Bangert-Drowns RL (1993). The word processor as an instructional tool: A meta-analysis of word processing in writing instruction. *Review of Educational research* 63(1):69-93.
- Bani AO (2013). The Impact of Using the Word Processor to Develop EFL Learners' Writing Skill at Al-Imam Mohammad Ibin Saud Islamic University. *Islamic University Journal of Human Research* 21(2):1-26.
- Cheung Y (2012). Critical review of recent studies investigating effects of word processing-assisted writing and pen-and-paper writing on the quality of writing and higher level revisions. *Procedia - Social and Behavioral Sciences* 46:1047-1050.
- Dalton D, Hannafin M (1987). The effects of word processing on written composition. *The Journal of Educational Research* 80(6):338-342.
- Dowdell S (2017). What Are the Benefits of Word Processing in Business? From the website <https://bizfluent.com/> (Retrieved in 2/2/2019).
- Franzke M, Kintsch E, Caccamise D, Johnson N, Dooley S (2005). Summary street: Computer support for comprehension and writing. *Journal of Educational Computing Research* 33:53-80.
- Graham S (2008). *The Power of Word Processing for the Student Writer*. Renaissance Learning, Incorporated.
- Han J, Dou R, Zeng L, Wang S, Yu Z, Zeng X (2015). A heterogeneous multicore crypto-processor with flexible long-word-length computation. *IEEE Transactions on Circuits and Systems I: Regular Papers* 62(5):1372-1381.
- Hassan O (2015). The role of using the integrated text method in teaching the grammatical rules of the students of the third cycle in the basic stage. Unpublished PhD Thesis, Dongola University.
- Khudair R (2016). The impact of the use of the entrance to writing processes in improving the writing skills and the risk of students of the teacher of the class at Yarmouk University. *Jordanian Journal of Educational Sciences* 12(1):45-58.
- Levinson S (2016). Turn-taking in human communication—origins and implications for language processing. *Trends in cognitive sciences* 20(1):6-14.
- Morphy P, Graham S (2012). Word processing programs and weaker writers/readers: a meta-analysis of research findings. *Reading and Writing: An Interdisciplinary Journal*: 25(3):641-678.
- Noël L (2013). Word Processors Negatively Affect Writing Quality: A Comparison with Transgenic Crops. *Applications* 4(1):104-107.
- Owston R, Murphy S, Wideman H (1992). The effects of word processing on students' writing quality and revision strategies. *Research in the Teaching of English* pp. 249-276.
- Riyadi S, Wulandari T (2017). Workshop Guru Matematika Menggunakan Word Processor Formula Dan Pengelolaan. *Jurnal Aplikasi Sains dan Teknologi* 1(2):16-20.
- Ryan G (2004). Using a word processor to tag and retrieve blocks of text. *Field Methods* 16(1):109-130.

- Saylor S (2018). What Are the Benefits of Using Word Processor in the Classroom? From the website <https://classroom.synonym.com/> (Retrieved in 2/2/2019).
- Sekaran U, Bougie R (2013). *Research Methods for Business*: New York: John Wiley and Sons, Incorporated.
- Sharpened Productions (2018). Word Processor. From the website <https://techterms.com/definition/wordprocessor/> (Retrieved in 2/2/2019).
- Smith A, Monaghan P, Huettig F (2017). The multimodal nature of spoken word processing in the visual world: Testing the predictions of alternative models of multimodal integration. *Journal of Memory and Language* 93:276-303.
- Torres R (2014). *Word Processing In Support Of Writing: Effects And Implications*. Unpublished MA Thesis, California State University.
- Utay CM (1992). *Peer-assisted learning: The effects of cooperative learning and cross-age peer-tutoring on writing skills of students with learning disabilities*. Unpublished Doctoral Dissertation, East Texas State University, Commerce, TX.
- Van der Steen S, Samuelson D, Thomson J (2017) The effect of keyboard-based word processing on students with different working memory capacity during the process of academic writing. *Written Communication* 34(3):280-305.
- Yılmaz C, Erkol K (2015). Using Word Processor as a Tool to Enhance the Teaching of Writing in a Turkish EFL Context: An Action Research. *Articles/Makaleler* 11(1): 346-358.
- Zandbergen P (2018). What Is Word Processing Software? - Definition, Types & Examples. From the Website <https://study.com/> (Retrieved in 2/2/2019).

Full Length Research Paper

Online learning during the COVID-19 pandemic from the perspectives of English as foreign language students

Talal Alodwan

Department of Curriculum and Teaching, College of Educational Sciences, The World Islamic Sciences and Education University, Jordan.

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This study aimed at exploring the advantages and disadvantages of the online learning system implemented during COVID-19 Pandemic from English as foreign language (EFL) students' perspective. To achieve the objectives of the study, qualitative approach was used. The sample of the study consisted of 20 students who were chosen purposely from the World Islamic Sciences and Education University in Amman, Jordan. A semi-structured interview was used to collect data and Braun and Clarke's thematic approach (2006) was used to analyse the data. The study generated the following findings: E-learning saves time, money and effort; it is active in humanities faculties to some extent but it is inactive in science faculties; it encourages students' self-learning and it enables them to listen to recorded lectures many times; it causes social isolation between students; some students resort to cheating in exams; most students face technical problems while using online learning.

Key words: Covid-19, English as foreign language (EFL), Jordan, online learning.

INTRODUCTION

The spread of the Coronavirus pandemic in the first months of 2020 was a shock to students because suddenly they had to switch to distance learning. The governments issued their regulations and asked the academic institution to implement e-learning as an alternative tool to traditional education (Almanthari et al., 2020). The tools of E-learning have played a critical role in most academic institutions worldwide due to COVID-19 (Giovannella, 2021). They pursue to help teachers, schools, universities and academic institutions to facilitate the process of teaching and learning during their closure. Moreover, some of these tools are free or costless (YouTube, zoom, video conferences, educational platforms, free websites and others) and grant continuous

learning (Almaiah et al., 2020).

The success or failure of any technological system relies on the use of this system by users, both teachers and their students encounter some difficulties when using e-learning at home in some developing states due to their shadow experience. At the same time, academic staffs are taught how to utilize the e-learning platform. However, the shift to e-learning has prompted concerns about the quality of education (Sahu, 2020).

In some developing states like Jordan, some challenges (technology, internet, socio-economy) act as obstruction to online learning especially in rural areas (Di Vaio et al., 2020). As a result of their economic status and geographical locations, a difference occurs between the

E-mail: talaladwan@yahoo.com.

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two essential elements, widening the gap of qualified e-learning. At present, E-learning supports and facilitates the process of education everywhere through internet. Academic institutions are providing online courses for students and trainers because of the lockdown in Jordan well as other countries.

Based on the literature, many studies (Ebner et al., 2020; Mayer, 2020; Wu et al., 2020; Favale et al., 2020; Radha et al., 2020; Hasan and Bao, 2020) discussed e-learning during the coronavirus pandemic, unfortunately, no study tried to know the impression on students who are the focal element in the e-learning. Therefore, it is very significant to know their perspectives of e-learning since they are influenced by this type of learning. This study aims at exploring the overall EFL students' perspectives towards the implementation of online learning and exploring challenges and barriers of the online learning that appeared during the COVID-19 pandemic.

LITERATURE REVIEW

With the progress of technologies and education, methods of learning have also improved. One of the results of modern technologies is e-learning which is broadly used in education. As a result of the coronavirus (COVID-19) pandemic, many of the education systems have been shifted to online learning teaching. In his study, Hoq (2020) confirmed that the use of information technology has a very significant role in the application of distance learning during the coronavirus pandemic. The learning process can run fine with the existence of the rapidly developed information technology including e-learning, Google class, WhatsApp, Zoom, and other information media and internet networks that can link lecturers and students. Heppen et al. (2017) confirmed that online courses are increasingly used for credit recovery in districts across the country and the effectiveness of these courses for students. For some lessons that need practice such as practicum courses, video observation is one method suggested as an alternative for student teaching (Kim, 2020). To achieve the aim, online learning needs different learning teaching methods from those used in traditional learning. Barhoumi (2015) explained that the mathematics statistics course that used WhatsApp group media was quite effective when observed from student learning outcomes. Some advantages of e-learning are explained by Al Hadhrami and Al Saadi (2021), that online learning: makes it possible for learners to take up a course without attending an educational institution; gives learners the benefit of taking up a course from their home or from any place they find comfortable; it also enable learners to get credible certifications and improve their qualifications. Kuama and Intharaksa (2016) mentioned two challenges which students face due to e-learning, these are technological and individual difficulties and to overcome

technical challenges, sufficient and reliable Internet access, as well as twenty-four-hour availability of the Internet, are needed; while, the individual challenges, it is very important to pay attention to the design and content of an online course which cannot be overstated. It is also important to include adequate clarifications for the lessons and exercises. Learning mission preparation and content must be closely reviewed and updated regularly. Khabbaz and Najjar (2015) investigated students' language learning strategies in a Moodle-based language acquisition program, and the study found that emerging technologies in language learning could hinder autonomous learning due to challenges posed by new technology. Adnan and Anwar (2020) examined the efficacy of online learning during the COVID 19 pandemic between higher education students, they found that e-learning is unable to generate good results in developing countries such as Pakistan because the bulk of poor students cannot use the internet and it is not available or weak in their villages and towns.

Due to the consequences of E-Learning on the user, such as detachment, isolation and the shortage of interaction between the students and the community in some platforms of E-Learning, the student's desire to learn is reduced. Therefore, Wu et al. (2020) studied how chatbot technology helps students reduce their detachment and social isolation. They designed a chatbot to be utilized alongside the platform of E-learning. This chatbot can be used with course materials and daily conversation. Therefore, it is a very significant issue to identify the advantages and disadvantages of E-learning to avoid the latter.

MATERIALS AND METHODS

This study is based heavily on a qualitative approach. Many reasons motivate the researcher to adopt this approach. Describing as well as analyzing the data helps the researcher and the reader understand the phenomena. "One of the greatest strengths of the qualitative approach is the richness and depth of exploration and description" (Myers, 2000). The ability of qualitative data in describing a phenomenon is an important consideration not only from the researcher's perspective but also from the reader's point of view, "If you want people to understand better than they otherwise might, provide them with information in the form they usually experience it" (Lincoln and Guba, 1985, p. 120). Researchers of the qualitative approach analyze the experience of people and invite the readers to explore the covert data that is embedded in words and sentences. Qualitative research requires the researcher to ponder and reflect on the data collected so as to find the meaning within (Chandler et al, 2002, abstract). This approach also assists the researcher to achieve the goals of the study easily and smoothly (Creswell, 2013). It will help the researcher understand the advantages and disadvantages of e-learning, so, the policymakers, the academic staff and the IT technicians support the advantage points and change the disadvantages to advantages.

Participants

According to Kvale (1996), the size sample must be neither small

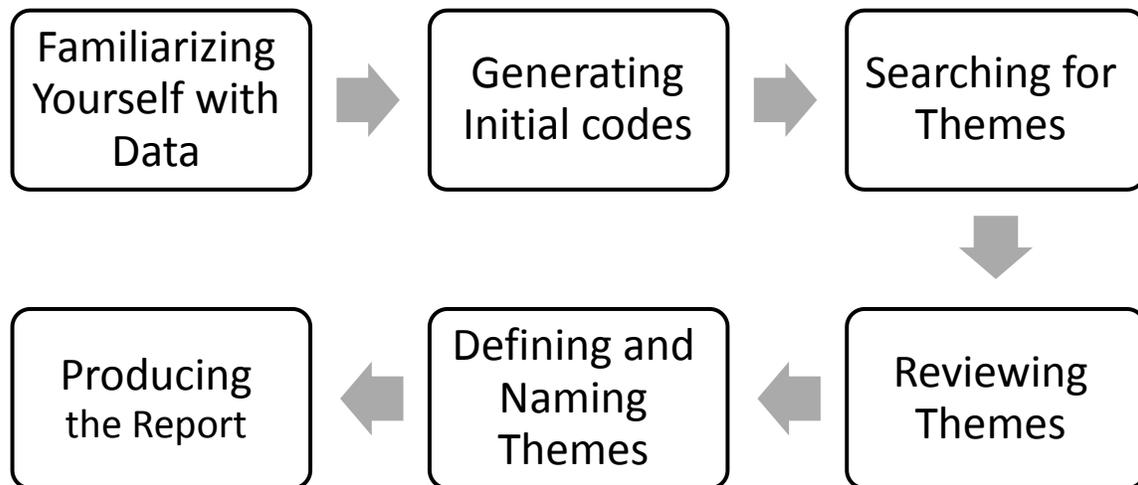


Figure 1. Braun and Clarke thematic approach (2006).

nor large to reach the saturation point of the answers and the information power, based on a study of Quick and Hall (2015), the convenient sample size is a range (4-50) in a qualitative study and the participant should have adequate knowledge about the phenomena (Everitt and Howell, 2021). Twenty students from different colleges at The World Islamic Sciences and Education University, Amman, Jordan were selected purposely based on the following criteria: the students should be twenty from freshmen, sophomores, juniors and seniors; gender: ten males and ten females; and their grades: excellent, very good, good, and pass. These criteria helped us have different perspectives of the students and to achieve validity and reliability.

Data generation

In this study, a semi-structured interview was used to collect data from the selected participants. The interview tool was used for the following reasons: offering flexibility to the interviewer in controlling the order of posing the questions: the interviewer can explain the question and ask many questions to clarify the answers of the participants. Scholars use semi-structured interviews to collect new data that belong to the topic of the study, triangulate other sources of data or validate results through the respondent answers (Lincoln and Guba, 1985). During the semi-structured interview, the scholar did not use a list of questions, but he used a guidance lists to guide the interview. The interview was in the form of a dialogue between the interviewer and the interviewees, and this leads to getting accurate information. Due to COVID19 a comprehensive lockdown was imposed. Therefore, the interview was through Zoom platform, it discussed different aspects that related to the objectives of the study.

Data analysis

In qualitative studies, thematic analysis is the most famous type of analysis (Guest, 2012). This analysis is identified as "the identification of the main recurrent or most important (based on the specific question being answered or the theoretical position of the reviewer) issues or themes arising in a body of evidence" (Pope et al., 2007, p. 96). To verify the process of the appearance of frequent themes, themes will emerge through accurate readings of

the texts, and a reflection of the idea process is mentioned as following "immersion, incubation, illumination, explication and creative synthesis" (Patton, 2002, p.486). The findings from the analysis will be the themes that form the structure for answering the research questions. This study used Braun and Clarke (2006) thematic approach to analyse the data for the following reasons: it is an appropriate method to analyze any study which needs interpretation, it is a flexible method that helps the researcher analyse the data, it is also a suitable method in case the data size is large, and it was used by many scholars (McDonald, 2011). Davey (2014) Alobeytha et al. (2018) found that it was suitable for analysing data in qualitative studies. This approach is implemented by pursuing six stages of coding in order to find a meaningful organized pattern (familiarizing yourself with your data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report) (Figure 1).

Triangulation

Triangulation is introduced by Yeasmin and Rahman (2012 as "a process of verification that increases validity by incorporating several viewpoints and methods" (p. 156). Triangulation is a kind of strategy which is used to improve and authorize the validity and credibility of the research. Mathison (1988) states, "Triangulation has become an important methodological issue in naturalistic and qualitative approaches to evaluation [in order to] control bias and establishing valid propositions because traditional scientific techniques are incompatible with this alternate epistemology" (p. 13). This study used data triangulation, where 20 students from different colleges were interviewed to give multiple sources of information. It also used investigator triangulation when the researchers employed two professors (from The World Islamic Sciences and Education University) to evaluate and test the themes during the process of data analysis.

RESULTS AND DISCUSSION

The interview was written as soon as it was recorded. The analysis of the texts was carried out based on Braun and Clarke thematic approach's processes (2006).

Table 1. Suggested themes from the first readings.

Excerpt	Suggested themes
-----	Communication and social media
-----	Limitation and economy
-----	Exam
-----	Limitation and money
-----	Communication and interaction

Table 2. Organization of the themes.

Excerpt	Suggested themes
-----	Communication and Social Media
-----	Communication and Interaction
-----	Limitation and Money
-----	Limitation and Money
-----	Exam

Table 3. Appropriate themes.

Excerpt	Suggested themes
-----	Communication and Social Media
-----	Communication and Interaction
-----	Limitation
-----	Limitation

Table 4. Final themes.

Excerpt	Suggested themes
-----	Communication
-----	Communication
-----	Limitation
-----	Limitation

Firstly, for familiarization with the data, the text was read twice until the author familiarized with it. Secondly, for generating initial codes, these codes were produced via the process of an inductive analysis (general to specifics). The analysis was an iterative process that went front and back to analyse in-depth. Some important notes were written and notions were coded by a particular colour, for instance, green colour for the theme communication, yellow colour for the theme limitation and so on. Table 1 exhibits several themes that resulted from the first readings. Thirdly, in searching for themes, the related themes were ordered together based on the colour, and the forming of Table 1 was based on the

themes. For instance, the rows that involve the same colour (Communication) in the above table were organized together. Table 2 shows how the themes are organized. Fourthly, the reviewing themes, the themes were reread many times to find the appropriate themes and delete some inappropriate ones. Table 3 shows the appropriate themes. Fifthly, defining and naming themes, the author defined the themes and explained every theme in some sentences. Table 4 reveals the final themes. Sixthly, in this stage, the author wrote the discussion based on the final themes which answer the research questions. Three themes were extracted. The section of analysis was cross-checked with an expert

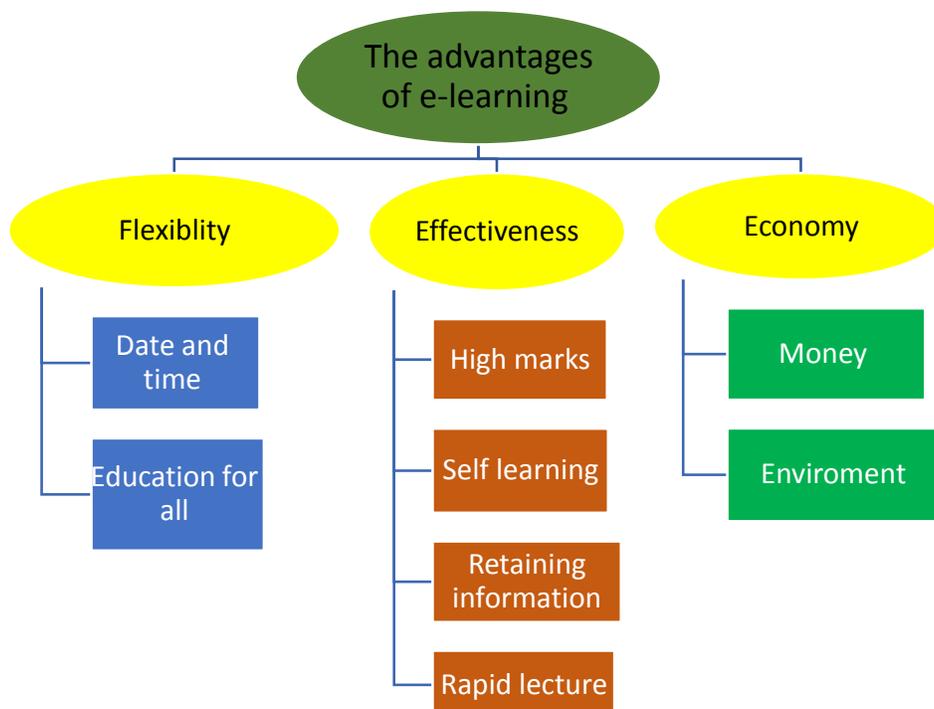


Figure 2. exhibits the themes of the advantages of e-learning.

(doctor in the field of education to check it in depth).

The advantages of e-learning during the COVID-19 pandemic

This study considers the thematic findings that identified the chief advantages of e-learning during COVID-19 Pandemic. Figure 2 explains the themes of the advantages of e-learning.

Flexibility

Date and time: The interviewees agreed that e-learning allowed the students to select the date and time of attendance of the recorded online lesson. The students do not need to travel and waste their time and money they can attend the class in their homes. They said " *I can attend the class whenever and wherever I want, no obstacles*"

Education for all: Some students work part-time at supermarkets, restaurants, bookshops etc.; thus, they found that online learning overcame many obstacles that prevented them from joining universities and working at the same time. Some of the students who are married joined universities due to the online learning, where they can balance their education and their home duties. They stated that "Thanks to online learning, I can do my

business and also study without any obstacles so that I study in my free time".

Effectiveness

High marks: Online Learning has a positive inspiration on students, a huge number of the students get high marks, and they felt that online learning was fairer than traditional learning since the evaluation of the students depends on their grade, not on the opinion of their lecturers. Those students cite that, "*I have achieved high scores in online education and these marks outweigh my scores in face-to-face education*" On the other hand, some students failed to get high marks or failed to pass exam due to the types of questions which focused on multiple-choice, and they could not answer them because of the short time that was allocated for the exam.

Retaining information: E-learning - helps students retain their information for long periods. There is no need to ask the lecturer to repeat the lectures unless there is a vague point. According to the interviewees, "Unlike traditional learning, E-learning allows students to access academic materials an unlimited number of times. "Students rarely asked their professors questions if they did not understand some point because they could find it in the videos which were uploaded on the educational platform." Self- Learning- online learning motivates many students to search on the web and YouTube for more

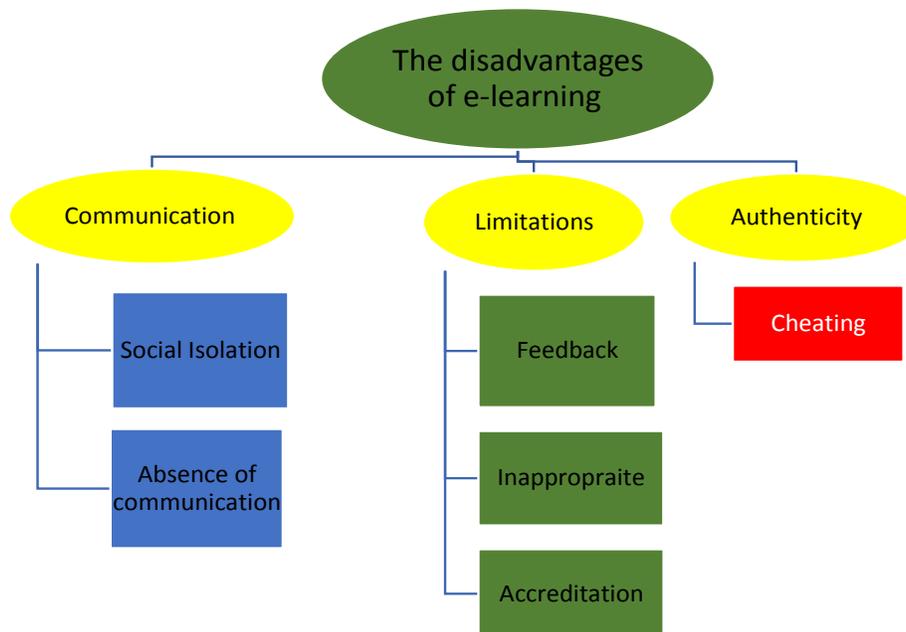


Figure 3. Findings of the disadvantages of e-learning during COVID-19 pandemic.

information. Therefore, the students make sure that they are in synchronization with modern knowledge. Knowledge has come within the reach of many people. Visiting websites opens up prospects for knowledge instead of visiting libraries which may be located in a city. This helps the students update their information. The interviewees stated that " *due to online learning, I taught myself by visiting the webs and extracting the information that I need*"; Rapid Lectures - online learning is a good method to present a lecture in a short time for the following reasons: lecture commences rapidly without taking time to register the absent students and also ends in a shorter time than the traditional way of teaching because there is nothing interpreting it. This assists the lecturer to cover all the curriculum in a specific period while in the face to face education, lecturers rarely covered the course; students do not follow the speed of the students but they define their speed of learning. The interviewees stated that " *in the traditional education, the time which is located for the lecture is wasted and the lecture is interpreted many times, but in an online learning, the professor covers all the class within 20 minutes*"

Economy

Low costs: The importance of e-learning is in its ability to reduce financial costs for students and their families since it has saved the cost of transportation from one region to another to go to school or university. It has also saved additional expenses such as food and clothing for

the purpose of spending a day outside home, as well as the cost of books which have become available electronically and at a reasonable price. The interviewees see that, "online learning is costless and they save money. There was no need to go to the university which is far from some students' residences and they do not pay for transportation, accommodation, course materials and others".

Environment: E-learning contributed to reducing the environmental pollution, because it is a key element in reducing the dioxide carbon in the air as a result of reducing the using of vehicles. E-learning also contributed to reducing the cutting of trees and forests that are used in the production of paper .Some interviewees agreed that " *their consumption of paper is low due to the online learning. There is no need to cut trees and send them to paper factories which produce dioxide carbon. Therefore, online learning is a friend of environment*".

The disadvantages of E-Learning during COVID-19 Pandemic (Figure 3)

Communication

Social isolation: The interviewees believe that online learning made students bear the remoteness, and the shortage of social interaction. Therefore, several students underwent social isolation which usually may drive the

students to much stress and anxiety. The effects of social isolation and loneliness are not limited to the psychological aspect only, but also to the health of the mind and heart of the students. They also decreased students' immunity and ability to confront infection. The interviewees said *"universities are considered centres for practising social activities and human interaction. When they closed their doors, many youths lost their social relationships that have a fundamental role in learning and development"*.

The absent of communication: The interviewees agree that practising communication skills between teachers and their students or between the students themselves is absent in e-learning. This will have a significant impact on their ability to work as a team effectively. Those students are also unable to shift their knowledge to others or transfer their theoretical knowledge to a practical one.

Limitation

Online student feedback: The interviewees agree that practising communication skills between teachers and their students or between the students themselves are absent in e-learning. This will have a negative impact on their ability to work as a team effectively. Those students are also unable to shift their knowledge to the other or transfer their theoretical knowledge to a practical one. It is known that the feedback enriches the understanding of the lesson. Unfortunately, as the interviewees said, *"E-learning prevents us from asking the questions or discussion inside the class because of the huge number of the students who want to ask. Professors did not allow for many questions. Therefore, the rate of feedback of the professors and the students is low"*.

Inappropriate: Online learning may be relatively effective in teaching humanities such as history, some topics in language, geography and others, students can understand the subject relatively, but it is difficult to use online learning in teaching scientific subjects such as medicine and engineering because it needs practical experiences. The interviewees stated that *"Students in scientific colleges face a great difficulty in understanding scientific subjects because these materials require labs and practical applications. They believe that the university's tendency to distance-learning in all subjects will not be fruitful"*.

Accreditation and quality assurance: Interviewees saw that some universities encounter great challenges in using e-learning. They lack the infrastructure which facilitates the e-learning process, such as good educational platforms, computers for every student, good communication networks, the readiness of educational programs, computerization of educational materials, and

competence of the elements of e-learning including educational administrators, faculty members at universities and their ability to deal with these mechanisms. They say that, *"the platform does not help the students to understand the lesson and it does not encourage interaction between the students and their teachers."*

Authenticity

Cheating: Academic cheating became a global phenomenon during the outbreak of the Corona pandemic where academic institutions resorted to the use of e-learning and electronic assessments. In light of the lack of direct monitoring of students during the exams, this phenomenon has spread among students. It negatively affected the credibility of the learning process, its results, and the academic reputation of these institutions. The interviewees believed that some students have different methods of cheating in e-learning exams. These are: some students form a group where everyone answers one or more questions and shares the solution with the group; searching on Google and another searching engine for the answers, or from the books; some senior students answer the questions. E-learning helped spread cheating between students in exams, where educational platforms lack any way to prevent cheating and to reduce cases of cheating, teachers resort to asking difficult questions within a short time and using many forms of the exam, and these procedures were not active to stop or reduce cheating. The interviewees asserted that *"the scores of some students were very low before online education, but they are very high and competitive during online learning. And this caused great frustration for the outstanding students."*

The main suggestions to overcome the disadvantages and challenges that EFL students faced while using the online learning system during the COVID-19 pandemic

Social isolation

Interviewees saw that professors should not follow the routine ways of online learning. They have to devote some time to talking about topics that are not related to the academic atmosphere. Moreover, the size of online classes should be small to allow for building the social relationship between students and their teachers. *"Teachers must focus on some activities that mitigate social isolation, such as encouraging students to play sports in their backyards or sharing a personal experience in front of the online class,"* the interviewees agreed. The interviewees believe that combating social isolation is very important and this is possible via social media,

which stimulates the communication and interaction between the students during COVID 19.

Absent of communication

The lecturers should not focus on the academic sides, but they must play their roles in developing the morals and personality of students in order to play their effective role in teaching future generations. Therefore, the lecturers must master the skills of communication with students and try to gain their confidence. The most important characteristics of successful teachers are their ability to build a relationship of respect and affection between the teachers and their students. The students' behaviour and academic performance are affected by the quality of the relationship between them and teachers. Students prefer teachers who are warm and intimate. The interviewees suggested, "*The teachers should have four important skills to deal with the students: the friendship, positive attitude, the ability to listen and be heard, and the ability to compliment genuinely*".

Feedback

It is necessary to solve the feedback problem through a small meeting between professors and their students and listen to their feedback. The interviewees stated that "*there should be an informal meeting between the students and their instructors, and this meeting can be performed via video conference, zoom platform which operates similarly to a lecturer's office hours inside the camp of the university*".

Inappropriate

To avoid the difficulties that encounter the students who need practical application of their theoretical knowledge, the interviewees suggested blended learning which mixes face to face learning and online learning. That means there will be online learning lectures and lectures at university. They also suggested, "Students at the university should keep two-meter social distancing, wear face mask, and use hand sanitiser".

Accreditation and quality assurance

The interviewees believe that the universities should be qualified and accredited to teach online otherwise, the outcomes will be unsatisfactory. These universities should have a good platform and qualified teachers who can teach online. They said that "Universities should have an e-learning platform which is capable to achieve all the goals of the educational plan. Universities should not be

stingy in buying an effective platform, and they must train their professors and students to use this platform efficiently".

Authenticity (cheating)

Types of the questions: The multiple-choice questions or single-choice questions allow the students to cheat easily and the examiners rarely discover the cheaters. Therefore, it is better to use a free-text question which gives a sign that the students understand the question and answer it. The interviewees suggest that "50% of the questions should be single or multiple choices and the times that are allocated to answer these questions should be short, while the rest of the questions is free-text question which should have enough time to be answered".

Performance file: The interviewees suggested that the evaluation of the students should not only depend on the online exam which allows cheating between the students, but it should also depend on the performance file. The interviewees stated that "The student is evaluated on the principle of activities or projects that the student has completed during a semester. Thus, every student should write a project or an activity"

Technical program: The interviewees agreed that universities, as well as professors, should take some procedures to ensure the authenticity of online exams. The interviewees stated that "one of the anti-cheating programmes that are used in online exams is Examity. This programme uses several anti-cheating procedures like machine teaching to discover fraudulent exam-students as well as automated ID verification".

theoretical and practical implications

This study is considered an added value to the literature review via identifying the advantages and disadvantages of e-learning and mitigating the difficulties of E-learning. It offers many significant practical visions in online learning in the world. This study represents the perspectives of the students who are influenced by e-learning. It is expected that this study will support the course design, and the attitudes of professors, technicians and universities management to deal with the difficulties that encounter the students. It will also strengthen the positive points in e-learning.

The findings of this study are includes advantages and disadvantages. The advantages of e-learning are: E-learning is costless; it save the time of the students and professors; it allows all people(employees, housewives, and others) to study; it helps students get high scores; it motivates self-learning. The disadvantages of E-learning are: it causes social isolation between the students; it

limits the communication between the students and their professors; it also limits the feedback of the professors and their students; it is inappropriate for students who need practical training; some universities are unqualified to teach online due to the technical issues and experience in teaching online; and it assists some students to be cheaters to get high marks.

The study proposes some suggestions. First, there should be a qualified educational platform that enables the professors and students to use it easily. This platform should have some characteristics such as: facilitates the feedback between the students and their instructors; it is equipped with a program that prevents cheating; It allows the students to be evaluated fairly; it facilitates the communication between the students to avoid the social isolation; it should be easy to be used. Second, online class should have no more than 35 students in the Humanities area and 25 in scientific areas to make the class more active than the current situation and encourage interaction between the students and their instructors. Third, offering laptops or desk computers and free internet for the poor students. Also, teachers have to teach in-depth and avoid surface education. In addition, policymakers should encourage the students to adopt self-learning and to interact with their professors. Lastly, blended learning should be implemented.

Conclusion

Online education was optional, and most countries, especially Jordan, did not recognize the graduates of distance learning. Nowadays, it has become an inevitable matter. This study came to shed light on the advantages of e-learning and strengthen them. At the same time, it discussed the disadvantages and challenges of e-learning and tried to overcome them. This is a qualitative study that used an online semi-structured interview to collect data and a Braun and Clarke thematic approach (2006) to analyse the data and extract the themes that answer the research question. This study suggests some future studies, such as examining teachers' perspectives on E-learning in vocational training, how students with disabilities deal with e-learning, the model role of educational platforms, and the emotional difficulties that families face while participating in e-learning.

CONFLICT OF INTERESTS

The author has not declared any conflict of interest.

REFERENCES

Adnan M, Anwar K (2020). Online Learning amid the COVID-19 Pandemic: Students' Perspectives. *Online Submission* 2(1):45-51.

Al Hadhrami S, Al Saadi N (2021). The Advantages and Challenges of e-Learning During COVID-19 Pandemic in Omani Schools from

Parents' Perspectives of Cycle Two Schools (5-9). *International Journal of Educational Technology and Learning* 10(1):26-39.

Almaiah MA, Al-Khasawneh A, Althunibat A (2020). Exploring the critical challenges and factors influencing the E-learning system usage during COVID-19 pandemic. *Education and Information Technologies* 25(4):5261-5280.

Almanthari A, Maulina S, Bruce S (2020). Secondary school mathematics teachers' views on E-learning implementation barriers during the COVID-19 pandemic: the case of Indonesia. *Eurasia Journal of Mathematics, Science and Technology Education* 16(7):1-9.

Alobeytha FL, Mohamed AH, Rahman FA (2018). The Identity of The Trafficked Child in Young Adult Literature: Patricia McCormick'sold. *International Journal of Education, Psychology and Counseling* 3(9):1-9.

Barhoumi C (2015). The Effectiveness of WhatsApp Mobile Learning Activities Guided by Activity Theory on Students' Knowledge Management. *Contemporary Educational Technology* 6(3):221-238.

Braun V, Clarke V (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology* 3(2): 77-101.

Chandler G, Hunter A, Jacelon C, Lusardi P, Zucker D (2002). Making meaning: The creative component in qualitative research. *Qualitative Health Research* 12(3):388-398.

Creswell JW (2013). *Qualitative inquiry and research design: Choosing among five approaches*. (3rd edition). London, U.K: Sage Publications, Inc.

Davey J (2014). How do novice parasport coaches develop their knowledge? A look at the experiences of para sailing coaches (Doctoral Thesis). Retrieved from <https://search.proquest.com/docview/1522759667?accountid=27931>

Di Vaio A, Boccia F, Landriani L, Palladino R (2020). Artificial intelligence in the agri-food system: Rethinking sustainable business models in the COVID-19 scenario. *Sustainability* 12(12):1-12. <https://doi.org/10.3390/su12124851>

Ebner M, Schön S, Braun C, Ebner M, Grigoriadis Y, Haas M, Taraghi B (2020). COVID-19 epidemic as E-learning boost? Chronological development and effects at an Austrian university against the background of the concept of "E-Learning Readiness". *Future Internet* 12(6): 1-20.

Everitt BS, Howell DC (2021). *Encyclopedia of Statistics in Behavioral Science*. Hoboken, NJ: John Wiley and Sons LTD.

Favale T, Soro F, Trevisan M, Drago I, Mellia M (2020). Campus traffic and e-Learning during COVID-19 pandemic. *Computer Networks* 176(2):1-23.

Giovannella C (2021). Effect induced by the Covid-19 pandemic on students' perception about technologies and distance learning. In *Ludic, Co-design and Tools Supporting Smart Learning Ecosystems and Smart Education* (pp. 105-116). Springer, Singapore.

Guest G (2012). *Applied thematic analysis*. Thousand Oaks, California, CA: Sage.

Hasan N, Bao Y (2020). Impact of "e-Learning crack-up" perception on psychological distress among college students during COVID-19 pandemic: A mediating role of "fear of academic year loss". *Children and Youth Services Review* 118(2):1-9.

Heppen J, Sorensen N, Allensworth E, Walters K, Rickles J, Taylor S, Michelman V (2017). The struggle to pass algebra: Online vs. face-to-face credit recovery for at-risk urban students. *Journal of Research on Educational Effectiveness* 10(2):272-296.

Hoq MZ (2020). E-Learning during the period of pandemic (COVID-19) in the kingdom of Saudi Arabia: an empirical study. *American Journal of Educational Research* 8(7):457-464.

Khabbaz M, Najjar R (2015). Moodle-based distance language learning strategies: An evaluation of technology in language classroom. *International Journal of Applied Linguistics and English Literature* 4(4):205-210.

Kuama S, Intharaksa U (2016). Is online learning suitable for all English language students? *PASAA* 12(1):53-82.

Kvale S (1996). *Interviews: An introduction to qualitative research interviewing*. Thousand Oaks, CA: SAGE.

Lincoln YS, Guba EG (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

- Mathison S (1988). Why triangulate? *Educational Researcher* 17(2):13-17.
- Mayer RE (2020). Searching for the role of emotions in e-learning. *Learning and Instruction* 70(1):1-3.
- McDonald DNHS (2011). *Gulag and the role of personal values in coping with the trauma of exile* (Doctoral Thesis, Adler School of Professional Psychology, Chicago, IL). Available from ProQuest Dissertations and Theses Global. (1476389829). Retrieved from <https://search.proquest.com/docview/1476389829?accountid=27931>
- Myers M (2000). Qualitative research and the generalizability question: Standing firm with Proteus. *The qualitative report* 4(3/4):1-9.
- Patton MQ (2002). *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage.
- Pope C, Mays N, Popay J (2007). *Synthesizing qualitative and quantitative health evidence: A guide to methods*. Maidenhead, England: Open University.
- Quick J, Hall S (2015). Part two: Qualitative research. *Journal of Perioperative Practice* 25(7-8):129-133.
- Radha R, Mahalakshmi K, Kumar VS, Saravanakumar A R (2020). E-Learning during lockdown of Covid-19 pandemic: A global perspective. *International Journal of Control and Automation* 13(4):1088-1099.
- Sahu P (2020). Closure of universities due to coronavirus disease 2019 (COVID-19): impact on education and mental health of students and academic staff. *Cureus* 12(4):1-7. [://doi.org/10.7759/cureus.7541](https://doi.org/10.7759/cureus.7541).
- Wu EH, Lin CH, Ou YY, Liu CZ, Wang WK, Chao CY (2020). Advantages and Constraints of a Hybrid Model K-12 E-Learning Assistant Chatbot. *IEEE Access* 8(1):77788-77801.
- Yeasmin S, Rahman KF (2012). Triangulation research method as the tool of social science research. *Bup Journal* 1(1):154-163.

Full Length Research Paper

The extent of use of video clip for teaching and learning in Nigerian universities: A case study of faculty of education, University of Calabar

Edem N. B.^{1*} and Ekon E. E.²

¹Department of Library and Information Science, Faculty of Education, University of Calabar, Nigeria.

²Department of Science Education, Faculty of Education, University of Calabar, Nigeria.

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This study reports a survey conducted to explore the extent of use of Video Clip (VC) by academic staff for teaching and learning at the Faculty of Education, University of Calabar, Nigeria. Five Research questions were formulated to guide the study. The population of the study was made up of all lecturers in the Faculty. The data were obtained using a structured questionnaire which in random was administered to respondent in their offices. One hundred copies of the questionnaire were randomly distributed to respondents in their various offices in the University studied. Eighty copies of the questionnaires were retrieved and used for data analysis (with 80.0% return rate). Method of data analysis used was percentage cumulative frequency. The findings of the study indicate that, although the vast majority (87.5%) of academic staff in the Faculty of Education were aware of VC tool for teaching and learning, their utilization was rather low (47.5%) and the frequency of usage is equally low, as most (47.5%) respondents used VC tool only occasionally based on the courses taught. Major challenges that hinder the utilization of VC by academic staff and Faculty of Education include power outage, unavailability of computers, overcrowded lecture rooms, capacity development, and inadequate provision for in-service training. The paper also proffered some strategies required to eliminate the challenges such as useful awareness campaign and proper in-service training to be organized by the management of the Faculty for effective capacity building amongst others.

Key words: Video clip, educational development, academic staff, university of Calabar, Nigerian universities.

INTRODUCTION

Video is a potential window that can change and expose the minds and hearts of many learners on modern educational development. This is because education has remained an instrument of change and national development (Danmole, 2011). In Nigeria, education is

an instrument for “excellence” for effective national development (Federal Government of Nigeria [FGN], 2004). Video is known to be recorded moving images that could appeal to the sense of sight. Arranging them in clips or short and programmed structures could help in

*Corresponding author. E-mail: nkyedem@gmail.com.

the teaching and learning processes. Therefore, video enhances comprehension and retention. Real life activities involving illustrations, demonstration and specimens in Biology, Chemistry, Physics and Mathematics are brought to the students in classrooms in an exciting package.

Video Clip (VC) is cost effective relative to the traditional options of fieldtrip which has a recurring cost annually. According to Ekwueme et al. (2016), learning with Video Tape instruction (VTI) especially video clips could assist learners to gain proficiency in organizing their thought while observing the pictorial presentation on the watched clip. The researchers posit that, modern educational technology tools such as video tape, video clips and power points slides, are self-learning devices built with the help of different technologies to make teaching and learning processes more interesting and effective. Based on its importance, a video clip may be integrated in the teaching and learning processes in Nigerian universities.

Similarly, Agommuoh and Nzewi (2003) opined that, the use of VCI increases the probability of students to learn more, retain and achieve better academic performance. There are therefore some teaching models that are effective teaching avenues to facilitate students learning and understanding of scientific concepts. Ekon and Edem (2015) identified positive effects on Computer Based Instructional models on students' achievement and interest in biology in secondary schools in Cross River State. There is therefore, the need for lecturers to effectively utilize these resource devices to enhance effective teaching and learning in Nigerian Universities. This study reports on a survey carried out in the faculty of Education, University of Calabar, to explore the faculty Awareness and Utilization of VC for effective teaching and learning.

LITERATURE REVIEW

A lot of studies have been conducted to investigate the effective utilization of Video Clip Instruction (VCI) for teaching and learning in Nigerian (Ekwueme et al., 2016; Ekon and Edem, 2015; Wonu and Domaka, 2013; Ifte, 2011; Wonu et al., 2010; Yusuf and Ajere, 2009). Ekwueme et al. (2016) carried out a study on the effects of educational video clip on students' academic performance in Basic Science and Mathematics and discovered that the group taught with video clips outperformed their counterparts who were taught using conventional method. Ekon and Edem (2015) posit that computer based constructivist instruction had a significant impact on teaching secondary school students. A study carried out by Yusuf and Ajere (2009) on the effects of videotape and slide tape instructions on student's achievement in social studies revealed that students performed significantly better than their

counterparts taught using a normal classroom instruction.

Contemporary studies in the developed countries, in the area of education technology have focused on the use of instructional resources for teaching and learning. Wonu and Domaka (2013) studied the use of Microsoft Math Tool (MSMT) in teaching quadratic equation in a mathematics classroom and found out that Computer Assisted Instruction (CAI) was very effective compared to the conventional method while Wonu and Didi (2010) investigated the effectiveness of CAI in teaching Statistic Measure of Location (SML) at senior secondary on the use of modern information media (interactive video, computer assisted instruction (CAI), a Satellite, etc) while research efforts in Nigeria are still mainly on established medium. Tiba et al. (2016), while re-examining the factors that influence teachers' adoption and utilization of technology for teaching, reported that lack of availability and lack of access are the major factors that hinder teachers from utilizing the technology effectively. The researchers concluded that school stakeholders should as a matter of urgency make available these tools, as well as trained teachers to be able to utilize them for teaching and learning. According to Osuji (2009), professionally qualified teachers are expected to have attained desirable attitudes, skills and knowledge to make them efficient and effective in their work. On students' performance, Ifte (2011) discovered that watching video clips enhances their retentive memory and make them remember what was taught in class.

A lot has been done in the area of the use of video clip on students' academic performance according to literature reviewed but no study centering on the use of video clip by academic staff thus this study intends to find out the extent of use of video clip for teaching and learning in Nigerian Universities

THEORETICAL FRAMEWORK

Albert Bandura's social learning theory provides the theoretical basis for this study. Bandura (1977) opined that parts of what a person learns are through observation and imitation and that learning takes place in a social situation. According to this theory, an individual modifies his/her behavior as a result of how others in the group are responding as the environment and the individual's behaviors are determinant of one another (Bandura, 1978).

In this regard, learning can occur by observing or watching the events in the environment which may occur physically or derivative of the real objects. This theory has useful application in learning such as computerized instructional approaches where pictorial presentations of learning materials could be used for teaching. This means that learners could learn by watching the video clip presented by the lecturers, replicate, grasp and retain learnt concepts easily.

Purpose of the study

The main purpose of this study is to investigate the extent of use of video clip by academic staff for teaching and learning in Nigerian Universities. The study explored the following specific purposes:

- (i) To find out if academic staff at the faculty of Education is aware of video clip as an instructional medium for teaching and learning.
- (ii) To determine the extent of utilization of VC by academic staff for teaching and learning processes.
- (iii) To determine the frequency of utilization of VC as an instructional medium for teaching and learning.
- (iv) To find out the opinion of academic staff on the benefits of utilizing VC for teaching.
- (v) To determine different factors that impedes their utilization of VC for teaching and learning purposes.

Research questions

- (i) Is academic the staff, in the Faculty of Education, aware of Video Clip as an instructional medium for teaching and learning?
- (ii) To what extent does the academic staff utilize VC for teaching and learning?
- (iii) What are the frequency of utilization of VC as an instructional medium for teaching and learning?
- (iv) What are the opinions of the academic staff on the benefits of utilization of VC for teaching?
- (v) What are the factors that could impede their utilization of VC for teaching and learning?

METHODOLOGY

Quantitative approach was used for the study with survey as the research method. Structured questionnaire was designed and used for data collection. Academic staff drawn from four departments (Education Science, Education Art, Curriculum/Teaching, and Education Social Science) in the Faculty of Education University of Calabar was used for the study. One hundred (100) copies of the questionnaire were randomly distributed to respondents in their offices. However, 80 copies of the questionnaire were retrieved and used for data analysis (with 80.0% response rate).

RESULTS AND DISCUSSION

The results of the study are presented and discussed under each of the stated research objectives:

The respondents were asked to indicate their demographic characteristics as presented in Tables 1 to 3.

Entries in Table 1 showed the percentage distribution of respondents by some selected demographic characteristics (rank, gender and department) of academic staff in Faculty of Education. The results are

presented per department from assistant lecturer to professor. The female (60.0%) respondents outnumbered the males (40.0%). The result implies that female lecturers are more in the teaching profession and are more educationally developed in the Faculty in the utilization of instructional media for teaching and learning. Presently more male lecturers are catching up with the trend on educational development. A total of four departments were used for the study, while curriculum and teaching (27.5%) had the highest respondents. Respondents were asked to indicate their awareness of the potential use of Video Clip as an instructional material.

Results in Table 2 revealed that the majority of the respondents were aware (87.5%) that Video Clip is a resource material that aids in teaching and learning, only a few (12.5%) indicated their non-awareness of the resource material.

In this study, the respondents were asked to indicate their extent of utilization of VC for teaching and learning. Evidence from Table 3 indicated that majority of the respondents (65.0%) are not utilizing VC for teaching and learning at the Faculty of Education. The result showed that only a few respondents (35.0%) that is from Professor to Assistant Lecturer are utilizing VC to a small extent and this work conformed to the study of Tiba et al. (2016) who reported on the challenges to effective technology for teaching. The researchers indicated that lack of availability and lack of accessibility of technology by teachers at school are the major challenges that hinder effective utilization for teaching and learning. The findings of the study indicated that their frequency of utilization is rather very low as most lecturers are not utilizing VC due to unavailability of the resource material in the various departments studied.

Frequency of utilization of VC by respondents

The respondents were asked to indicate their frequency of utilization of VC for teaching and learning at the Faculty of Education. Ekwueme et al. (2016) and Agommuoh and Nzewi (2003) posited that video tape instructions is a resource material that has the potentials of increasing the probability that students will learn more, retain and achieve better in their academic performance while Ekon and Edem (2015), confirmed that Computer Based Instructional models are effective teaching avenues that can facilitate students learning and understanding of scientific concepts.

The results in Table 4 showed frequency of utilization of VC by the respondents in teaching and learning. It was observed that most of the respondents are utilizing VC. "Occasionally" (47.5%) this is followed by monthly (12.5%) and weekly (10.0%), while (25.0%) never utilized VC at all. These reasons according to the respondents were non availability of the VC, poor highlighting

Table 1. Percentage distribution of respondents by some selected demographic characteristics (rank, sex and department).

Rank	Frequency	Percentage
Asst. Lecturer	5	6.25
Lecturer II	10	12.50
Lecturer I	22	27.50
Senior lecturer	25	31.25
Asso. Professor	10	12.50
Professor	8	10.00
Gender		
Male	32	40.00
Female	48	60.00
Department		
Education Science	20	25.00
Education Arts	18	22.50
Education Social Science	20	25.00
Curriculum and Teaching	22	27.50
Total	80	100.00

Table 2. Awareness of Video Clip as an Instructional medium for teaching and learning by lecturers in Faculty of Education.

Academic Staff	Aware %	Not Aware%
Asst. Lecturer	5(6.25)	-
Lecturer II	7(8.75)	3(3.75)
Lecturer I	18(22.5)	4(5.0)
Senior lecturer	22(27.5)	3(3.5)
Asso. Professor	10.(12.50)	-
Professor	8(10.0)	-
Total	70(87.5)	10(12.5)

Respondents	VLE	LE	SE	NA
Asst. Lecturer	-	-	3(3.8%)	2(2.5%)
Lecturer II	-	-	5(6.3%)	5(6.3%)
Lecturer I	-	-	5(6.3%)	17(21.3%)
Senior lecturer	-	-	5(6.3%)	20(25.05)
Asso. Professor	-	-	5(6.3%)	5(6.3%)
Professor	-	-	5(6.3%)	3(3.8%)
Total			28(35.0%)	52(65.0%)

conditions in classrooms and other instructional models and targets to aid in installation for effective teaching. Ekon and Edem (2015) concluded that lack of computer-based instructional models may hinder effective teaching processes in Nigeria universities.

The respondents were asked to indicate their assessment on the use of VC for effective teaching and learning. Results in Table 5 showed that (97.5%) of the

respondents strongly agreed that VC is an important resource that support the university curricular for effective teaching. Ninety percent (90.0%) responded that VC is an instructional medium for effective teaching and learning. Others take VC as a corner-stone to blend course to achieve excellence in teaching, as a potential window that can change and expose the minds and heart of many in educational development and as an

Table 3. Extent of Utilization of Video Clip (VC) by respondents in ranking order.

Respondents	VLE	LE	SE	NA
Asst. Lecturer	-	-	3(3.8%)	2(2.5%)
Lecturer II	-	-	5(6.3%)	5(6.3%)
Lecturer I	-	-	5(6.3%)	17(21.3%)
Senior lecturer	-	-	5(6.3%)	20(25.05)
Asso. Professor	-	-	5(6.3%)	5(6.3%)
Professor	-	-	5(6.3%)	3(3.8%)
Total			28(35.0%)	52(65.0%)

NOTE:

VLE: Very Large Extent:

LE: Large Extent

SE: Small Extent

NA: Not Available

Table 4. Frequency of Utilization of VC by respondents.

Frequency	Response	Percentage
Daily	4	5.0
Weekly	8	10.0
Monthly	10	12.5
Occasionally	38	47.5
Never	20	25.0
Total	80	100.00

Table 5. Assessment of VC for Teaching and learning.

Opinion	Frequency	Percentage
VC is a potential window that can change and expose the minds and heart of many, in Educational Development.	70	87.50
VC serves as an instructional strategy for academic performance	70	87.50
VC serve as a cornerstone of many blended Courses to achieve excellence	70	87.50
VC It is an important resource to support the university curricular	78	97.50
VC is an Instructional medium for effective Teaching and learning	72	90.00
VC enhances comprehension and retention	68	85.00

instructional strategy for academic excellence with 87.5% response rate. Yet many of them (85.0%) confirmed that VC enhances comprehension and retention. The researchers noticed with dismay the attitude of lecturers towards the utilization of VC at the Faculty of Education due to interrupted power supply, overcrowded lecture room and lack of availability and installation of some technological tools to aid in teaching and learning.

Challenges associated with the use of VC for teaching and learning processes

Respondents were asked to indicate the challenges associated with the use of VC for teaching and learning

at the Faculty of Education. As shown in Table 6, the respondents had multiple choice responses to the questions asked. Results showed that interruption in power supply (90.0%), Unavailability computers and other technological tools (87.5%), overcrowded lecture rooms (86.25%), insufficient capacity development in practical activities (75.0%), unavailability of the VC resource materials (75.0%), inadequate provision for in-service programme (75.0%), inadequacy in curriculum availability and lack of awareness on its use (75.0). The results showed that, majority of the respondents were not utilizing VC as they were supposed to do. Ekon and Edem (2015) reported that these challenges may hinder effective utilization of instructional resource materials in teaching and learning in Nigerian Universities.

Table 6. Challenges to effective utilization of VC by respondents.

S/N	Challenges associated with the use of VC	Frequency	Percentage
1	Unavailability of computers/ other technological tools	70	87.5
2	Power outage	72	90.0
3	Inadequate provision for in-service training	60	75.0
4	Overcrowded lecture rooms	69	86.3
5	Insufficient capacity building development in practical activities.	60	75.0
6	Unavailability of VC resources materials	60	75.0
7	Inadequacy in curriculum availability and lack of awareness on its use	60	75.0

Table 7. Ways to provide solution.

Items	Frequency	Percentage
User awareness campaign (through e-mail, text messages) memos) etc.	72	90.0
Constant power supply	72	90.0
Proper orientation programme to be organized from time to time	60	75.0
Introduction of the use of instructional materials in the School Curricular	60	75.0
In-service training/ workshop on the use of video clip for teaching and learning in Nigerian universities.	60	75.0

Ways to provide solution

Table 7 contains multiple choice responses to the questionnaire. Results showed that Awareness campaign (95.0%) should be carried out by management staff in the faculty of Education through memo, sending e-mails or text. Messages should be sent to lecturers in the various departments concerning the importance of utilization of instructional resources such as video Clip in teaching, and learning for effective students' academic performance in Nigerian universities. The era of information and communication Technology ICT has brought about more efficient ways of instructing students to learn faster, understand the precepts in topics and courses taught in class for better understanding of the topics: training lecturers on how to use the application and proper in-service training of the resource material will enhance a better teaching and learning of the resource on daily basis for effective service delivery. Constant power supply (90.0%) and proper orientation programme (75.0%) to both staff and students should be organized from time to time for effective capacity building. Introduction of the use of instructional resource materials in the school curricular for practical application should be encouraged (75.0%). In-service training/ workshop (75.0%) on the use of video clip for teaching and learning processes should be organized from time to time for lecturers for capacity building.

Conclusion

Most academic lecturers are aware of video clip

instructional tool for teaching and learning but the study revealed that their utilization as well as their frequency of utilization is rather low as most respondents (47.5%) used VC occasionally based on the courses taught. The paper reported that some challenges hinder their effective utilization to include power outage, unavailability of computer and other technological tools amongst others. Based on the findings, the paper recommends that awareness campaign should be carried out by management in the faculty to inform lecturers on the importance of VC usage for teaching and research. Proper in-service training should also be organized from time to time for effective capacity building. The use of instructional resources should be introduced in the school curricular to strengthen the teaching of courses for proper understanding. Lecturers should also be motivated in the faculty for using video clip in teaching so others will do the same, to improve on students' academic performance. In-service training/workshop should be organized from time to time for lecturers to build their capacity. Debt financing this programmed should be serviced through Federal and State government support. There should also be constant power supply, or provision be made by university management to acquire giant generating plants with large capacities to enable faculty use VCs for effective utilization of instructional resource materials and other technological tools for effective utilization on teaching and learning in Nigerian Universities.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

- Agommuoh PC, Nzewi UM (2003). Effect of video tape instructions on senior secondary students in physics. *Journal of the Science Teachers' Association of Nigeria* 38(1-2):8-93.
- Bandura A (1977). *Social learning theory*. Engle Wood Cliffs NJ: Prentice-Hall.
- Bandura A (1978). The self system in reciprocal determinism. *American Psychologist* 33:344-358.
- Danmole BT (2011). Emerging issues on Universal Basic Education curriculum in Nigeria: Implication for the science and technology component. *Pakistan Journal of Social Science* 8(1):54-61.
- Ekon EE, Edem NB (2015). Effects of computer-based constructivist instructions on students' achievement and interest in biology. *International Research Journals* 6(4):84-90.
- Ekwueme CO, Ekon EE, Ezenwa-Nebife DC (2016). Effect of educational video clip on students' academic performance in basic science and mathematics concepts in junior secondary school three in Cross River State. A paper presented at the South African International Conference on Educational Technologies, 24th- 26th, Pretoria pp. 195-202.
- Federal Republic of Nigeria (2004). *National policy on education*. (4th ed) Lagos: Nigerian Educational Research and Development Council Press.
- Ifte C (2011). The effect of watching video clips on students' performance in a construction science course at an undergraduate level. *American Society for Engineering Education Manuscript* (1):1-8.
- Osuji SN (2009). Teacher education curriculum in Nigeria in the perspective of life long education. *The Journal of International Social Research* 2(8):296-301.
- Tiba C, Condy J, Nyunjera N (2016). Re- examining factors influencing teacher's adoption and use of technological tools. A paper presented at the South African international conference on Educational Technologies tagged "Empowering the 21st century Learner, 24th-26th April, 2016 at Manhattan Hotel, Pretoria. South Africa, pp. 1-11.
- Wonu N, Domaka NN (2013). Applicability of Microsoft Math Tool (MSMT) in solving quadratic equations. *Journal of Science and Technology* 6(1): 93-102.
- Wonu N, Umanah EU, Didi KD (2010). The effectiveness of Computer Assisted Instruction (CAI) in teaching of Statistical Measures of Location(SML) at Senior Secondary Class 3 (SSC3) level *Journal of Vocational and Technical Education* 7(1-2):25-45.
- Yusuf A, Ajere RO (2009) Universal Basic Education (UBE) in Nigeria. *Journal Educational Research* 6:58-61.

Full Length Research Paper

Examination of internet use in terms of psychological well-being

Pervin Nedim Bal* and Emre Turan

Department of Psychology, Faculty of Art and Sciences, Beykent University, Turkey.

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This study aimed to examine internet use in terms of psychological well-being. The descriptive and correlational research designs were used in this study. The data were collected by the online survey. The survey included “Internet Addiction” and “Warwick-Edinburgh Mental Well-being scales” and a “Socio-Demographic Form”. Four hundred and twelve people participated in the study. A negative, moderate and significant relationship was found between internet addiction and psychological well-being. It has been determined that being under the age of 25, single, unemployed and having a low income are the factors that significantly increase internet addiction. In addition, with the increase in work and income levels, psychological well-being increases significantly. These findings show that individuals under the age of 25, single, unemployed, and in low-income group are in the risk group for internet addiction. As a result, it can be suggested to focus on individuals in the risk group and psycho-training program can be designed for increasing the level of psychological well-being in order to prevent internet addiction.

Key words: Internet addiction, internet usage, psychological well-being.

INTRODUCTION

This study aims to examine internet use in terms of psychological well-being.

Turkey has been connected to the internet since April 1993 (Bolukbas, 2003), and today there have been millions of internet users in Turkey (Turkish Statistical Institute, 2020). However, while the internet makes work easier for many people, it also brings the danger of addiction for people who show excessive use. As a result, it causes some physical and psychological problems (Goldberg, 1996). For this reason, internet addiction, which is generally expressed as spending long time on the internet and not being able to control the

amount of internet usage, is seen as a significant problem today (Leung, 2004). Various physiological and psychological problems can be seen in an individual who exhibits an uncontrolled internet usage behavior, which can negatively affect the psychological well-being of the individual. Psychological well-being is a concept that is defined as to be psychologically healthy, and is directly related to whether the individuals are aware of their powers and goals during their lives and whether they have good relations with the people around them. It is stated that people who can attain a healthy harmony possess psychological well-being (Ryff and Keyes, 1995).

*Corresponding author. E-mail: pervinbal@beykent.edu.tr.

Today, it is seen that people have adopted a global lifestyle in accordance with the rapidly developing technology. This lifestyle has both positive and negative effects. It is known that young people are more exposed to the negative effects of this lifestyle than the elder people are. The internet use undoubtedly plays the most important role in the formation of this lifestyle, which negatively affects young people. The Internet facilitates people's daily work, but excessive use of the Internet, which has become addictive, causes some psychological problems. The addicted person isolates himself from the social environment, and as a result, he may experience many problems such as deterioration in social relations, anxiety and regression in social skills. This situation can negatively affect the psychological well-being of the individual.

Using the internet in an unconscious and uncontrolled way can cause intense anxiety in people who do not have access to the internet, which threaten the psychological and physical health of the individual. The concept of internet addiction first appeared in international literature in 1996, with a joking e-mail sent by Dr. Ivan Goldberg (Goldberg, 1996). The concept "internet addiction" had different names, such as "internet dependency", "pathological internet use", "problematic internet use", "excessive internet use", "internet abuse" and "internet addiction disorder". Goldberg and Young initially used the concept of "internet addiction", but changed to "pathological internet use" in their later studies, with the idea that it is not a clinical concept. Other researchers switched from the term "addiction" to the concepts of "pathological" and "problematic" (Gunuc and Kayri, 2010). The common starting point of all these concepts is excessive and problematic internet use (Gunuc and Kayri, 2010).

Research scientists have also benefited from other behavioral addictions such as sex addiction and pathological gambling by using DSM (American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders) criteria to define the concept of internet addiction (Thurlow et al., 2004). Depression is thought to be an important factor in the development of pathological internet use. Depression was observed in individuals with internet addiction symptoms, with a strong relationship between depression and internet addiction (Jang et al., 2008). Depression resulting from Internet addiction can be evaluated as both a cause and a consequence. An individual may become addicted when the state of depression or depression is due to a completely different psychological or sociological reason. Adolescents with symptoms of Internet addiction stated that the time they spend on the Internet is a process that alleviates their depression, and described the Internet as an environment that relieves depression (Tsai and Lin, 2003).

Sally evaluated many studies on internet addiction and as a result of her studies; she mentioned three types of

internet addiction symptoms, firstly "The Behavioral Symptoms", secondly "The Physical and Mental Symptoms", and thirdly "The Social Symptoms".

The behavioral symptoms include: the addicted individual needs to connect to the internet in a constantly increasing amount; the addicted individual spends more and more time on the internet than the agreed time; the addicted individual spends a lot of time in organizations that serve over the internet; the addicted individual lies about the time and frequency of using the Internet; the addicted individual always has the thought of the internet in his mind; the addicted individual prefers internet to deal with problems; even if the individual is aware of the mental, physical, environmental and occupational problems caused by internet use, the addicted individual continues to use the internet.

The physical and mental symptoms include: the addicted individual worries about situations caused by internet use and develops some obsessive thoughts about internet; the addicted individual has willing to control or reduce the amount of time he uses on the Internet; the addicted individual exhibits a stressed and anxious attitude; the addicted individual experiences difficulties in remembering and focusing; head, stomach and muscle pains are common for the addicted individual and has problems with vision; there is an increase in irritability. Problems such as sleep disorders and panic attacks occur.

The social symptoms include: the addicted individual prefers spending time on the internet to social, business and hobby activities; after having stressful situations and competitions in professional life, the productivity of the addicted individual decreases; the addicted individual's leisure time decreases and working hours increase; the addicted individual Begins to have serious problems in real-life relationships (Sally, 2006).

The researchers state that the individuals showing these symptoms should be evaluated by taking into account some factors, such as the individual's job, place of work, age, academic status, why they use the internet and the amount of the internet use. The areas that are claimed to cause the emergence of these problems are virtual sex, dating, chat, betting, pornography, stock market, auction, video games and obsessively searching for different information (Cengizhan, 2005). The psychological well-being of the individuals with these symptoms may be adversely affected. Psychological well-being is directly related to whether the individuals are aware of their strength and goals during their lives and whether they have good relations with the people around them. Waterman defined psychological well-being as the struggle and effort of a person for self-realization. According to Jung, the state of being psychologically healthy and well-being is directly proportional to the potential of fulfilling the responsibilities of the individuals in their lives, maintaining their social relations healthy and realizing their desires. According to Adler, for the

individual's psychology to be healthy and well-being, it depends on being harmonious in the society and being successful in their professional lives and romantic relationships. In the light of all these views, it is seen that psychological well-being depends on mental health and the state of some factors in life. The harmony between factors such as self-acceptance of the person, establishing good relationships with people, autonomy, life goals and self-development, which are the basis of psychological well-being, has an important role in reducing problems and troubles. The individuals who can realize self-acceptance feels good, knows their limits and feels positive feelings about their past lives. The individuals who can establish good relationships with people can keep and maintain good relationships with people they meet and continue to get to know. The individuals who gain autonomy can achieve their individual identity in the society and even as a result of pressure in the society, they can form their ideas and actions according to their individual norms. Among these factors, it can be said that people who can achieve a healthy harmony can be in the psychological well-being (Sezer, 2013).

In this study, another variable that is a matter of curiosity about its relationship with psychological well-being is the internet. The fact that the Internet has become used in every aspect of people's daily lives and how it affects people as a result of their daily exposure to the internet has been a matter of curiosity for researchers. Although the fact that the internet is open to use in many areas and the fact that people can do most of their work via the internet reduces the workload and saves time and energy, it has been taken into consideration that it may affect the lives of people negatively in the studies carried out recently. It has been observed that some technologies (television, etc.) that were invented while there was no internet had a negative effect on human life (watching television for hours, visual disturbances, communication disruptions, etc.). For this reason, it was thought that the same situation could be valid for the internet and it was a question of how the internet is in terms of psychological well-being.

Therefore, it is a matter of curiosity regarding the effects of the use of Internet, which is increasing day by day, uncontrolled and exceeding its purpose, may have on people. On account of the internet being a relatively new concept, researches made on this issue in Turkey is not many. It is an important study in terms of providing information about the problems that may be caused by the misuse of the internet, as well as giving an idea to Turkey, the world, humanity and the literature. The findings of the study are important in terms of revealing the relationship between internet use at the level of addiction and psychological well-being. Thus, the main purpose of the study is to examine internet use in terms of psychological well-being. In line with this main purpose, firstly, examining the relationship between internet addiction and psychological well-being, and then

it is aimed to reveal whether there is a significant difference according to gender, age, marital status, education level, working status and income level.

METHOD

Research design

The research was conducted using the relational survey model, which is defined by Karasar (2016) as "the research model that aims to determine whether there is a change between two or more variables together and if there is a change together, the degree of this change".

In line with the established model, the hypotheses of the research were formed as follows:

H1: There is a significant relationship between internet addiction and psychological well-being.

H2: Internet addiction and psychological well-being differ significantly by gender.

H3: Internet addiction and psychological well-being differ significantly by age.

H4: Internet addiction and psychological well-being differ significantly by marital status.

H5: Internet addiction and psychological well-being differ significantly by educational status.

H6: Internet addiction and psychological well-being differ significantly by employment status.

H7: Internet addiction and psychological well-being differ significantly by income level.

Research population and sample

The population of the research consists of the participants between the ages of 15-64, all living in Turkey. The sample of the research consists of 412 participants. The sample voluntarily participated in the study. From all participants, 289 of them were female and 123 of them were male. The distribution of the sample by gender, age, marital status, educational status, and employment status and income level was shown in Table 1.

According to Table 1, 70.1% (n = 289) of the participants are female and 29.92% (n = 123) of them are male. 19.9% (n = 82) of the participants are between 15-24 years old, 69.4% (n = 286) are between 25-44 years old and 10.7% (n = 44) are between 45-64 years old. 53.2% (n = 219) of the participants are married and 46.8% (n = 193) are single. 0.5% (n = 2) are literate, 4.6% (n = 19) are primary school graduates and 24.8% (n = 102) are high school graduates. 55.8% (n = 230) of the participants are Pre-License or License and 14.3% (n = 59) are master or above. In addition, 55.8% of the participants (n = 230) are employed and 44.2% (n = 182) are unemployed. 11.9% of the participants (n = 49) have low-income, 77.4% (n = 319) have middle-income and 10.7% (n = 44) have high-income.

Data collection method and scales

The research data were collected using the Socio-Demographic Information Form (Appendix 1), the Internet Addiction Test (IAT) (Appendix 2) and the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) (Appendix 3). An online questionnaire, which was prepared by the researchers, consists of three parts: the Socio-Demographic Information Form, the Internet Addiction Test (IAT) and the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS).

Table 1. Distribution of participants by gender, age, marital status, educational status, employment status and income level.

Variable		n	%
Gender	Female	289	70.1
	Male	123	29.9
Age	15-24 age group (young)	82	19.9
	25-44 age group (young adult)	286	69.4
	45-64 age group (adult)	44	10.7
Marital status	Married	219	53.2
	Single	193	46.8
Educational status	Literate	2	0.5
	Primary Education	19	4.6
	High School	102	24.8
	Pre-License / License	230	55.8
Employment status	Master and Above	59	14.3
	Employed	230	55.8
	Unemployed	182	44.2
Income Level	Low	49	11.9
	Middle	319	77.4
	High	44	10.7
Total		412	100

The Socio-Demographic Information Form consists of six demographical variables, the Internet Addiction Test (IAT) comprises of twenty questions in 6-Likert type and the Warwick-Edinburgh Mental Wellbeing Scale includes fourteen questions in 5-Likert type. The researchers put these scales consecutive to make the online questionnaire with the explanation about the questionnaire and information about the volunteers during the participation at the first page. The reliability and validity of the scales have been explained in the study. The sample was randomly collected via the internet. Sending the questionnaire and collecting the data have been conducted via Google form because of Covid-19 and SPSS 25.0 statistical program has been used for the analysis of the obtained data.

Socio-demographic information form

In the Socio-Demographic Information Form, there are questions about the participants' gender, age, marital status, educational status, employment status and their income level. In the question about age, the participants were asked to write their age, but the answers given here were based on the source of "Policy on Standards (Date modified, May 2017) Guidelines for the development and documentation of standards" at the analysis stage. They are grouped as 15 – 24 (young), 25-44 years old (young adult) and 45-64 years old (adult).

Internet addiction test (IAT)

The Internet Addiction Test (IAT) was developed by Young (1998) and was adapted into Turkish by Boysan et al. (2017) by carrying out validity and reliability studies. The answers of the participants in the scale, consisting of a total of 20 items in one dimension were collected with options between "0-nothing, 5-always" in 6-Likert type. There is no reverse item in the scale. The total score that can be obtained from the test varies between 0-100 and as the total

score increases, the internet addiction of the participants increases. A total score between 0-49 is interpreted as internet use can be controlled, between 50-79 being a problematic addiction from time to time, and an addiction of 80 and above as a serious problem level.

The Warwick-Edinburgh mental wellbeing scale (wemwbs)

Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) was developed by Tennant et al. (2007) and adapted into Turkish by Keldal (2015) by making validity and reliability studies. The responses of the participants in the scale consisting of 14 items in one dimension are collected with 5-Likert type options between "1- I do not agree at all, 5- I completely agree". There is no reverse item in the scale. The total score that can be obtained from the scale varies between 14 and 70, and as the total score increases, the psychological well-being of the participants increases.

Findings regarding the validity and reliability of the scales

The validity of the Internet Addiction Test and the Mental Well-Being Scale used in the study were evaluated with the explanatory factor analysis (EFA) and the reliability with the Cronbach Alpha Test. Kaiser-Meyer-Olkin Sampling Adequacy Coefficient was found to be $0.60 <$ and Bartlett's Sphericity significance value was found to be $p < 0.05$. The total variance (validity) explained by the scales is 51.93% for IAT; It was determined as 59.65% for WEMWBS. Since KMO and Bartlett values meet the minimum requirements and the validity rate is more than 50% (Buyukozturk, 2011: 168), it has been decided that the validity requirement is met.

Analysis of data

In the analysis of the data, quantitative analysis methods were used

Table 2. Descriptive findings regarding internet addiction and psychological well-being.

Variable	n	Min.	Max.	\bar{x}	Ss	%*
Internet addiction	412	0.00	72.00	20.86	14.40	20.9
Psychological well-being	412	14.00	70.00	52.18	10.32	68.2

* It is proportional to the lowest and highest points that can be obtained.

Table 3. Relationship between internet addiction and psychological well-being.

Variable	Psychological well-being	
	Pearson r	-0.44
Internet addiction	p	0,00
	n	412

by making use of the SPSS 25.0 program. In this context, descriptive statistical methods such as mean and standard deviation were used to evaluate participants' responses to the socio-demographic information form and to determine descriptive findings related to internet addiction and psychological well-being. Whether the data used within the scope of the study have a normal distribution was determined by examining the skewness and kurtosis values. As a result of the analysis, the skewness values were determined as 1.037 for internet addiction and -0.829 for psychological well-being. Kurtosis values were determined as 0.894 and 0.967, respectively. The data show a normal distribution. The reason for this is that, in studies conducted in social sciences; these values within the range of ± 1.50 are considered sufficient for a normal distribution (Tabachnick and Fidell, 2013: 12). The coefficients of skewness and kurtosis are in the range of ± 1.50 . Findings of the relationship between internet addiction and psychological well-being were determined by Pearson correlation analysis. The analysis of Internet addiction and psychological well-being according to numerous variables and determination of whether they show a significant difference was made with unrelated samples t-test, analysis of variance (ANOVA) and Tukey HSD multiple comparison (post-hoc) test. All of the analyses were carried out at 95% confidence interval and $p < 0.05$ significance level.

FINDINGS AND INTERPRETATION

Descriptive findings regarding internet addiction and psychological well-being

Descriptive findings related to internet addiction and psychological well-being obtained as a result of evaluating the answers given to the Internet Addiction test and Mental Well-being Scale are given in Table 2. According to Table 2, the internet addiction scores of the participants varied between 0-72 and the average was calculated as 20.86 ± 14.40 . Psychological well-being scores varied between 14 and 70 and the average was calculated as 52.18 ± 10.32 . As a result of proportioning the average scores to the lowest and highest scores that can be obtained from the scales, the internet addiction level of the participants is 20.9%; it can be said that their

psychological well-being level is 68.2%.

Findings about the relationship between internet addiction and psychological well-being

Pearson correlation analysis was conducted to determine the relationship between Internet addiction and psychological well-being, and the findings are presented under the subtitle.

Relationship between internet addiction and psychological well-being

Table 3 shows the findings of the relationship between internet addiction and psychological well-being. According to Table 3, it was observed that there was a moderate ($0.29 < r < 0.70$), negative ($r = -0.44$) and significant ($p < 0.05$) relationship between internet addiction and psychological well-being. In other words, with the increase in psychological well-being, internet addiction decreases moderately and significantly. The variance explained by the variables on each other is 19.2%. The variance explained by the variables on each other is 19.2%. This relationship is shown in Figure 1.

Based on these findings, "H1: There is a significant relationship between internet addiction and psychological well-being" has been accepted. Data is heavy to the left and rarely spread out on the right!

Findings of investigating internet addiction and psychological well-being according to various variables

The findings obtained as a result of examining Internet addiction and psychological well-being according to various variables are presented under sub-headings.

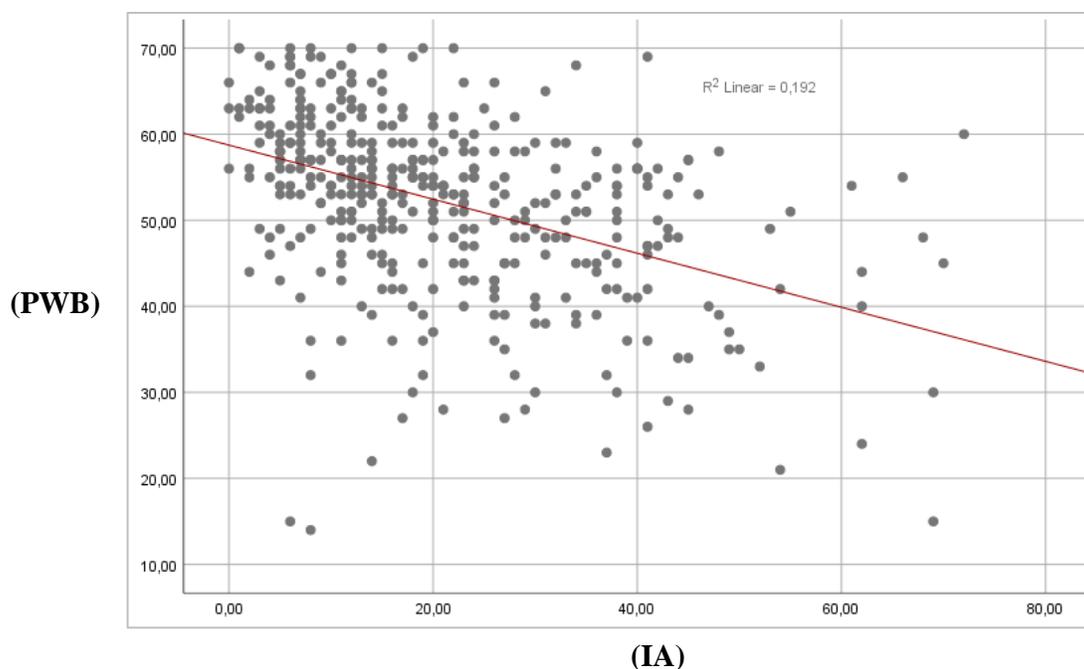


Figure 1. The Relationship between Internet Addiction and Psychological Well-Being.

Table 4. Analysis of internet addiction and psychological well-being by gender.

Variable	Gender	n	\bar{x}	Ss	t	Sd	p
Internet addiction	Female	289	20.80	14.06	-0.14	410	0.89
	Male	123	21.02	15.21			
Psychological well-being	Female	289	51.67	9.74	-1.52	410	0.13
	Male	123	53.37	11.51			

Gender

In order to examine internet addiction and psychological well-being according to gender, unrelated samples t-test was performed and the findings obtained are given in Table 4. According to Table 4, internet addiction and psychological well-being scores of males were found to be higher than females. However, the differences are not significant. It was found that there was no significant difference between internet addiction and psychological well-being according to gender ($p > 0.05$).

Based on these findings, "H2: "Internet addiction and psychological well-being differ significantly by gender" has been rejected.

Age

ANOVA (analysis of variance) was performed to examine internet addiction and psychological well-being according

to age, and the findings are shown in Table 5. According to Table 5, it was determined that internet addiction and psychological well-being differ significantly according to age ($p < 0.05$). When the averages are examined, with the increase in age, it is observed that internet addiction decreases and psychological well-being increases. However, Tukey HSD multiple comparison (post-hoc) test was conducted to determine between which groups the difference was (Table 6). According to Table 6, internet addiction of the participants between the ages of 15-24 (young participants) is significantly higher than all other participants ($p < 0.05$). In addition, participants in the 25-44 age group (young adults participants) have more addictions than the 45-64 age group (adults participants) ($p < 0.05$). When psychological well-being was examined, it was found that the well-being levels of the participants between the ages of 15-24 (young participants) were significantly lower than all of the other participants ($p < 0.05$). Participants in the 25-44 (young adults' participants) and 45-64 age groups (adults' participants) have similar psychological well-being.

Table 5. Analysis of internet addiction and psychological well-being by age.

Variable	Yaş	n	\bar{x}	Ss	Variance	Squares Total	Sd	Squares Mean	F	p
Internet addiction	15-24	82	28.18	14.29	Intergroup	7556.14	2	3778.07	19.91	0.00
	25-44	286	20.02	14.26	In-group	77624.98	409	189.79		
	45-64	44	12.66	8.53	Total	85181.11	411			
Psychological well-being	15-24	82	49.48	9.72	Intergroup	826.52	2	413.26	3.94	0.02
	25-44	286	52.66	10.39	In-group	42908.19	409	104.91		
	45-64	44	54.09	10.19	Total	43734.71	411			

Table 6. Multiple comparison findings regarding internet addiction and psychological well-being by age.

Variable	(A) Age group	(B) Age group	Difference between means (A-B)	p
Internet addiction	15-24	25-44	8.16	0.00
		45-64	15.52	0.00
	25-44	15-24	-8.16	0.00
		45-64	7.37	0.00
	45-64	15-24	-15.52	0.00
		25-44	-7.37	0.00
Psychological well-being	15-24	25-44	-3.19	0.01
		45-64	-4.62	0.02
	25-44	15-24	3.19	0.01
		45-64	-1.43	0.39
	45-64	15-24	4.62	0.02
		25-44	1.43	0.39

Table 7. Examination of internet addiction and psychological well-being by marital status.

Variable	Marital status	n	\bar{x}	Ss	t	Sd	p
Internet addiction	Married	219	19.47	14.31	-2.09	410	0.04
	Single	193	22.44	14.37			
Psychological well-being	Married	219	52.68	10.30	1.05	410	0.29
	Single	193	51.61	10.33			

Based on these findings, "H3: Internet addiction and psychological well-being differ significantly by age." has been accepted.

Marital status

In order to examine internet addiction and psychological well-being according to marital status, unrelated samples t-test was performed and the findings obtained are given in Table 7. According to Table 7, it was determined that there is a significant difference between internet addiction and marital status ($p < 0.05$), but not a significant difference between psychological well-being ($p > 0.05$). When the averages were examined, it was seen that the internet addiction of singles was significantly higher than that of married people ($p < 0.05$).

Based on these findings, "H4: Internet addiction and psychological well-being differ significantly by marital status." partially accepted.

Educational status

ANOVA was performed in order to examine internet addiction and psychological well-being according to educational status and the findings obtained are shown in Table 8. According to Table 8, it was determined that internet addiction and psychological well-being did not show a significant difference according to education level ($p > 0.05$).

Based on these findings, "H5: Internet addiction and

Table 8. Examination of internet addiction and psychological well-being by educational status.

Variable	Educational status	n	\bar{x}	Ss	Variance	Squares total	Sd	Squares Avg.	F	p
Internet addiction	Literate/Pri. education	21	19.48	15.11	Intergroup	226.02	3	75.3	0.36	0.78
	High school	102	19.78	14.44	In-group	84955	408	208.2		
	Associate/Und. graduate	230	21.32	14.01	Total	85181.1	411			
	Master and above	59	21.42	15.73						
Psychological well-being	Literate/Pri. education	21	56.52	8.45	Intergroup	638.5	3	212.8	2.01	0.11
	High school	102	52.83	10.55	In-group	43096.1	408	105.6		
	Associate/Und. graduate	230	51.32	10.53	Total	43734.7	411			
	Master and above	59	52.86	9.31						

Table 9. Examination of internet addiction and psychological well-being by employment status.

Variable	Employment status	n	\bar{x}	Ss	t	Sd	p
Internet addiction	Employed	230	18.64	13.26	-3.51	359.59	0.00
	Unemployed	182	23.67	15.30			
Psychological well-being	Employed	230	54.07	9.47	4.19	361.13	0.00
	Unemployed	182	49.80	10.86			

Table 10. Examination of internet addiction and psychological well-being by income level.

Variable	Income level	n	\bar{x}	Ss	Variance	Squares Total	Sd	Squares Avg.	F	p
Internet addiction	Low	49	25.86	17.46	Intergroup	1418.18	2	709.09	3.46	0.03
	Middle	319	20.29	13.49	In-group	83762.94	409	204.80		
	High	44	19.41	16.21	Total	85181.11	411			
Psychological well-being	Low	49	46.61	9.99	Intergroup	1843.49	2	921.74	9.00	0.00
	Middle	319	52.72	9.96	In-group	41891.22	409	102.42		
	High	44	54.48	11.38	Total	43734.71	411			

psychological well-being differ significantly by educational status." has been rejected.

Employment status

In order to examine internet addiction and psychological well-being according to employment status, unrelated samples t-test was performed and the findings obtained are shown in Table 9. According to Table 9, it was found that there is a significant difference ($p < 0.05$) between internet addiction and psychological well-being. When the averages are examined, the internet addiction of those who unemployed is more than the employed ones; it was observed that the psychological well-being of the employed participants was significantly higher than the unemployed ones ($p < 0.05$).

Based on these findings, "H3: Internet addiction and psychological well-being differ significantly by employment status." has been accepted.

Income level

ANOVA was performed in order to examine internet addiction and psychological well-being according to income level and the findings obtained are shown in Table 10. According to Table 10, internet addiction and psychological well-being do not show a significant difference according to income level ($p < 0.05$). When the averages are analyzed, it is seen that internet addiction increased with the decrease in income; psychological well-being was found to decrease. However, Tukey HSD multiple comparison (post-hoc) test was conducted in order to determine between which groups the difference was (Table 11). According to Table 11, participants in the low income group have significantly higher internet addiction than other groups ($p < 0.05$); however, psychological well-being was found to be significantly lower than the other groups ($p < 0.05$).

Based on these findings, "H7: Internet addiction and psychological well-being differ significantly by income

Table 11. Multiple comparison findings regarding internet addiction and psychological well-being examined by income level.

Variable	(A) Income St.	(B) Income St.	Difference between means (A-B)	p
Internet addiction	Low	Middle	5.56	0.01
		High	6.45	0.03
	Middle	Low	-5.56	0.01
		High	0.89	0.70
	High	Low	-6.45	0.03
		Middle	-0.89	0.70
Psychological well-being	Low	Middle	-6.11	0.00
		High	-7.87	0.00
	Middle	Low	6.11	0.00
		High	-1.76	0.28
	High	Low	7.87	0.00
		Middle	1.76	0.28

level." has been accepted.

DISCUSSION

In this study, it was aimed to examine internet use in terms of psychological well-being. Seventy percent, of those participating in the study are females and approximately 75% are young adults (between the ages of 25-44). Approximately, 50% of the participants are married and single. A total of 412 people, 70% of whom were at least pre-license degree graduate, took part in the research. In addition, 56% of the participants are employed and 75% of them have moderate income. Accordingly, it can be said that an educated sample group consisting mainly of females aged 25 and over participated in the study. This may be due to the fact that females who have reached a certain age and who are educated may be more sensitive to participate in such studies, and the sample was randomly collected via the internet. Considering the scores obtained from the scales, it was seen that the participants generally had a low level of internet addiction and a high level of psychological well-being. The reason for this may be that the sample consists mostly of individuals above the age of 25, with a high level of education, and they are conscious internet users. This situation revealed the importance of education in reducing internet addiction and increasing psychological well-being.

In the study, it was seen that the relationships between internet addiction and psychological well-being were all moderate and significant ($p < 0.05$). There is a negative and significant relationship between internet addiction and psychological well-being. In other words, internet addiction increases significantly with the decrease in psychological well-being. The variance (effect on each other) explained by internet addiction and psychological well-being on each other was found to be 19.2%. It has

been determined that being under the age of 25, being single, unemployed and having a low income are the factors that significantly increase internet addiction. According to the results of the t-test and analysis of variance, the internet addiction of those under the age of 25 was found to be significantly higher than the other age groups. It may be those individuals under the age of 25 are not yet under professional and marital responsibilities and have a lot of free time.

Internet addiction of singles and unemployed people was found significantly higher than married couples and employed ones. This may be because single and unemployed people spend a lot of time online to spend their time and meet new people. When looking at the study of Tel and Koksalan (2009) who support this approach, it was seen that single participants "always" and "often" used the internet and this situation was attributed to the fact that single people were not under the marriage responsibility. In addition, it was found that the internet addiction of the low-income group was significantly higher than the others, and the addiction decreased with the increase in income. The reason for this may be that people with low income often prefer the internet in this direction instead of hobbies that require financial means to reduce their stress, spend time and have fun. Supporting this approach, in the research on "Internet Use of Families" conducted by the Turkey General Directorate of Family and Community Services, it was reported that internet usage decreases as the income level increases (Milliyet News, 2012). As a result, it can be said that there is an inverse proportion between income level and internet addiction.

Psychological well-being results were also quite similar. Psychological well-being increases significantly with the increase in employment status and income levels. The reason for this may be that individuals who have a better professional life and financial situation can lead the life they want. Since individuals with high income levels will

have a higher potential to spend on their hobbies, new occupations, and various social activities, the situation of feeling well can be realized more easily. In a study supporting this approach; Tatlıoğlu (2015) mentioned that the spending potential of the person is considered as a resource in terms of achieving his goals, and that it can be seen as an important factor for a person's psychological well-being.

In addition, psychological well-being of under 25 years of age was found to be significantly lower than other individuals. The reason for this may be that young people who do not have experience, who have not yet started life, who have not graduated or not have a job, are experiencing profession and future concerns.

CONCLUSION AND RECOMMENDATIONS

In conclusion, when all of these findings are evaluated together with the meaningful relationships between internet addiction and psychological well-being, it is possible to say that individuals under the age of 25, single, unemployed, and low-income group are in the risk group in terms of internet addiction. In addition, looking at the characteristics of this risk group, it is seen that it mostly describes the profile of university and high school students. It is seen that university and high school students make the internet a part of their lives due to environmental change, the adaptation process to this change, new social needs and academic situations that cause them to engage with the internet. For this reason, individuals under the age of 25, including mostly university and high school students, are considered to be in a position at risk.

Based on these results, the following recommendations can be made:

1. Future studies to reduce or prevent internet addiction should be carried out; it can be suggested to take into consideration that there are meaningful relationships between internet addiction and psychological well-being and to take a holistic approach.
2. Act on the principle of this study to increase psychological well-being will significantly reduce internet addiction.
3. In the prevention of internet addiction, focus can be made primarily on individuals under the age of 25, single, unemployed and in the low income group.
4. The findings obtained by conducting similar studies on sample groups with different characteristics should be compared with the findings of this study.
5. New perspectives can be brought with new studies in order to understand and determine the effects of increasing internet usage on people.
6. People can be informed about the psychological, physical, material and spiritual disadvantages caused by unconscious internet use and how they may affect the individual.

7. Psycho-training program can be designed for increasing the level of psychological well-being in order to prevent internet addiction.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interest.

REFERENCES

- Boysan M, Kuss DJ, Barut Y, Aykose N, Gulec M, Ozdemir O (2017). Psychometric Properties of the Turkish Version of the Internet Addiction Test (IAT). *Addictive Behaviors* 64:247-252.
- Bolukbas K (2003). A Sociological Study on Internet Cafes and Internet Addiction: The Case of Diyarbakir. Unpublished Master's Thesis, Dicle University Institute of Social Sciences, Diyarbakir.
- Buyukozturk S (2011). *Manual of data analysis for social sciences*. Ankara: Pegem Academy.
- Cengizhan C (2005). A New Dimension in Students' Computer and Internet Use: Internet Addiction. M.U. Ataturk Faculty of Education *Journal of Educational Sciences* 22:83-98.
- Goldberg I (1996). "Goldberg's Message" <http://www-usr.rider.edu/~suler/psyber/supportgp.html>. E.T: 05.12.2020
- Gunuc K, Kayri M (2010). Turkey's Internet Addiction Profile and Development of Internet Addiction Scale: Validity-Reliability Study. *Hacettepe University Journal of Education* 39:220-232.
- Jang KS, Hwang SY, Choi JY (2008). Internet Addiction and Psychiatric Symptoms Among Korean Adolescents. *The Journal of School Health* 78(3).
- Karasar N (2016). *Scientific Research Method: Concepts, Principles, Techniques*. Ankara: Nobel Publishing.
- Keldal G (2015). The Turkish Form of Warwick-Edinburgh Mental Well-being Scale: Validity and Reliability Study. *The Journal of Happiness and Well-Being* 3(1):103-115.
- Leung L (2004). Net-Generation Attributes and Seductive Properties of the Internet as Predictors of Online Activities and Internet Addiction. *Cyberpsychology and Behavior* 7(3):333-348.
- Milliyet News (2012). "Internet Usage Decreases As Income Level Increases." <https://www.milliyet.com.tr/gundem/gelir-duzeyi-yukseldikce-internet-kullanimi-azaliyor-1542879>. Date of Access: 05.12.2020
- Ryff CD, Keyes CLM (1995). The Structure of Psychological Well-Being Revisited. *Journal of Personality and Social Psychology* 69(4):719-727.
- Sally LPM (2006). *Prediction of Internet Addiction for Undergraduates in Hong Kong*. Baptist University, Hong Kong, UMI Dissertation Information Service.
- Sezer F (2013). Factors Effective on Psychological Well-Being. *NWSA-Education Sciences* 8(4):489-504.
- Tabachnick BG, Fidell LS (2013). *Using Multivariate Statistics*, 6th ed. Boston: Allyn & Bacon.
- Tatlıoğlu K (2015). Investigation of the Relationship Between University Students' Monthly Income Levels and Psychological Well-Being (Case of Bingöl University). *Electronic Journal of Social Sciences* 14(55):1-15.
- Tel M, Koksalan B (2009). Internet as a New Leisure Activity Today: The Case of Faculty Members. *Electronic Journal of Social Sciences* 8(28):262-272.
- Tennant R, Hiller L, Fishwick R, Platt S, Joseph S, Weich S, Parkinson J, Secker J, Stewart-Brown S (2007). The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS): Development and UK Validation. *Health and Quality of Life Outcomes* 5(1):63.
- Thurlow C, Lengel L, Tomic A (2004). *Computer Mediated Communication: Social Interaction and the Internet*. London: Sage Publications.
- Tsai C, Lin S (2003). Internet Addiction of Adolescents in Taiwan: An Interview Study. *Cyberpsychology and Behavior* 6(6).

Turkish Statistical Institute (2020). "Household Information Technologies Usage Research" [https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-\(BT\)-Kullanim-Arastirmasi-2020-33679](https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-(BT)-Kullanim-Arastirmasi-2020-33679). Date of Access: 07.12.2020

Young KS (1998). Internet Addiction: The Emergence of a New Clinical Disorder. *CyberPsychology and Behavior* 1(3):237-244.

Appendix 1. The socio-demographic information form.

İNTERNET KULLANIMININ PSİKOLOJİK İYİ OLUŞ VE YALNIZLIK DURUMU AÇISINDAN İNCELENMESİ ANKETİ

A. Sosyo-Demografik Bilgi Formu

1. Cinsiyetiniz?

- Kadın
 Erkek

2. Yaşınız?

Lütfen belirtiniz ()

3. Medeni Haliniz?

- Evli
 Bekar

4. Eğitim Durumunuz?

- Okur-yazar
 İlköğretim
 Lise
 Önlisans/Lisans
 Yüksek Lisans ve Üzeri

5. Annenizin Eğitim Durumu?

- Okur-yazar
 İlköğretim
 Lise
 Önlisans/Lisans
 Yüksek Lisans ve Üzeri

6. Babanızın Eğitim Durumu?

- Okur-yazar
 İlköğretim
 Lise
 Önlisans/Lisans
 Yüksek Lisans ve Üzeri

7. Çalışma Durumunuz?

- Çalışıyorum
 Çalışmıyorum

8. Gelir Düzeyiniz?

- Düşük
 Orta
 Yüksek

9. Yaşadığınız Evde İnternet Aboneliğiniz Var mı?

- Var
 Yok

10. Kaç Gigabaytlık Mobil İnternet(Akıllı Telefon) Paketi Kullanıyorsunuz?

- 1 GB - 5 GB Arası
 6 GB - 10 GB Arası
 11 GB ve Üzeri

11. Daha Çok Ne Tür Bir Cihazdan İnternete Bağlanıyorsunuz?

- Akıllı Telefon
 Akıllı Televizyon
 Tablet Bilgisayar
 Masaüstü Bilgisayar
 Dizüstü Bilgisayar

12. İnternette En Çok Vakit Geçirdiğiniz Site Türü Nedir?

- Bilim, Araştırma ve Akademi Siteleri
 E-Ticaret Siteleri
 Sosyal Medya Siteleri
 Eş - Arkadaş Bulma Siteleri
 Yetişkin Siteleri

13. Hiç İnternette Tanıştığınız Birisiyle Dışarda Görüştünüz mü?

- Görüştüm
 Görüşmedim

14. İnterneti Kullanma Sıklığınızın, Sosyal Çevrenizdeki İnsanlarla Görüşmenizi Kısıtladığını Düşünüyor Musunuz?

- Düşünüyorum
 Düşünmüyorum

15. Aşırı İnternet Kullanımının İnsan Psikolojisi Üzerinde Olumsuz Etkileri Olabileceğini Düşünüyor Musunuz?

- Düşünüyorum
 Düşünmüyorum

Appendix 2. The internet addiction test (IAT).

B. İnternet Bağımlılığı Ölçeği

Aşağıdaki 20 soruda ifade edilen davranışları ne sıklıkta yaptığınızı size en uygun rakamı yuvarlak içine alarak değerlendiriniz.

0	1	2	3	4	5
Hiç	Nadiren	Bazen	Sıkça	Çoğu zaman	Her zaman

1. Ne sıklıkta planladığınızdan daha uzun süre internette kalırsınız?	0 1 2 3 4 5
2. Ne sıklıkta internette çok fazla zaman geçirdiğiniz için evdeki sorumluluklarınızı ihmal edersiniz?	0 1 2 3 4 5
3. Ne sıklıkta internette aldığınız keyfi, sevdiğiniz insan veya yakın arkadaşınızla zaman geçirmeye tercih edersiniz?	0 1 2 3 4 5
4. Ne sıklıkta sizin gibi internet kullanıcılarıyla yeni arkadaşlıklar kurarsınız?	0 1 2 3 4 5
5. Ne sıklıkta yaşamınızdaki diğer insanlar sizin internette geçirdiğiniz zamandan şikayet eder?	0 1 2 3 4 5
6. Ne sıklıkta internette geçirdiğiniz zamandan ders notlarınız veya okul çalışmalarınız olumsuz etkilenir?	0 1 2 3 4 5
7. Ne sıklıkta yapmanız gereken başka bir şeylerden önce e-postanızı kontrol edersiniz?	0 1 2 3 4 5
8. Ne sıklıkta iş performansınız veya üretkenliğiniz internette olumsuz etkilenir?	0 1 2 3 4 5
9. Ne sıklıkta birileri size internette ne yaptığınızı sorduğunda savunmacı veya gizleyici olursunuz?	0 1 2 3 4 5
10. Ne sıklıkta yaşamınıza dair rahatsız olduğunuz konulardaki düşüncelerinizi, internette rahatlatıcı fikirler bularak savuşturursunuz?	0 1 2 3 4 5
11. Ne sıklıkta kendinizi tekrar internete girmek için beklerken bulursunuz?	0 1 2 3 4 5
12. Ne sıklıkta internetsiz bir yaşamın sıkıcı, boş ve zevksiz bir şey olacağından korkarsınız?	0 1 2 3 4 5
13. Ne sıklıkta siz internetteyken birileri sizi rahatsız ederse ona sert çıkar, bağırır veya soğuk davranırsınız?	0 1 2 3 4 5
14. Ne sıklıkta gece internete girdiğiniz için uykusuz kalırsınız?	0 1 2 3 4 5
15. Ne sıklıkta internette değilken kafanızın internetle meşgul olduğunu hissedersiniz veya internette olmakla ilgili hayaller kurarsınız?	0 1 2 3 4 5
16. Ne sıklıkta internetteyken kendi kendinize "Sadece birkaç dakika daha" dediğinizi fark edersiniz?	0 1 2 3 4 5
17. Ne sıklıkta internette geçirdiğiniz zamanı azaltmaya çalışır ve başarısız olursunuz?	0 1 2 3 4 5
18. Ne sıklıkta internette ne kadar zaman geçirdiğinizi saklamaya çalışırsınız?	0 1 2 3 4 5
19. Ne sıklıkta başkalarıyla birlikte dışarıya çıkmaktansa internette zaman geçirmeyi daha fazla tercih edersiniz?	0 1 2 3 4 5
20. Ne sıklıkta internete girmediğinizde depresif, huysuz veya gergin hissedersiniz; öyle ki bu duygular internete girdiğinizde kaybolup gider?	0 1 2 3 4 5

Appendix 3. The warwick-edinburgh mental wellbeing scale (WEMWBS).

Warwick-Edinburgh Mental İyi Oluş Ölçeği

	Hiç katılmıyorum	Katılmıyorum	Biraz katılıyorum	Katılıyorum	Tamamen katılıyorum
1. Gelecekle ilgili iyimserim.	1	2	3	4	5
2. Kendimi işe yarar (faydalı) hissediyorum.	1	2	3	4	5
3. Kendimi rahatlamış hissediyorum.	1	2	3	4	5
4. Diğer insanlara karşı ilgiliyim.	1	2	3	4	5
5. Farklı işlere zaman ayırabilecek enerjim var.	1	2	3	4	5
6. Sorunlarla iyi bir şekilde başa çıkabilirim.	1	2	3	4	5
7. Açık ve net bir biçimde düşünebiliyorum.	1	2	3	4	5
8. Kendimden memnunum.	1	2	3	4	5
9. Kendimi diğer insanlara yakın hissediyorum.	1	2	3	4	5
10. Kendime güveniyorum.	1	2	3	4	5
11. Kendi kararlarımı kendim verebiliyorum.	1	2	3	4	5
12. Sevildiğimi hissediyorum.	1	2	3	4	5
13. Yeni şeylere karşı ilgiliyim.	1	2	3	4	5
14. Neşeli hissediyorum.	1	2	3	4	5

Full Length Research Paper

Note reading methods used in piano education of 4 to 6 years old children

Hatice Sezen

Music Education Department, Faculty of Education, Mehmet Akif Ersoy University, Turkey.

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The aim of the study is to analyse the teaching methods and materials that are currently used in the basic piano education of children at the age of 4-6 years, using the existing literature, and to develop suggestions and recommendations regarding the process. The study covered various teaching methods and techniques that are used in introduction of the piano keyboard to children as well as teaching the titles of notes and their places on the staff throughout the process of habituation of note reading in children at age of 4 to 6 years. Considering the basic principle that note-teaching for children is a visual, auditory and psychomotor process respectively, it has been suggested that the musical notes should be perceived as a graphical structure. The study has sought an answer to the question how to perform the note-teaching for piano education of children in the most productive way possible. This process, which requires due diligence, has been developed in stages and each stage has been elaborated in detail. As a result of the literature review, considering that there are very limited number of studies in the literature on various note-learning methods and materials applied in early age piano education, it is suggested that this study will contribute to pedagogues giving early age piano education and can also shed light on further studies.

Keywords: Early age, piano education, note reading, teaching methods, materials.

INTRODUCTION

One of the most important steps of early-age piano education is to provide the children with the habit of note-reading. In order to run this process successfully, it is critical for piano pedagogues working with preschool children to possess the skills to implement stepwise methods, mnemonic techniques, visual materials and creative pedagogical teaching activities. Piano has the widest sound capacity among all instruments with its range more than seven octaves. Therefore, the note writing arranged for playing the piano contains two

different staves and clefs for both hands. Furthermore, it requires to read and play double, triple or more notes simultaneously in accordance with the polyphonic structure. It is pretty difficult for children receiving piano education at early ages to adapt to such complex note writing and therefore requires working with patience. Moreover, the eye (visual) - hand (manual) - ear (aural) coordination must be ensured simultaneously to be able to read multiple notes at a time. Therefore, we need to work fastidiously on providing children with note reading

E-mail: hsezen@mehmetakif.edu.tr.

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skills to ensure that they can play piano pieces accurately and continue smoothly in the following processes. Starting with the very first lessons, use of effective teaching methods and materials regarding the note-reading skills of children will make the process efficient and productive.

Erden (1998) has stated that teaching methods have a critical place among the factors affecting student performance in educational situations. Demirel (2007) has addressed the concept of method in education and pointed out that we need to underline the ways how to provide students with new behaviours. Demirel suggests that the method is the pre-defined way or the way to be followed in order to achieve the goal. As Fidan (2012) stated, the method involves arrangement and operation of teacher and student activities by using techniques and tools according to a plan. At this point, Demirel (2007) expresses that the teaching methods will gain significance and functionality only if they constitute integrity with other elements of the curriculum (Yeşilyurt, 2013). Several note teaching methods are used in early-age piano education. It is critical that the piano educator has sufficient knowledge and experience on effective note teaching methods for successful provision of note-reading habit because there is a strong tie between specialized knowledge of teacher on this subject and children's reading note signs quickly and finding their respective places on the keyboard to display required behaviours.

It would be safe to make an analogy between the note-reading process of children in piano education and the method of reading a literary text. Unlike a piece of writing in a book, notes take their places on a musical writing both vertically and horizontally. Children try to recognize the musical writing by dividing it into different notes (letters) in the beginning whereas later in to note groups (words) as patterns and finally in to sentences. However, the volume and difficulty of the material in reading a musical piece is higher than that in a literary work. As a conclusion, when playing a musical piece, children need not only to comprehend the signs depicting the volume and tone of sound, two different staves and clefs, the number of scale and the musical structure, but also to conduct a chain of complex processes such as organizing himself/herself rhythmically and to follow the direction of the melody (Satdarova, 2016).

At the outset, children start to take the piano class to learn how to play the piano. We should not disappoint him/her with mere theoretical information and too many drills away from the instrument. Piano education for children is a process entailing various game activities and individual methods towards development of note-reading skills. Success in note-literacy can be achieved through ensuring that children frequently repeat simple and understandable concepts. The starting process of education includes many pieces of information that are necessary. The main principle in presentation of the material is accessibility and conciseness. Knowledge and

skills that are understandable and pre-taught to children should be used as helping tools in order to avoid that they do not get drowned in this "ocean of information". Lili Vespremi (1981), a Hungarian pedagogue listed the steps of note-reading process respectively as follows: to see where note are written – visual perception; to form an aural perception related t the sound of the relevant note - acoustic perception; to make sound by hitting the keys - motor (dynamic) perception; to check and compare visual and acoustic perception regarding the sound made, (Direktorenko, 2001, p. 28). Mangova (2015, p. 3) made a similar classification as seen in Figure 1.

The main approach in piano education should be a synthesis of game and learning activities in the process of providing children at age group of 4-6 years with note-reading habit with a view to effective implementation of all these steps. A child starting to take piano lesson faces so many highly complex, intermingled concepts. In order to complete this process successfully and to ensure that the child does not get discouraged and bored with all these concepts, all the activities should be well-planned and level-adjusted based on the principle of teaching by games, and should be implemented with proper materials developed for each teaching activity.

Games help children to find solutions to their problems by trial and error, and improve risk-taking experience of children. The pedagogue should determine his/her guidance for the child by a method considering contribution of games in children. The pedagogue should take neither a too active nor a too passive attitude. He/she should undertake such a role to give relief to the child indeed as needed and to take him/her to one step forward (Bozoklu, 1994; quoted by Ünal, 2006, p. 36). Although the main principle of early piano education is to develop musicians, it is actually to teach piano and music by playing games together, enjoying good times together and endearing them (Molla, 2002; quoted by Bekan, 2019, p. 23). Furthermore, the piano teacher should possess the skill to evaluate whether the child is ready to start piano education in terms of his/her age, cognitive, psychomotor and sensory development. Also, in this long, comprehensive education process that requires a lot of patience, it is another dimension for the piano teacher to run all the teaching stages by taking into account the development period of the child.

The literature review has shown us some studies conducted on examination of piano methods used for preschool students and identification of target behaviours and methodologies (Işıkdemir, 2017; Kaynak, 2004). Additionally, there are also studies that cover general musical methods applied by teachers in piano classes and expert opinions on this subject (Burak et al., 2020; Ersoy, 2010; Kılınçer, 2013; Onuray, 1998; Özyazıcı, 2019; Uçar, 2015; Yaliloğlu, 2019; Yılmazlar, 2004). There are also thesis and papers that generally examine piano teaching techniques (Gasimova, 2011; Halvaşı, 1989). Some of these studies analyzed note-reading

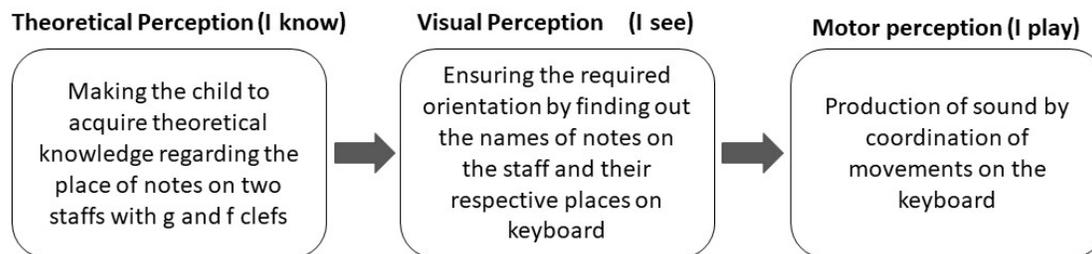


Figure 1. Steps of note-reading by Mangova.

methods applied in early-age elementary piano education; however they did not provide thorough information about the subject. Regarding the methods for teaching how to read notes in elementary piano education, Kurtuldu (2010) covered development of note-reading skills through jingles for primary school children. There are also studies on sight-reading in field of reading notes (Çiftçiabaşı and Şakıtanlı, 2017; Gün and Öztürk, 2018; Kurtuldu, 2015; Özer and Yiğit, 2011). These studies analyzed some dimensions of note-reading methods in piano education. Nevertheless, they mostly examined development of sight-reading skills in general rather than note-reading teaching methods for early age elementary piano education.

There is a variety of opinions and practices regarding note-reading teaching methods for early-age children. Each of these practices varies according to learning attributes of children, and yields different results in different students and student groups. Thus, review of all these teaching methods altogether and presentation of them to educators in a compilation would be critically important to both facilitate a systematic awareness-raising on this subject and to understand learning differences of students in note-reading and to select a method accordingly.

This study starts with theoretical and pedagogical information and definitions on early-age piano education. Then, it reviews all methods applied for development of note-reading skills at early-age elementary piano education by considering mental, physical and psychological attributes of children at the age group of 4-6 years, with a view to identifying their pros and cons. As a conclusion, it puts forward suggestions regarding which method to apply for which purpose and need by taking into account personal variables of students. In this sense, we believe that this study will provide an overview of note-teaching methods for teachers giving early age piano education, and also will have its rightful place on this field in the literature.

METHOD

This is a descriptive study in general review model. It uses literature review technique as data collection tool. In review researches,

researcher may "...examine the object or subject itself, or integrate the dispersed data he/she can obtain from previously-recorded (written documents and statistics, images, audio and video records and etc.) old data as well as source individuals in the field, with his/her own observations within a system and interpret them accordingly" (Karasar, 2018, p.109). As a result of the literature review, based on the opinion that note-reading is a skill that can be developed through various teaching methods, techniques and materials in early age piano education, examples and suggestions have been put forward regarding this process. The study aims to evaluate teaching methods and materials used in note-teaching process in elementary piano education for children at the age group of 4-6 years based on the existing literature. We consider that this study will contribute to pedagogues rendering early age piano education and can shed light on to further studies.

FINDINGS

Starting age for piano education

Pedagogues have put forward various opinions regarding the starting age for piano education. Fenmen suggests, "Relationship of the new generation with music should start before primary education. Five, six and even four years, depending on the individual, are the first ages to start this relationship" (Fenmen, 1997, p. 35). Bastien (1973) suggested that not every child at preschool age would have the required competence to start piano education considering the physical development differences as it is imperative for the child to be able to use finger, wrist and all hand muscles regularly and masterly in order to play piano. Ability to write with a pencil or at least to draw letters shows that the child can use hand muscles sufficiently. "Some pedagogues, on the other hand, point that education is not a competition, suggesting that children who start instrument education at primary and secondary school are more enthusiastic and make progress faster than those who start at earlier ages; furthermore, overloading could be counterproductive for younger children at early education" (Çimen, 1995, p. 19). The most common opinion on this subject is that the child should start piano education only after a pedagogue approves that physical competences and psychological maturity level of the child are appropriate for playing piano. "The age to start piano education under a program is often the age of 6-7 years

in which the child can display the sufficient maturity and competence to learn this instrument. However, children can also start at younger ages due to personal differences among children. The teacher should observe and find out shortly musical talent, harmony and movement of hands, and development and progress of some technical skills as well as the enthusiasm of the children who start to learn piano at early ages” (Ercan, 2008; quoted by Ersoy, 2010, p. 13).

Developmental attributes of children receiving early age piano education

Early age piano education covers the Intuitive Process Period (4-7 years) according to development periods of Piage. “Children ratiocinate, in this period, based on their intuitions rather than the rules of reason, and try to solve problems intuitively. Children in this age group spend all the time he or she is awake by playing games. Imitating ability is well-developed in these children. Mental thinking has already started in these children. They can distinguish living and non-living things. However, they perceive every object or piece separately. Image is very important for them. These children make their decisions based on appearance of things or objects, and cannot make a higher level categorization. For instance; they can categorize things according to their sensory attributes such as size, colour and shape, however they are not fully aware of their relations. This is because they cannot comprehend yet the cause-effect relationship that makes events happen. Therefore, this stage is called pre-process because children do not have the cognitive competence to make process” (Başkale and Bahar, 2008, p. 135). Thus, in children in this developmental period described as “pre-process” by Piaget, we should apply curricula whose main theme is concrete events or facts. Otherwise, it will be more difficult to get the desired efficiency.

Musical development of children at the age of 4-6 years

As previously expressed, it is extremely important to measure musical interest and talent levels of children at age of 4-6 years before starting an instrument education. Furthermore, measurement of interest and talent levels equally contains difficulties. The following information is available in the literature about understanding the musical interest of children at this age group: “They keep on using the objects in hand as instruments and use instruments in imaginary games. They play percussion instruments. They easily use percussion melody, rhythm and tone instruments. They can relate sounds as strong-light, long-short and high-low. They distinguish the sounds going high, going low and remaining the same as

well as the loudness increasing, decreasing or staying same. Their musical sound memory gets increasingly stronger. They repeat short rhythm patterns. They join the music with proper measure and rhythm beats. They use words for rhythm beats. They timely use basic skills regarding musical dynamism, singing and playing an instrument. They understand that Turkish is a melodic language, and implement it with musical tales and poems” (Uçan et al., 2001, p. 28)

Children should be at a certain mental, physical and psychomotor readiness level before they start early age piano education. Prerequisites for a child to be successful in piano education can be listed as the ability to repeat basic rhythm patterns, to sing a child song he/she has learnt by ear, to have body-hand-finger coordination and, most importantly, to have enthusiasm for this process. In addition, recognition of colours and numbers as well as basic characteristics of sounds will naturally facilitate the process. Teacher-family cooperation is critical in accommodation of all these prerequisites. It will facilitate learning if a member of family observes the class and makes the child do the note-learning drills at home. Important factors also include effectiveness of the method and materials used by the teacher and maintenance of motivation of the child as high as possible.

Before starting piano education, it will be highly useful to know about the competences which children at age of 4-6 years need to have and the musical activities they can make. These skills and activities are: ability to keep a certain regular tempo by singing, hand-clapping and walking; ability to conduct simultaneously the activity pairs such as singing-handclapping, walking-singing; ability to learn concepts such as high-low, strong-light, long-short, and quick-slow; ability to display minimum finger skills and muscle coordination required to play the piano; having the abilities such as identifying direction and space (up-down) and hearing and adjusting distance (step, jump, same spot)” (Çimen, 1995; quoted by Ersoy, 2010, p. 18).

Teaching steps for provision of note-reading skill in early age elementary piano education

The process for children at age of 4-6 years to understand and read note symbols accurately in piano education can be categorized in following steps: introduction of piano keyboard; teaching the function of double-staff and double-clef piano writing; teaching the names of notes; teaching the order of notes in an octave; teaching the guiding notes; teaching how to categorize the notes written on and between lines; teaching how to perceive notes graphically.

These steps aim at facilitation of the note-reading process and reduction of it to the level of students by developing various teaching methods and materials. The

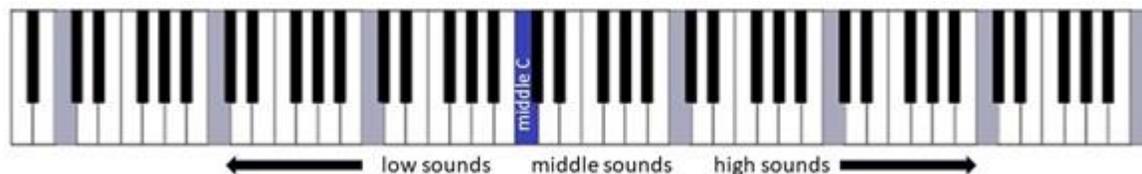


Figure 2. The middle C note on piano keyboard.

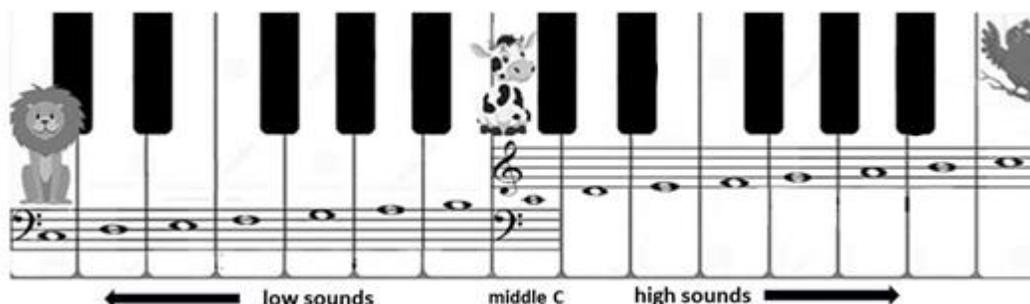


Figure 3. Relating piano sounds according to high-low pitch differences.

indicator showing that the note-reading habit has been acquired is that the child perceives the name and place of note on the staff and translates this theoretical knowledge into the required action on the keyboard. Furthermore, this stepwise process to be followed in development of note-reading skill should be based on game-learning principle by taking into consideration the developmental stages of children.

Introduction of piano keyboard

Before explaining the place of notes on the staff, it is important to make children comprehend the structure of keyboard and to attract their attention to the sounds made by the piano. Furthermore, explaining the purposes of notes would help children give meaning to the learning process. Piano educators, in general, explain the order of the keys on the keyboard by describing the place of black keys according to the white keys. Once the child is explained that the black keys are grouped as two and three keys, knowing that the note “c” is located just to the left of the dual-black key group will serve as a basis to teach the other notes. “Firstly, the teacher can explain that the keyboard is composed of 88 keys in an order, and the first octave “c” note is located right in the middle of the keyboard, as well as the octaves, their names and the notes corresponding to white keys” (Tarkum, 2019, p. 80). Once the child comprehends the place of the “Middle C”, the teacher should ask him/her to find all “c” notes on the keyboard to ensure permanent learning (Figure 2).

Additionally, it is also important for the piano pedagogue to explain the keyboard including the high, middle and low pitches properly in accordance with the level of children once he/she explains the high and low pitches of sound (he/she can illustrate it with high and low sounds of animals etc.). Based on the principle that the child “sees-hears-plays”, the child should relate any new note he/she learns with its place on the staff, high or low tones of the note as well as its place on the keyboard. “Various methods have been tried in order to concretize the abstractness in musical hearing, reading and writing education, and some schools of thought have been formed in this field. In musical teaching methods; symbols, images and similar facilitating elements were used along with symbols indicating high-low pitches and long-short sounds” (Mestan, 2013, p. 302) (Figure 3).

Teaching the function of double-staff and double-clef piano writing

As explained before, note-reading process in piano education requires very specific and detailed accumulation of knowledge. Since piano has a range more than seven octaves, it requires reading notes on both clefs and play them simultaneously (Figure 4). Firstly, the staff should be defined, and it should be strictly emphasized that notes should be read in an ascending order. Furthermore, the child should be taught that the notes on g clef should be played by right hand while the notes on f clef should be played by left hand.



Figure 4. An example of reading the notes on the staff in an ascending order.

Explanation of g and f clefs should be made to the child properly according to his/her level as is the case in all other learning stages. The places of clefs on the staff should be explained in details. The child should comprehend that the g clef is written starting from the second line of the staff and used for high notes while the f clef is written starting from the 4th line and used for low notes (Harnum, 2001; Maureen, 2009).

Teaching the names of notes

Activities involving various methods are implemented for children to learn the names of notes in elementary piano education. In general, it is of great importance that piano pedagogues use attractive and reinforcing teaching methods and materials for a child who has never heard the names of notes and who cannot read and write. As preschool children are in the pre-process period, it is considered that using memory-reinforcing techniques would bring great benefit particularly in teaching the names of notes (Özyürek and Ömeroğlu, 2013). Associating the previously-learned words with the names of notes which will be learned through keywords will enable encoding of the new knowledge. With this method, the previously-learned knowledge recalls the new knowledge via association, and reinforces learning and helps it to be more permanent. The knowledge which is given meaning by means of “keyword” technique as a “memory-reinforcing” method is sent to the long-term memory, which allows a more permanent learning” (Şahin and Kil, 2018, p. 494). “Woolfolk (1993) suggested that knowledge should be symbolized and encoded to be recalled. Knowledge can be symbolized in two ways. The first way is to translate knowledge into mental pictures and images; and the other way is to store it by turning it into verbal symbols” (Açıkgöz, 2003; Korkmaz and Mahiroğlu, 2007, p. 98). The aim of memory-reinforcing technique in learning is to establish an associating bond between the old knowledge and the new knowledge to make it concrete. Such an association will ensure remembering via evoking from the memory. Having a sound bond between two elements will prevent forgetting the existing ones and pave the way for learning new elements.

Making use of the Keyword Technique as a memory reinforcement method in the process of learning the names of notes ensures that children who are just in the

intuitive development period learn the information more easily and comprehend it permanently. The knowledge which is given meaning by means of “keyword” technique as a “memory-reinforcing” method is sent to the long-term memory, which allows a more permanent learning” (Atkinson, 1975; quoted by Şahin and Kil, 2018, p.494). Halvaşı stated that the names of notes should be taught by spelling some symbols with a view to not forgetting them any more (1989, p. 64). It is well-known that piano teachers frequently use the method of keywords evoking the names of notes (Figure 5).

Teaching the order of notes in an octave

In the process of learning the names of notes, the child should be able to count the notes in an octave in both ascending and descending order. To this end, it would be useful to use the method of listing the notes visually in ascending order as a ladder. If the child does not know the order of notes within an octave, it will be difficult for him/her to comprehend the high-low pitch differences and the place of notes (Figures 5 and 6). In the process of provision of the habit to read the notes, the pedagogue should ensure that the child comprehends that the notes are lined up according to a certain order in which notes follow a sequence going from low to high. All these studies may take place first outside the staff by using the ladder of notes, as given in the image above, note cards or any other different creative visual materials. With various activities, the child should understand the name of notes on one side, and the high-low pitch differences on the other side. The child should learn how to read the notes written on the staff first in regular order and then in a skip-sequential manner in both ascending and descending orders. In the event that the child fails to comprehend the notes taught in the previous lesson sufficiently, it is critical to repeat the instructions about the notes that could not be learned by the child, and to stop teaching new notes in order to avoid any possible confusion in the mind of the child.

Teaching the guiding notes

There are many piano methods prepared for preschool children. The most preferred ones are the methods

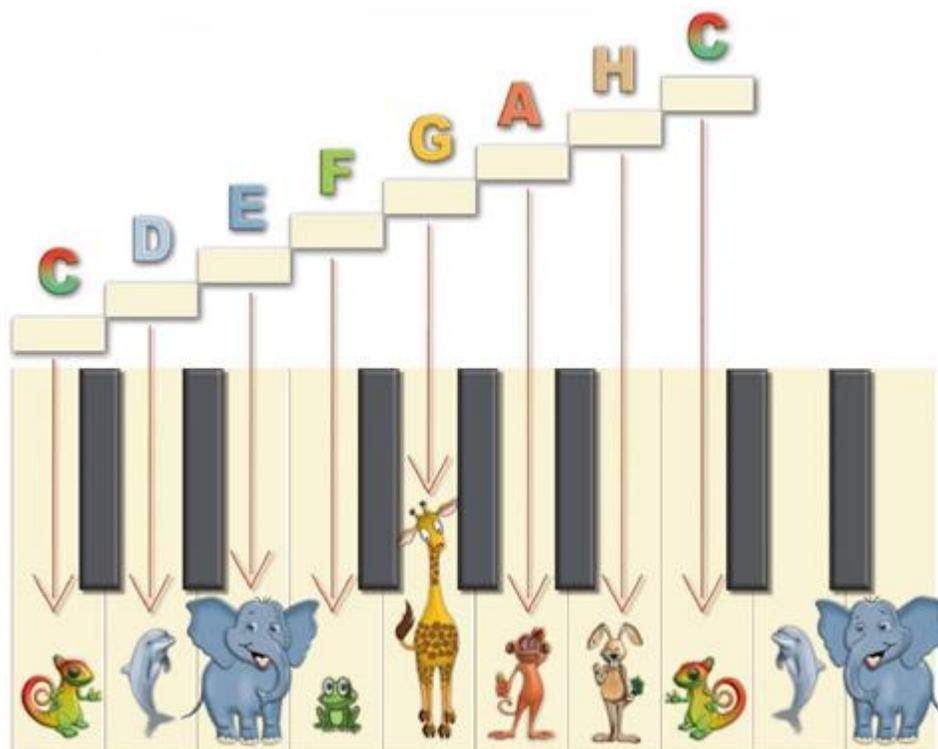


Figure 5. Imaging of names of notes (Mints, 2016, p. 6).

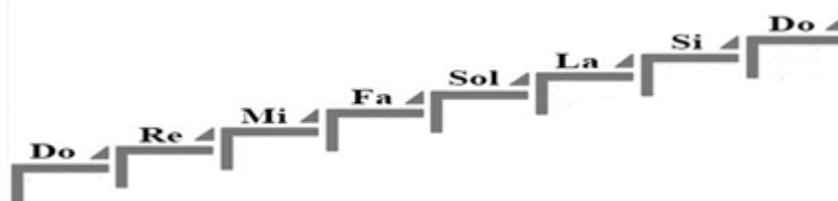


Figure 6. Ladder of notes.

starting with the “middle c technique”. Çimen suggests, “...students who have only recently started to learn piano find it very difficult to use different fingers on two hands, and it also makes it difficult to check the proper hand position which is one of the most important elements of basic behaviours. In the middle c method, having two hands side by side enables proper hand positioning, by which reading the notes and f clef is learnt automatically” (1995, p. 258). In addition to this method, there are also other methods starting with c-g method. In the beginning methods used in the Russian School, they use a method that contains practicing only the g clef (right hand) for a long time. They start to teach the f clef, and therefore playing with the left hand at a later time. Mangova states: “... whatever method you use to start piano education, it is crucial that the child gradually learns, starting from the very first lessons, the place of three main notes in order

to comprehend the sequence of notes on the staff” (2015, p. 5). Permanent learning should be achieved through visual materials and stories fitting to the level of students and repetitions to be conducted in every lesson towards that the g note is written on the 2nd line where the g clef is also written and this note is “guiding” for high notes; that the f note is written on the 4th line where the f clef is also written and this note is “guiding” for low notes; and the middle c note is written between these two staves as a border line between high and low notes (Figure 8).

Categorizing the notes written on and between the lines

It is considered that reduction of this process into three sub-dimensions would help the child to understand better



Figure 7. Teaching skip-sequential notes.

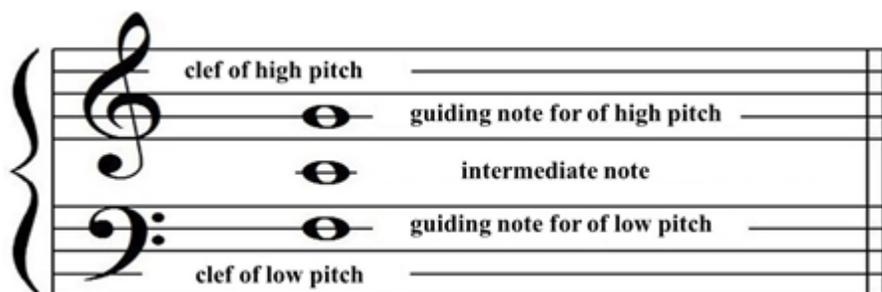


Figure 8. Guiding notes.

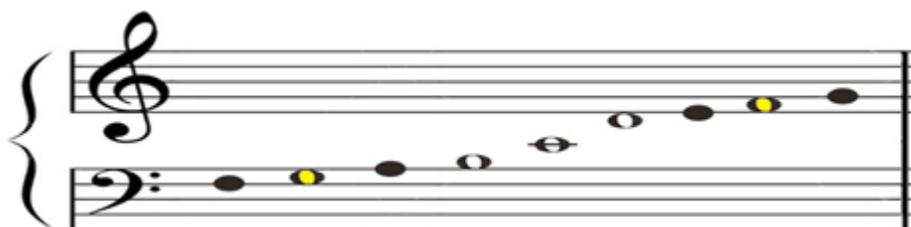


Figure 9. Teaching the notes written on and between the lines.

the place of notes of the staff. The first one is to teach the place of notes on the staff visually. The second one is to practice the notes by writing them, and the third one is to repeat this knowledge by saying it (Yakovlevna, 2011).

Writing the notes on and between the lines on the staff visually

“Children start to use the skill to bring together and categorize the similar ones within a group of objects (Avcı, 2004). Categorization can be defined as grouping events or things according to some certain features (Çepni et al., 2007) Children use the skill to categorize in learning the concepts. They learn by generalizing, sequencing and categorizing according to similar and different features” (Üstün and Akman, 2003, quoted by Ayvaci, 2010, p. 5). With this method, children should be learn the idea of placement that notes follow one another as one on the line and the next one on the space

between the two lines when the notes within an octave are written consecutively on the staff. In this method which starts with teaching the middle c note, it should be explained to the child that the d note is written starting from the lowest line of the upper staff, and that the note b is written starting from the top line of the lower staff. Then, other notes written on the lines and on the space between the lines should be taught. This process should run very slowly and with many repetitions (Figure 9). It would be unfair to expect the child to learn all of the notes in early age piano education. It would be enough for the children at this stage to learn the c, d, e, f and g notes respectively on the g clef, and middle c, b, a, g and f respectively on the f clef. However, as previously explained, this process should be arranged according to the personal learning attributes of the child. If comprehension is weak in some students, teaching a new note before the previous one is fully learnt will affect the process adversely. On the other hand, teaching process should be accelerated in faster-learning children.

Argentova (2012) explains the note teaching activities she implements to ensure that children comprehend that notes are written on the lines and the spaces between the lines in an order: First, I write a note on the staff. Then, I ask the child to write the notes on the right and left sides (that precede and follow) of the note I have already written, and to say them. Once I see that the child has comprehended these materials, I continue with teaching the flats and sharps that are the black keys. Furthermore, It helps the children to memorize them more easily if they comprehend the sequence of the notes in a rhyme (2012, p. 9-10).

Teaching the notes by writing: When teaching the places of notes on the staff, it is suggested that the child learns the information by writing it. "Lawwill (1999) stated that writing for learning purposes was an active process. He added that student did not only express but also discover the information when they write it. Writing develops the thinking skill and helps the brain to think about alternatives. We can therefore suggest that writing is a unique tool to feed and improve abstract thinking" (quoted by Karaca, 2011, p. 21). Argentova (2012) states that as a learning activity for preschool children, she used the "Quiz" game for teaching notes to children. In this game, note reading cards are prepared (one note on each card). Cards are shuffled. The student picks up one. After telling the name of the note on the card, he/she writes it on the staff and then hits the key corresponding to that note on the keyboard (2012, p. 9-10).

Teaching notes by question and answer method: Asking questions to the children in note teaching process regarding where the notes are placed on the staff (on the lines or spaces between them) is an important method to determine to what extent learning has been sufficient and permanent. It is important to understand efficiency or inefficiency of learning based on the answers given by children. Thus, the teacher will be able to identify which notes he/she should give more weight in teaching, and complete the missing links by conducting the required repetitions and making relevant explanations. Conducting this activity as a game helps attract attention of children (Yakovlevna, 2011). Asking questions is one of the most important components of learning and teaching processes. By this method, the teacher provides the students with a chance to review, use and expand the knowledge and to generate new ideas. Filiz (2009, p. 169) suggested, "Asking questions is very important about what students and teachers understand as their thinking skills improve." Furthermore, Karaca (2011, p. 22) quotes Beretier and Scardamalia (1987), that "telling the information" and "transforming the information" models regarding writing for learning purposes. In telling the information model, the required information is retrieved from memory and transformed into texts." For instance, when the child tells the names of notes written

on the staff as well as on which line or space they are written, it helps the teacher to get a feedback, according to which the teacher decides whether it is necessary to repeat it or not. "The question and answer method improves thinking skills of students, facilitate their learning, provides feedback about learning and teaching, helps develop a review strategy, ensures making associations between ideas and fuels curiosity" (Filiz, 2009, p. 169).

Teaching how to perceive notes graphically

Graphical method in teaching the places of notes on the staff is based on establishment of visual, cognitive and motor connection. It is important to teach the student how to perceive the note writing graphically. This method ensures fast action on keyboard by reading the notes on both clefs simultaneously, and helps to see the harmonic structure with the harmonic walk. The aim in the process to provide note reading habit is to ensure that the student comprehends the method of perceiving the note writing as a whole (Direktorenko, 2001). Graphical representation of the acoustically-heard harmony helps to perceive and learn it better. The child should be able to easily figure out whether the harmony is ascending or descending simply by looking at the graphical representation of the notes. Musical perception is reinforced through seeing the graph of harmony as a relief on the paper. This is because the note reading speed of the student will increase in time, by which he/she will start to see motifs and sentences as a whole rather than perceiving and conveying the relevant signs separately on to the keyboard one by one. Thus, the examples below will be useful for the entire piano education process as the child acquires the habit to perceive the harmony as a whole during the note learning process in elementary piano education. Aleksandrova (2012) suggests that teaching the places of notes on the staff should start once the child comprehends ascending and descending movements of sound (Figure 10). After the student is asked to play some sounds in ascending order, the teacher writes the round parts of notes on the staff without their sticks showing the note value (duration). The student sees that notes move in an ascending order. The teacher should ensure that the child comprehends that the staff shape that is formed by drawing five parallel lines was used in order to identify the size of the high-low difference between two notes, by which the child can perceive the function of the staff in a more concrete fashion (Aleksandrova, 2012) (Figure 11). From the very beginning of the process of providing the note-reading habit, the student should definitely be taught (initially by a pedagogue) how to combine "musical words" with a look of the eye by graphical representation of notes rather than seeing individual note symbols. For instance, once the child understands first the ascending and descending

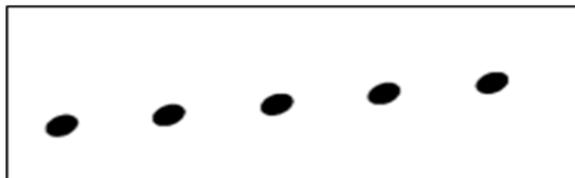


Figure 10. Non-staff graphical representation of notes.



Figure 11. Graphical representation of notes on the staff.



Figure 12. Sequential and skip-sequential graphical representation of notes on the staff.

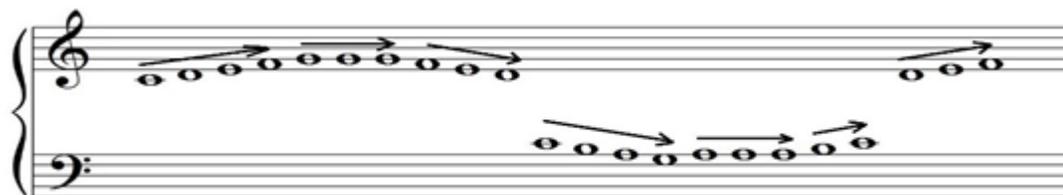


Figure 13. Graphical representation of harmony on the staff.

movements of two consecutive notes, and then the idea of 3 and 4 sequential notes, he/she will learn how to graphically follow non-sequential notes first by skipping one note each time and then with larger note jumps and note sequences (Figure 12). Throughout this process, it will be useful that the child identifies the melody direction by writing them with arrows. Drawing an arrow upwards for an ascending melody whereas downwards for a descending melody and a horizontal arrow for melodies with holding sounds reinforces graphical representation of the melody. Drills defining the direction of melody should be conducted on both clefs. After such drills, the student perceives the “word” as a whole simply by looking at it and immediately reacts to any sequence of notes or skip-sequential notes (Figure 13). Similarly, in following years, we should form the reaction in the student to vertical compounds he/she swiftly recognizes visually as “the graphical representation face” of spaces

and chords (Aleksandrova, 2012, p. 6) (Figure 14).

DISCUSSION

Studies have shown that the note-reading skill regarding performance of the piece consists of the combination of steps of visually perceiving the note symbol (the place of note symbol on the staff), finding the place of note on the keyboard (the key corresponding to the note) and acoustics hearing (tone of note) (Direktorenko, 2001, p. 28-29). Yaliloğlu (2019) found out that introduction of the piano keyboard always started with dual and triple black key groups according to the interviews conducted with expert piano pedagogues teaching piano to children at the age of 4-6 years. Results of the study revealed that an overwhelming majority of pedagogues (72.7%) showed the place of dual and triple black key groups on



Figure 14. Graphical representation of spaces and chords on the staff.
Source. (http://dshi10.ru/images/metod-rabota_muller_chtenie-s-lista1.pdf).

the keyboard only by explaining them verbally while the remaining 27.3% introduced and taught the dual and triple black key groups by telling them as a story. In teaching of the place of the middle c note, as was the case in introduction of the piano keyboard, 72.7% explained it verbally and pointed to its place on the keyboard, and there was a consistency in the teaching method for the same sub-problem.

Many piano pedagogues have conveyed the opinions of children on note education. Popdimitrova and Lyonov (1975) suggested that there were visual, acoustic and motion activities that are independent from one another but develop simultaneously in the note reading process. In practice, it is often seen that they do not develop simultaneously. Suzuki explains the visual-acoustic connection in his own note-reading teaching. He suggests that note-reading should start after we let the students listen to many musical examples enabling acoustic perception. Thus, in the process of providing note-reading habit, it is important to maintain the balance between acoustic-visual and psychomotor activities and to ensure proper realization of musical-cognitive processes in every student (quoted by Direktorenko, 2001, p. 28-29). "Phonemime and the rhythm language are important tools that are used in the Tonic sol-fa method based on some hand signs to show characteristics and durations of sounds in tonality (Tonic sol-fa method was invented by Sarah Glover, a British music pedagogue. Glover used the first letters of the names of notes in her method.)" (Göğüş 2009; quoted by Mestan, 2013, p. 302).

Edna Mae Burnam (1959) explained the places and names of notes with frequently-used letters and asked the children to find these notes. Here, the notes are shown with respective letters as Do: C, Re: D, Mi: E, Fa: F, Sol: G, La: A and Si: B. Almost all piano schools use this technique (quoted by Halvaşı, 1989, p. 64). However, it is considered that this method can be very challenging for children in preschool (intuitive) development period as children at these ages do not recognize the letters yet, and try to solve problems intuitively rather than logically. "They can categorize the objects according to given sensory attributes such as size, colour and shape, but they are not fully aware of the relationships" (Başkale and Bahar, 2008).

Burnam (1959) placed the notes in the shape of fish on

two clefs within an octave (Halvaşı, 1989, p. 64). Şevçuk (2011) suggests that there are some note-teaching methods on playing musical instruments: Playing by notes, colours, numbers and ear. The colouring system which is widely used in Europe is easy for children to play an instrument. The specified coloured marking system (coloured keyboard, plates of metalophone) is fixed for each sound. Children are given melodies composed of coloured circles or coloured notes with specific or non-specific rhythmic durations. Note-teaching is easier with this method (e.g. I see the note written in red colour and hit the red key). However, as the hearing skills are not effectively involved in playing the melody, the child plays the piece without perceiving it acoustically.

The numbering system suggested by N. A. Metlov in 1930s was considered to be effective perhaps in those years. As in note-teaching method with colours, the child plays the melody only by looking at the numbers. Thus, this method continued to be used rarely at later times because it made it difficult to perceive the notes acoustically and the places of notes on the staff visually as required by note-reading. Both methods (colouring and numbering) ensure achieving the goal quickly in elementary piano education of children, but it should also be considered that these methods make it difficult for the child to develop note-reading skills in the future as the child gets used to see only colours or numbers (Şevçuk, 2011, p. 219) (Figure 15).

Kaynak (2004) concluded: "Pedagogues giving piano education to preschool children do not prefer playing by ear, and teaching the children at the age of 5-6 years with colours for a long period of time in piano education is a delaying factor for note-reading..." (Quoted by Ersoy, 2010, p. 53). On the other hand, a piano pedagogue who finds piano education with colours useful stated: "I use colours because colours are the tools that attract the attention of children at this age group most easily" (Ersoy, 2010, p. 50) (Figure 16). "In M. Battke's method; there is a teaching step in which sounds are represented on the staff with graphs. When applying the Battke method, they paid utmost care to make it clear and concrete for children, and they used graphs in the starting activities while they used varying notes, diagrams, vertical and curved sound ladders, and red-coloured tonic staves at later stages" (Göğüş 2009, quoted by Mestan, 2013, p. 302). "Ptacinski, a Czech pedagogue, who worked with

A SONG OF PENNY CANDY

The image shows a piano accompaniment for the piece 'A Song of Penny Candy'. It consists of two systems of music. The first system is in 4/4 time with a tempo marking of quarter note = 60-120. The key signature has one sharp (F#). The right hand starts with a whole note G4, followed by quarter notes A4, B4, and A4. The left hand starts with a whole note G3, followed by quarter notes F#3, E3, and D3. The second system continues the melody in the right hand and accompaniment in the left hand, with various fingerings indicated by numbers 1-5.

Figure 15. Teaching with numbers (Thompson, 1955, p. 15).

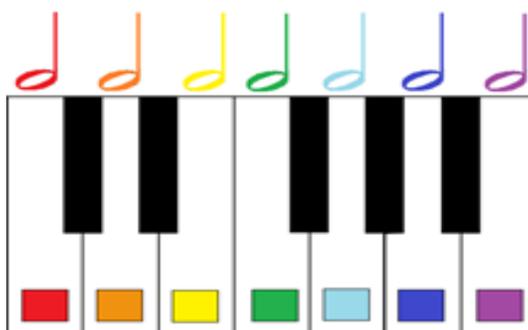


Figure 16. Teaching notes with colours.

this method, used seven different colours for seven notes (not only red for c) during the practices. Exercises are conducted on an eight-step scale ladder. These steps were coloured as do-red, re-white, mi-yellow, fa-brown, sol-blue, la-green and si-purple. First, ear education exercises are conducted with do-mi-sol in red-blue-yellow colours. Then si, re, fa and la sounds follow respectively. In the first year, only the major tone is studied, and minor tone starts in the second year. Wünsch, who is another pedagogue who used the Battke method, only used red, yellow and blue cardboards for do-mi-sol” (Göğüş 2009, quoted by Mestan, 2013, p. 302).

As expressed above, there are different methods applied in piano education such as teaching with colours, letters, numbers and notes. However, although the method of teaching with colours seems to be facilitating for children at the beginning, at later stages when they start to use only black notes, it is considered that it might cause confusion. In the method of teaching notes with numbers, as explained above, children can display the

required behaviour simply looking at the numbers on or under the notes, rather than reading the places of notes on the staff. Thus, it is observed in pieces where there is not any finger number on the notes that the note-reading process does not make progress as properly as desired, which leads to difficulty and reluctance to read the notes.

As a conclusion, the aim of different note-teaching methods applied by piano pedagogues is to provide the children with the note-reading skill effectively. If the note-teaching method applied achieves permanent learning, then it is the most important indicator showing that the note-reading skill has been developed. The note-teaching methods explained above and tried for many years need to be implemented properly in accordance with personal attributes of each child. It should also be considered that the challenging and delaying nature of this process may consequently lead to that the child may get disheartened to play the instrument. Therefore, pedagogues should provide the note-reading skill, in line with the developmental stage of the child, by using from the very

beginning the guiding notes on c and f clefs and based on the principle that “I see-hear-play” when learning the places of notes on the staff. Nevertheless, each piano pedagogue can provide the child with note-reading skill by using different or several note-teaching methods based on his/her experience and materials and resources in a creative and subtle way. The following outputs are presented to make this learning process effective and permanent:

1. In the process of providing note reading habit; comprehension of the triple perception relationship between place of note on the staff (sign) – the place of note on keyboard (key) – tone of note (sound).
2. Acquisition of the habit to read the mono-sounds and dual-sounds on the staff as well as the notes in chords always in an ascending order.
3. Distinguishing the notes written on the lines and on the spaces between lines of the staff.
4. Distinguishing sequential and skip-sequential note movements.
5. Acquisition of reading the notes written on both clefs simultaneously starting from the very first lessons.
6. Perception of concepts regarding “high-low”, “up-down”, “ascending-descending”, and “sequential-skip-sequential” notes.
7. Establishing a causative perception in the child between seeing-hearing-playing actions regarding the fact that notes go high as you climb to upper lines of the staff and as you move to the right-hand side on the keyboard whereas notes go low as you go to lower lines of the staff and as you move to the left-hand side on the keyboard.
8. Seeing the graphical line as a whole by following the ascending and descending movements of melodies and chords.
9. Ensuring hand-eye coordination when playing the notes on both clefs.

CONCLUSION AND RECOMMENDATIONS

The study concludes that a number of teaching methods are applied to develop note-reading skills in early-age piano education, and every piano pedagogue selects the most effective method based on his/her personal experience. It is effective to teach children the notes as a whole of visual, acoustic and psychomotor skill by building up relational perceptions and to implement the process of developing note reading skill in children by using creative game activities and materials properly in accordance with their levels. Note-reading skill in early piano education process should be developed through given stages. Also, it is necessary to implement this process in line with personal perception, development and talent level of every child.

Based on these conclusions, the following

recommendations are presented for further studies and practices:

1. Findings of this study have shown that there are various note-teaching methods applied in the literature and in practice. Thus, it would be useful to raise awareness in teachers through in-service training programs by developing different note-teaching methods and materials. Furthermore, such trainings would also help teacher follow the most recent developments in field of teaching the note-reading skill in early-age piano education.
2. It is considered that piano pedagogues can develop activities and a learning environment in line with the level of children if they possess sufficient knowledge and equipment regarding teaching methods and materials for note-reading.
3. The teacher candidates who would like to be a piano educator as a profession should be taught in detail the methods regarding note-reading skills for children during their undergraduate study, which will enable them to implement effectively the process of developing note reading habit, which is one of the most critical educational steps in early age piano education, from the very first years of their professional career.
4. It is also considered that publication of enjoyable note-reading course-books containing the elementary education methods having more visual materials regarding development of note-reading skills for children receiving early-age piano education could be guiding for piano pedagogues.
5. The field of early age piano education and the literature on this subject will be significantly contributed by further studies with increased number of experimental, quantitative and qualitative researches on effectiveness of note-reading methods that are currently in use.

CONFLICT OF INTERESTS

The author has not declared any conflict of interest.

REFERENCES

- Açıkögöz KÜ (2003). Effective learning and teaching (6th Edition). Izmir: Eğitim Dünyası Publications.
- Aleksandrova ZN (2012). Formirovane navıkov chteniya notno teksta u uchastıysa-pianistov mladşih klasov. Metodicheskaya razrabotka. Chernogolovskaya: Detskaya şkola iskusstv im. professora E. P. Makurenkoy. Available at: https://scholar.google.com/scholar?hl=trandas_sdt=0%2C5andq=МЕТОДИЧЕСКАЯ+++РАЗРАБОТКА+Занина+Наталья+АлександровнаandBtng=
- Argentova İY (2012). Nchılalny period obucheniya igre na fortepiyano. İvngorodskaya detskaya skola iskusstv. Available at: <https://docplayer.ru/26500095-Nachalnyy-period-obucheniya-igre-na-forte-piano.html>
- Ayvacı HŞ (2010). A pilot survey to improve the use of scientific process skills of kindergarten children. Necatibey Faculty of Education Electronic Journal of Science and Mathematics Education 4(2):1-24.

- Başkale H, Bahar Z (2008). A Review on Piaget's Cognitive Development Theory. *Dokuz Eylül University E-Journal of School of Nursing* 2:133-147. <http://acikerisim.pau.edu.tr:8080/xmlui/bitstream/handle/11499/27218/Piaget%E2%80%99nin%20Bilim%C5%9Fsel%20Geli%C5%9Fim%20Kuram%C4%B1yla%20C4%B0lgili%20Bir%20G%C3%B6zden%20Ge%C3%A7irme.pdf?sequence=1&isAllowed=y>
- Bastien JW (1973). *How to teach piano successfully*. USA-Park Ridge, IL: General Words and Music Co. Available at: <https://archive.org/details/howtoteachpianos0000bast/page/7>
- Bektaş T (2019). Teachers' opinions on the problems encountered in preschool piano education. (Non-published Master's Thesis) Pamukkale University, Institute of Educational Sciences.
- Bozoklu F (1994). An Examination of Relationship between the game corners preferred by preschool children at age of four, five and six and their creativity levels. (Non-published Master's Thesis) Hacettepe University, Institute of Health Sciences.
- Burak S, Sezen H, Yalioğlu D (2020). Opinions of expert piano pedagogues on teaching methods applied in piano education of children at the age group of 4-6 years. *Fine Arts* 15(2):127-153. Available at: <https://dergipark.org.tr/tr/pub/nwsafine/issue/53890/707998>
- Burnam EM (1959). *Step by step*. Cincinnati: Willis Music Company.
- Çepni S, Yılmaz A, Yücel C, Semerci Ç, Bayrakçeken S, Köse E, Gündoğdu K (2007). *Measurement and Evaluation* (1st Edition). Ankara: Pegem Akademi Publications.
- Çiftçibaş MC, Şaktanlı SC (2017). Impact of fast-reading techniques education on piano sight-reading skills. *Mehmet Akif Ersoy University Journal of Institute of Social Sciences* 9(18):35-55. doi:10.20875/makusobed.289321
- Çimen G (1995). An overview of elementary piano methods. *Mavi Nota Journal of Music and Arts* 16(23):20-28.
- Demirel Ö (2007). *Curriculum Development in Education* (10th Edition). Ankara: Pegem Publications.
- Direktorenko I (2001). *Pedagogicheskiye predposylki formirovaniya fortepianniyh navykov u studentov* (Non-published Dissertation). Latvīskiy Universitet Rīga. Available at: <https://dspace.lu.lv/dspace/handle/7/3035>
- Ercan N (2008). *Principles and Methods in Piano Education*. Ankara: Sözkese Publications.
- Erden M (1998). *Curriculum Evaluation in Education*. Ankara: Anı Publications.
- Ersoy KSG (2010). An examination of methods applied in preparation of six-year old children for piano education. (Non-published Master's Thesis). Ankara University, Institute of Educational Sciences.
- Fenmen M (1997). *A handbook of musician*. (A. Say, Ed.). Ankara: Müzik Ansiklopedisi Publications.
- Fidan N (2012). *Learning and teaching at school* (3rd Edition). Ankara: Pegem Akademi Publications.
- Filiz SB (2009). Impact of question and answer method education on question-asking knowledge and techniques of teachers. *Journal of Institute of Social Sciences* 3(1):167-195.
- Gasmova T (2011). Piano learning and teaching techniques. *Journal of Institute of Fine Arts* 25:99-106. Available at: <https://dergipark.org.tr/tr/pub/ataunigsed/issue/2580/33204>
- Gün E, Öztürk T (2018). Importance, technique and development of sight-reading in piano. *Pamukkale University Journal of Social Sciences Institute* 31:121-128. doi:10.30794/pausbed.414679
- Halvaşı B (1989). *Piano education in preschool children* (Non-published Master's Thesis). Marmara University, Institute of Sciences.
- Harnum J (2001). *Basic music theory: how to read, write and understand written music*. Sol-Ut Press. Available at: <http://books.google.co.jp/books?id=zBpOUw3Y0YUC>
- Işıkdemir B (2017). An examination of elementary piano methods for children at the age of 6-11 years and opinions of piano pedagogues (Non-published Master's Thesis). Pamukkale University, Institute of Educational Sciences.
- Karaca D (2011). Effect of learning science by doing and writing (Isdw) on academic performance and scientific process skills of teacher candidates in general physics laboratory class (Non-published Master's Thesis). Mehmet Akif Ersoy University, Institute of Science.
- Karasar N (2018). *Scientific research method*, Ankara: Nobel Publications.
- Kaynak T (2004). An examination of piano methods for preschool children and identification of their status of use (Non-published Master's Thesis). Gazi University, Institute of Educational Sciences.
- Kılınçer Ö (2013). An examination of learning strategies applied in piano classes according to various variables (Non-published Master's Thesis). Erciyes University, Institute of Fine Arts.
- Korkmaz Ö, Mahiroğlu A (2007). *Brain, memory and learning*. Kastamonu Educational Journal 15(1):93-104. Available at: <https://dergipark.org.tr/en/pub/kefdergi/issue/49108/626699>
- Kurtuldu MK (2010). Usability of note-teaching by jingles in primary-school piano education. *Turkish Journal of Educational Sciences* 8(3):759-775. Available at: <https://dergipark.org.tr/en/pub/tebd/issue/26103/275033>
- Kurtuldu MK (2015). A comparison of learning styles of piano students and their sight-reading playing skills. *Mersin University Journal of Faculty of Education* 11(3):593-602. doi:10.17860/efd.64924
- Mangova İ (2015). *Kak podruzhitsya s basoviyım klüçom*. Minsk: Gosudarstvennoe Utzerezdeniye obrazovaniya gimnaziya Available at: <https://rcmuzyka.com/kak-podruzhitsya-s-basoviyım-klyuchom/>
- Maureen H (2009). *Music and the young mind: enhancing brain development and engaging learning*. MENC: The National Association for Music Education.
- Mestan H (2013). Relationship of music and colours. *Kayı Uludağ University Faculty of Science and Letters* 20:299-304. doi:10.20981/kuufefd.76945
- Mints I (2016). *Hello Piano*. Deutschland: Musicverlag Heinrich Klassen. <https://www.amazon.de/-/en/Irina-Minis-Heinrich-Klassen/dp/3981805917>
- Molla M (2002). A research on early piano education of children (Non-published thesis of proficiency in art). Mimar Sinan Fine Arts University, Institute of Social Sciences.
- Onuray H (1998). Visual exercises accelerating and reinforcing to learn at the beginning level for children at the age of 6-8 years (Non-published Master's Thesis). Gazi University, Institute of Science.
- Özer B, Yiğit N (2011). Development of sight-reading in piano education. *Eskişehir Osmangazi University Journal of Social Sciences* 12(1):39-49. Available at: <https://dergipark.org.tr/tr/pub/ogusbd/issue/10999/131630>
- Özyazıcı F (2019). Pedagogical methods to be applied for the first five years of piano education under the light of selected repertoire and methods (Non-published thesis of proficiency in art). Istanbul University, Institute of Social Sciences.
- Özyürek A, Ömeroğlu E (2013). An examination of effect of memory education program on memory development of six-year old children. *Education and Science* 38(168):30-45. Available at: <http://egitimvebilim.ted.org.tr/index.php/EB/article/viewFile/760/576>
- Şahin H, Kil G (2018). Effect of the keyword method as a memory-reinforcing technique in foreign language education on development and persistency of vocabulary of students. *Abant İzzet Baysal University Journal of Education Faculty* 18(1):493-506. doi:10.17240/aibuefd.2018.-382319
- Şevçuk AA (2011, Nisan). *Sposoby obuçeniya detey igre na detskih muzıkalnyh instrumentah*. Pashalniye çteniya, paper presented, Gosudarstvenno Gogumanitarnogo Universiteta, Niznevartovsk. Available at: https://konference.nvsu.ru/konffiles/143/Pashalnye_çteniya_2011.pdf
- Tarkum G (2019). An examination of elementary piano education process of preschool and school children. *Balkan Music and Arts Journal* 2:77-84. Available at: <http://dergipark.org.tr/tr/pub/bmsd/issue/51728/623878>
- Uçan A, Sun M, Artan İ, Yıldız G, Öztürk A (2001). *Music education*. Eskişehir: Anadolu University Publication.
- Uçar M (2015). Development of visual materials that ensure and support learning in piano education for children at the age of 5-9 years (Non-published Master's Thesis). Cumhuriyet University, Institute of Social Sciences.
- Ünal İ (2006). Opinion of teachers in institutions rendering piano education on creative drama as a piano education method in elementary stage for children at the age of 6-8 years (Non-published Master's Thesis). Dokuz Eylül University, Institute of Education Faculty.

- Vespremi L (1981). Chteniye not. Rebenyok za royalem, Moskova: Muzyka.
- Yakovlevna M (2011). Naviyk Chteniye S Lista, Evo Znachenije İ Metody Razvitiya Na Natchalnam Etape Obucheniye. Saratov: Detskaya Şkola İzkusv. Available at: http://dshi10.ru/images/metod-rabota_muller_chtenie-s-lista1.pdf
- Yalilođlu D (2019). Opinion of expert piano educators on teaching methods applied in piano education of children at the age of 4-6 years (Non-published Master's Thesis). Burdur Mehmet Akif Ersoy University, Institute of Educational Science.
- Yeşilyurt E (2013). Purposes of teachers to use teaching methods and problems encountered. Atatürk University Journal of Institute of Social Sciences 17(1):163-188. Available at: <http://dergipark.org.tr/en/pub/ataunisobil/issue/2832/38489>
- Yılmazlar E (2004). An evaluation of methods and techniques applied by music teacher candidates in elementary piano education (Non-published Master's Thesis). Selçuk University, Institute of Social Sciences.

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