Вісник Глухівського національного педагогічного університету імені Олександра Довженка
ПЕДАГОГІЧНІ НАУКИ PEDAGOGICAL SCIENCES

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HIGH SCHOOL STUDENTS' ATTITUDE TOWARDS SMART BOARDS

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In the aftermath of the 20th century, great advances in information technology have taken place. Developments in information technology have deeply affected the daily life and the relationships between people. All sectors in the world are trying to keep up with information technology and provide their systems through this technology. It is inevitable that the information technology so deeply affects the education system. In the educational sector, where the elements such as overhead projector, video, television and radio were used for a period of time, computers, projection devices and smart boards were replaced by these materials. Technology, concretization of knowledge, a simpler structure rather than a complex structure; education by providing important tools for different purposes has become an important element of the system. National projects, the name are heard frequently, and some. Although it started to be used in educational institutions, it was it can be characterized as a relatively new technological tool for most teachers and students.
Key words: informatics, information technology, smart board, technology, technological tools.

The blackboards entered the classes in the 1800s and became a symbol for traditional teaching for two centuries. Smart boards also have the potential to become the second revolutionary teaching tool in the 21st century (Gulsul and Tozmaz, 2010). Although the first smart board was developed in the early 1990s, its use took some time to recognize its use potential. Due to its cost, it has been used primarily in the business environment and has become widespread in school environments (Emre et al, 2011).

The increase of multi-channel education opportunities in education significantly changed the function of school, teacher and books and continues to change. The school is not the only medium for gaining information, but the teacher is no longer a source of information. In order to compete with a large number of sources of information, textbooks must constantly renew and renew themselves. Nowadays, education has emerged from the triangle of school-teacher-student and has moved to a multi-faceted education model with new technologies (Oğuz, Oktay and Ayhan, 2004, p. 21). With the development of information and communication technology, information has been started to be reached by means of communication rather than through schools (Yıldızhan, 2013).

Cogill (2002), to give information about smart boards in classroom teaching and to construct information, to display information with existing resources and visuals, to comment on the subject, to discuss their answers by asking open-ended or multiple-choice questions, to reinforce the subjects learned in the classroom with the students' activities. To identify the points that they do wrong in their homework, to give verbal feedback about the students' written work, to record the transactions with electronic pen, to write on electronic media such as pictures and videos, to be able to perform experiments that cannot be done in class environment as interactive, to be able to direct the lesson by connecting to internet for such purposes (trf. Çoklar and Tercan, 2014).

In the context of the FATIH project, which has recently enabled the use of instructional technologies in schools, it is noteworthy that the use of smart boards has become widespread in the learning environment and that teacher competencies need to be revised. Considering the widespread prevalence of the use of interactive boards with the FATIH project throughout the country, the use of these devices appears to be a basic ICT (Information and Communication Technologies) competence for prospective teachers (Kayaduman, Sırakaya and Seferoğlu, 2011).

Supporting and strengthening education and training with technological developments is of great importance in terms of increasing the quality of education. In today's learning environments, teachers are expected to use advanced technologies such as projection device, chalkboard, whiteboard and computer as well as advanced technologies such as smart boards in their classes effectively and efficiently (Akyüz et al., 2014).

Smart boards are an innovative technology, combined with the white and black board in a traditional classroom environment with computer technologies, and are both a technology that helps improve the effectiveness of learning and the quality of teaching (Jang and Tsai, 2012). Nowadays, there are different studies related to technology integration and especially in the use of smart board in classrooms (Kennewell & Morgan, 2003; Warwick & Kershner, 2008; Saltan, Arslan & Gök, 2010; Bulut & Koçoğlu, 2012; Tekelioğlu, Sürücü, Uğur, Dönmez, Ok & Eren, 2010). These studies; It is noteworthy that the use of smart boards is about the benefits and student motivation and success of the teacher and the student.

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Within the scope of the project of the Ministry of National Education, Increasing Opportunities and Improving Technology Movement (FATIH), it has implemented the largest and most comprehensive education movement put into effect in the world regarding the acquisition of the best education by each student, reaching the highest quality educational content and ensuring equal opportunity in education and using technology in education. In this context, the Ministry of National Education aims to develop skills such as technology use, interactive communication, analytical thinking, problem solving and collaboration.

This research was carried out by students (9, 10, 11, 12) who benefited from the Smart Board application in high schools in Taşova district of Amasya in Turkey. The class aims to determine its views. In this context, the following questions were sought:

1. What are the views of high school students on smart board applications?
2. Smart board applications for high school students in classrooms (9, 10, 11, 12) does it differ significantly from class?

Method. This research on the screening model determines the views of students enrolled in formal secondary schools under the Ministry of National Education on the use of smart board. In a universe of many elements, this model is scanning all or a group of samples or samples to be taken from the universe in order to reach a general judgment about the universe (Karasar, 2007, p. 77-79). The universe of the research constitutes 1300 students studying in the official high schools in Taşova district of Amasya in Turkey. Surveys that do not agree to complete the questionnaire and fill out the questionnaire are not included in the study. The number of questionnaires that are suitable for statistical evaluation and evaluated is 1089. Computer attitude scale was used in Data Collection by Beeland (2002). Data were analyzed in the SPSS 17 program in computer environment. Parametric testing techniques, one-way variance analysis and post hoc tests were used in comparisons of variables.

Findings

In this section of the study, the results obtained as a result of statistical analysis of the data are included.

Table 1.

Distribution Of High School Students By Classes

Variants	Sub-dimension	f	%
Classes	9th class	326	24,70
	10th class	346	26,20
	11th class	330	25,00
	12th class	320	24,10
	Total	**1322**	**100,0**

As shown in Table 1, 326 (24,7) of the high school students were 9th grade, 346 (26,2) were in the 10th grade, 330 (25,0) were in the 11th grade and 320 (24,1) is a 12th grade student. According to the research data, the distribution of students is close to each other.

Participants' views on smart board are given in Table 2:

Table 2.

Opinions of High School Students on Smart Board Applications

	Article	Degree of Attendance										X	SS
		Never		Rarely		Occasionally		Frequently		Always			
		f	%	f	%	f	%	f	%	f	%		
1	I enjoy learning with the smart board	160	12,1	130	9,8	314	23,8	226	17,1	492	37,2	3,57	1,38
2	I don't like getting educated on a smart board	502	38,0	296	22,4	234	17,7	114	8,6	176	13,3	2,37	1,40
3	Good use of technology is effective in having a good job	112	8,5	186	14,1	258	19,5	286	21,6	480	36,3	3,63	1,32
4	I focus better in the classroom when using smart board while teaching	106	8,0	208	15,7	348	26,3	286	21,6	374	28,3	3,46	1,26
5	If my teacher had used the smart board more, I'd have worked harder	406	30,7	292	22,1	308	23,3	106	8,0	210	15,9	2,56	1,40

#		f	%	f	%	f	%	f	%	f	%	$\bar{x}$	ss
6	I know that learning to use technology gives me opportunities to learn many new things	82	6,2	164	12,4	262	19,8	260	19,7	554	41,9	3,79	1,27
7	I can learn a lot when my teacher uses a smart board	94	7,1	202	15,3	352	26,6	314	23,8	360	27,2	3,49	1,23
8	I enjoy the lessons on the smart board	90	6,8	162	12,3	328	24,8	278	21,0	464	35,1	3,65	1,25
9	I believe that the more often teachers use a smart board, the more I enjoy school	190	14,4	258	19,5	334	25,3	234	17,7	306	23,1	3,16	1,36
10	I believe that learning how to use a smart board is important to me	190	14,4	236	17,9	310	23,4	246	18,6	340	25,7	3,23	1,38
11	I feel comfortable using a smart board	192	14,5	262	19,8	304	23,0	260	19,7	304	23,0	3,17	1,36
12	I enjoy using a smart board	148	11,2	204	15,4	314	23,8	252	19,1	404	30,6	3,42	1,35
13	I don't think it's gonna take longer to learn when my teacher uses a smart board	334	25,3	224	16,9	302	22,8	186	14,1	276	20,9	2,88	1,46
14	Using a smart board doesn't scare me	284	21,5	124	9,4	176	13,3	198	15,0	540	40,8	3,44	1,59
15	I'm having trouble using a smart board	818	61,9	188	14,2	136	10,3	70	5,3	110	8,3	1,84	1,28
16	Using smart board is not frustrating	252	19,1	194	14,7	246	18,6	204	15,4	426	32,2	3,27	1,51
17	I will work as little as possible using technology	566	42,8	250	18,9	270	20,4	108	8,2	128	9,7	2,23	1,33
18	Smart boards are difficult to use	664	50,2	248	18,8	206	15,6	96	7,3	108	8,2	2,04	1,29
19	I can learn more from books than using smart boards	274	20,7	248	18,8	370	28,0	146	11,0	284	21,5	2,94	1,40
20	When I think about trying to use the smart board, I panicked	818	61,9	148	11,2	174	13,2	74	5,6	108	8,2	1,87	1,30
Total												**3,00**	**1,35**

When Table 2 is examined, it is seen that participants generally use smart board usage (x= 3,00, ss= 1,35). Students' participation in questionnaire options is high: Most of the students enjoy using smart boards. Participation rate of participants is 54.3 %. 41.9 % of respondents are aware of the opportunity to use technology to give them something new. Almost half of the students are aware that the use of a smart board frequently or always is effective in the future (57.9 %). More than half of the participants enjoy the course with the smart board (56.1 %). Although students are not afraid to use 55.8 % of the smart boards and 61.9 % of the students do not have any problems while using smart boards, 69 % of the students have difficulty in using the smart board. 61.7 % of the participants do not think that they will work less when using technology. 73.1 % of the students think that they are panicked when they think of using the smart board, although students think that they will love the smart board, enjoy learning the smart board and use the smart board to give them something new.

A parametric ANOVA test was performed to test whether the opinions of the participants regarding smart board applications were meaningful in the class variable view and shown in Table 3.

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Table 3.

ANOVA Test Results for Smart Board Applications of High School Students

Articles	Variats	N	x	ss	f	p	The source of difference
1	9th class	326	3,92	1,31	11,142	,000	9th class with 12th class among
	10th class	346	3,60	1,36			
	11th class	330	3,36	1,47			
	12th class	320	3,42	1,31			
2	9th class	326	3,44	1,52	7,632	,000	10th class with 12th class among
	10th class	346	3,83	1,32			
	11th class	330	3,79	1,30			
	12th class	320	3,45	1,41			
3	9th class	326	3,66	1,30	,784	,503	
	10th class	346	3,84	1,30			
	11th class	330	3,53	1,35			
	12th class	320	3,49	2,30			
4	9th class	326	3,60	1,32	2,567	,053	
	10th class	346	3,47	1,21			
	11th class	330	3,32	1,30			
	12th class	320	3,47	1,22			
5	9th class	326	2,75	1,46	2,287	,061	
	10th class	346	2,49	1,39			
	11th class	330	2,36	1,34			
	12th class	320	2,67	1,39			
6	9th class	326	3,83	1,32	,715	,543	
	10th class	346	3,81	1,27			
	11th class	330	3,81	1,30			
	12th class	320	3,70	1,20			
7	9th class	326	3,74	1,18	1,678	,201	
	10th class	346	3,45	1,18			
	11th class	330	3,28	1,32			
	12th class	320	3,49	1,20			
8	9th class	326	3,96	1,19	9,879	,000	9th class with 10th class among 9th class with 11th class among
	10th class	346	3,54	1,30			
	11th class	330	3,47	1,30			
	12th class	320	3,66	1,16			
9	9th class	326	3,26	1,36	1,474	,220	
	10th class	346	3,15	1,43			
	11th class	330	3,04	1,40			
	12th class	320	3,18	1,37			
10	9th class	326	3,34	1,35	,856	,447	
	10th class	346	3,34	1,36			
	11th class	330	3,07	1,43			
	12th class	320	3,19	1,37			
11	9th class	326	3,30	1,30	1,690	,239	
	10th class	346	3,24	1,41			
	11th class	330	3,14	1,39			
	12th class	320	2,99	1,33			
12	9th class	326	3,67	1,28	2,145	,068	
	10th class	346	3,40	1,44			
	11th class	330	3,24	1,35			
	12th class	320	3,39	1,29			
13	9th class	326	2,96	1,49	2,665	,055	
	10th class	346	3,16	1,46			
	11th class	330	3,06	1,49			
	12th class	320	3,28	1,38			
14	9th class	326	3,58	1,55	1,330	,263	
	10th class	346	3,45	1,60			
	11th class	330	3,40	1,58			
	12th class	320	3,34	1,62			

15	9th class	326	4,33	1,93	4,052	,007	9th class with 11th class among
	10th class	346	4,06	1,38			
	11th class	330	4,03	1,37			
	12th class	320	4,23	1,25			
16	9th class	326	3,50	1,50	,880	,405	
	10th class	346	3,30	1,56			
	11th class	330	3,08	1,49			
	12th class	320	3,20	1,44			
17	9th class	326	2,05	1,37	3,184	,023	10th class with 11th class among
	10th class	346	2,26	1,31			
	11th class	330	2,36	1,33			
	12th class	320	2,25	1,30			
18	9th class	326	4,00	1,29	1,910	,126	
	10th class	346	3,98	1,29			
	11th class	330	3,81	1,38			
	12th class	320	4,03	1,21			
19	9th class	326	2,78	1,32	1,899	,130	
	10th class	346	2,83	1,42			
	11th class	330	3,18	1,47			
	12th class	320	2,97	1,38			
20	9th class	326	4,18	1,26	1,796	,146	
	10th class	346	4,10	1,32			
	11th class	330	4,01	1,37			
	12th class	320	4,23	1,22			

According to the findings in Table 3, a significant difference was observed in 5 items according to the class variable of high school students' views on the use of smart boards. According to this, I enjoy learning with the smart board ın item has found a significant difference between the 9th grade and the 12th class in favor of the 9th grade ($F=11,142; p<,05$). Less participation in this article of the 12th class may be due to the fact that they have been connected to the smart board for a long time. According to the findings of the study, there was a significant difference between the 10th and 12th grades in favor of the 12th grade in the item ıf I do not like to be educated by smart board ($F=7,632; p<,05$). This result supports the previous article.

According to the findings of the study, I enjoy the lessons learned through the smart board arasında item between the 9th grade and the 10th grade and between the 9th grade and the 11th grade, there was a significant difference in favor of the 9th grade ($F=9,879; p<,05$). The participation of 9th grade students to this article may be due to their new start to school. According to the findings of the study, ıf use the smart board to give the ban is distressing esinde item between the 9th grade and 11th class was found a significant difference in favor of the 11th class ($F=4,052; p<,05$). According to the findings of the study, A statistically significant difference was found between the 10th grade and the 11th grade in favor of the 11th grade in the article I will work as little as possible using technology ($F=3,184; p<,05$).

Conclusion and Recommendations. Considering the results of secondary school students' use of smart boards, students are generally satisfied with the use of smart boards. It is thought that students use smart boards to think that they are useful in learning the lessons and that they benefit from focusing on lessons better. Most studies have found that using technology in education (especially the smart board) plays an effective and positive role in learning (Smith vd., 2005; Beeland, 2002; Aydınlı and Elaziz, 2010; Lewin et al., 2008; Sünkür and Arabacı, 2012; Schut, 2007; Alexiou Ray, 2006; Ateş, 2010; Tate, 2002; Weimer , 2001; Thompson and Flecknoe; 2003; Glover and Miller, 2001; Allen, 2005). Students are happy to use the smart board. However, most of the students think that they are not afraid when using the smart board and have difficulty in using the smart board even though they do not have difficulty in using the smart board. This may be due to fear of getting negative reactions from friends or teachers because they did something wrong.

According to the results of the study, the 9th grade students enjoyed the most with the blackboard, while the 12th grade students did not participate in this article. The reason for this is that it is thought to be customary since they have been teaching with smart board for many years. However, Grade 12 students are aware that the smart board is useful in learning new things and that using technology can help them find new jobs.

As a suggestion to the study, the advantages, disadvantages, effects and results of the smart board should be taken into consideration of all users. Teachers and students should be given effective training on the use of smart boards.

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References

1. Akyüz, H. İ., Pektaş, M., Kurnaz, M. A. & Memiş, E. K. (2014). The effect of smart board usage micro-teaching applications on the perception of science teacher candidates' TBAPs and smart board usage. Republican Journal of International Education, 3 (1), 1-14.

2. Alexiou-Ray, J. "Benefits of the one-to-one ratio on learning: parental Perceptions and student attitudes." 2006. https://www.iste.org/Content/Research (E.T:20.11.2018).

3. Allen B. (2005). Analysis of the IWB Baseline Survey. Unpublished report in Annex C. http://www.pgce.soton.ac.uk/ict/NewPGCE/pdfs%20IWBs/ (E.T: 10.11.2018).

4. Ateş, M. (2010). Use of Intelligent Board in Secondary Geography Lessons. Marmara Journal of Geography, (22), p. 409-427.

5. Aydinli, J., & Elaziz, F. (2010). Turkish students' and teachers' attitudes toward the use of interactive whiteboards in EFL classrooms. *Computer Assisted Language Learning*, 23(3), 235-252.

6. Beeland, W.D., (2002). Student Engagement, Visual Learning and Technology: Can Interactive Whiteboards Help? Annual Conference of the Association of Information Technology For Teaching Education, Dublin: Trinity College.

7. Bulut, İ. & Koçoğlu, E. (2012). Views of Social Studies Teachers on Intelligent Board Use (Diyarbakır Province Case). Dicle University Journal of Education Faculty of Ziya Gökalp, 19, p. 242-258.

8. Cogill, J.(2002). "How is the interactive whiteboard being used in the primary school and how does this affect teachers and teaching".

9. Çoklar, A. N., & Tercan, İ. (2014). Opinions of teachers toward the use of smart boards. *Elementary Education Online, 13*(1), p. 48-61.

10. Emre, G., Kaya, Z., Özdemir, T.Y. & Kaya, O. N. (2011). The Effects of Intelligent Board Use on Science and Technology Teacher Candidates' Attitudes towards the Structure of Cell Membrane and Their Attitudes towards Information Technologies. 6th International Advanced Technologies Symposium (IATS'11), pp 24-27.

11. Glover, D. & Miller, D. (2001). Running with technology: the pedagogic impact of the large-scale introduction of interactive whiteboards in one secondary school. *Journal of Information Technology for Teacher Education,*10 (3), 257–278. doi:10.1080/14759390100200115.

12. Gursul, F., Tozmaz, G.B. (2010). 'Which one is smarter? Teacher or Board', Procedia Social and Behavioral Sciences on Vol 2, pp 5731-5737.

13. Jang, S. J.,&Tsai, M. F. (2012). Exploring the TPACK of Taiwanese Elementary Mathematics and Science Teachers With Respect to Use of Interactive Whiteboards. *Computers & Education, 59*(2), 327-338.

14. Karasar, N. (2007). Scientific Research Method.(17. Print), Nobel Publication Distribution Ltd. Ltd. Ankara.

15. Kayaduman, H., Sırakaya, M., & Seferoğlu, S. S. (2011). An Investigation of FATİH Project in Terms of Qualifications of Teachers in Education. XIII. Academic Informatics Conference (AB11).

16. Kennewell, S., & Morgan, A. (2003). Student Teachers' Experiences and Attitudes Towards Using Interactive Whiteboards in The Teaching and Learning of Young Children. In Proceedings of The International Federation For Information Processing Working Group 3.5 Open Conference on Young Children and Learning Technologies-Volume 34 (pp. 65-69). Australian ComputerSociety, Inc.

17. Lewin, C., Somekh, B., & Steadman, S. (2008). Embedding interactive whiteboards in teaching and learning: The process of change in pedagogic practice. *Education and information technologies, 13*(4), 291-303.

18. Oğuz, O., Oktay, A., & Ayhan, H. (2004). Education and Turkish Education System in the 21st Century, Istanbul: Values Education Center Publications.

19. Saltan, F., Arslan, K., & Gök, A. (2010). Teachers' Acceptance of Interactive White Boards: A Case Study. In D. Gibson& B. Dodge (Eds.), *Proceedings of Societyfor Information Technology & Teacher Education International Conference* (pp. 2360-2365). Chesapeake, VA: AACE.

20. Schut, C. (2007). Student perceptions of interactive whiteboards in a biology classroom. http://www.ohiolink.edu/etd/sendpdf.cgi/Schut (E.T: 18.10.2018)

21. Smith, H. J., Higgins, S., Wall, K., & Miller, J. (2005). Interactive Whiteboards: Boon or Bandwagon? A Critical Review of The Literature. *Journal of ComputerAssisted Learning, 21*(2), 91–101.

22. Tate, L. (2002). Using the interactive whiteboard to increase student retention, attention, participation, interest, and success in a required general education college course. Shepherd College 2002. http://www.smarterkids.org/research/pdf/tate.pdf. (E.T: 20.10.2018)

23. Tekelioğlu, S., Sürücü, M., Uğur, B. S., Dönmez, A., Ok, M., & Eren, F.(2010). Integration of Intelligent Board to Education Presentation Report, Unpublished course note.

24. Thompson, J., & Flecknoe, M. (2003). Raising attainment with an interactive whiteboard in Key Stage 2. *Management in Education, 17*(3), 29-33.

25. Warwick, P.,&Kershner, R. (2008). Primary Te achers' Understanding of The Interactive Whiteboard As A Tool for Children's Collaborative Learning and Knowledge-Building. *Learning, Media and Technology, 33*(4), 269-287.

26. Weimer, M. (2001). *The influence of technology such as a SMART Board interactive whiteboard on student motivation in the classroom..* http://smarterkids.org/research/paper7.asp (E.T: 21.10.2018)

27. Yıldızhan, Y. H. (2013). The effect of smart board on basic mathematics achievement in basic education. *Middle Eastern & African Journal of Educational Research, 5*, 110-121.

СТАВЛЕННЯ УЧНІВ СТАРШИХ КЛАСІВ ДО ІНТЕРАКТИВНИХ ДОЩОК

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Вступ. *Кінець ХХ століття позначений великими досягненнями у сфері інформаційних технологій. Розвиток цих технологій значно вплинув на повсякденне життя і стосунки між людьми. Усі галузі у світі прагнуть йти в ногу з інформаційними технологіями та забезпечують свої системи за допомогою цих технологій. Неминуче, що інформаційні технології, які так суттєво впливають на систему, так чинять потужний вплив на систему освіти. В освітньому секторі, де елементи, такі як відео, телебачення і радіо, використовувалися протягом певного часу, комп'ютери, проекційні пристрої і інтелектуальні плати були замінені цими матеріалами. Технологія конкретизації знань – швидше проста, ніж складна структура. Освіта, надаючи важливі інструменти для різних цілей, стала важливим елементом системи. Незважаючи на те, що в освітніх установах почали використовували інформаційні технології, їх можна охарактеризували як відносно новий технологічний інструмент для більшості викладачів та учнів.*

Мета. *Метою дослідження є визначення поглядів учнів старших класів на додаток «Розумна дошка».*

Методи. *У дослідженні модель скринінгу використовується для визначення думки учнів, зарахованих до офіційних середніх шкіл при Міністерстві національної освіти, стосовно використання «розумної дошки». Дослідження охопило 1300 студентів, що навчаються в офіційних середніх школах у районі Ташова Амасії в Туреччині. Опитування тих, які не погодилися заповнити анкету, не враховано. Кількість анкет, використаних для статистичного оцінювання, становить 1089. У процесі збору даних була використана комп'ютерна шкала Beeland (2002). Дані були проаналізовані в програмі SPSS 17 в комп'ютерному середовищі. При порівнянні змінних використано методики параметричного тестування, односторонній дисперсійний аналіз і спеціальні тести.*

Висновок. *Згідно з результатами дослідження учням у цілому подобається користуватися «розумною дошкою», вважається, що курси з «розумною дошкою» більш ефективні.*

Ключові слова: *інформатика, інформаційні технології, смартборди, технологія, технологічні інструменти.*

Список використаної літератури

1. Akyüz, H. İ., Pektaş, M., Kurnaz, M. A. & Memiş, E. K. (2014). The effect of smart board usage micro-teaching applications on the perception of science teacher candidates' TBAPs and smart board usage. Republican Journal of International Education, 3 (1), 1-14.

2. Alexiou-Ray, J. "Benefits of the one-to-one ratio on learning: parental Perceptions and student attitudes." 2006. https://www.iste.org/Content/Research (E.T:20.11.2018).

3. Allen B. (2005). Analysis of the IWB Baseline Survey. Unpublished report in Annex C. http://www.pgce.soton.ac.uk/ict/NewPGCE/pdfs%20IWBs/ (E.T: 10.11.2018).

4. Ateş, M. (2010). Use of Intelligent Board in Secondary Geography Lessons. Marmara Journal of Geography, (22), p. 409-427.

5. Aydinli, J., & Elaziz, F. (2010). Turkish students' and teachers' attitudes toward the use of interactive whiteboards in EFL classrooms. *Computer Assisted Language Learning*, *23*(3), 235-252.

6. Beeland, W.D., (2002). Student Engagement, Visual Learning and Technology: Can Interactive Whiteboards Help? Annual Conference of the Association of Information Technology For Teaching Education, Dublin: Trinity College.

7. Bulut, İ. & Koçoğlu, E. (2012). Views of Social Studies Teachers on Intelligent Board Use (Diyarbakır Province Case). Dicle University Journal of Education Faculty of Ziya Gökalp, 19, p. 242-258.

8. Cogill, J.(2002). "How is the interactive whiteboard being used in the primary school and how does this affect teachers and teaching".

9. Çoklar, A. N., & Tercan, İ. (2014). Opinions of teachers toward the use of smart boards. *Elementary Education Online*, *13*(1), p. 48-61.

10. Emre, G., Kaya, Z., Özdemir, T.Y. & Kaya, O. N. (2011). The Effects of Intelligent Board Use on Science and Technology Teacher Candidates' Attitudes towards the Structure of Cell Membrane and Their Attitudes towards Information Technologies. 6th International Advanced Technologies Symposium (IATS'11), pp 24-27.

11. Glover, D. & Miller, D. (2001). Running with technology: the pedagogic impact of the large-scale introduction of interactive whiteboards in one secondary school. *Journal of Information Technology for Teacher Education,*10 (3), 257–278. doi:10.1080/14759390100200115.

12. Gursul, F., Tozmaz, G.B. (2010). 'Which one is smarter? Teacher or Board', Procedia Social and Behavioral Sciences on Vol 2, pp 5731-5737.

13. Jang, S. J.,&Tsai, M. F. (2012). Exploring the TPACK of Taiwanese Elementary Mathematics and Science

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Teachers With Respect to Use of Interactive Whiteboards. *Computers & Education,* 59(2), 327-338.

14. Karasar, N. (2007). Scientific Research Method.(17. Print), Nobel Publication Distribution Ltd. Ltd. Ankara.

15. Kayaduman, H., Sırakaya, M., & Seferoğlu, S. S. (2011). An Investigation of FATİH Project in Terms of Qualifications of Teachers in Education. XIII. Academic Informatics Conference (AB11).

16. Kennewell, S., & Morgan, A. (2003). Student Teachers' Experiences and Attitudes Towards Using Interactive Whiteboards in The Teaching and Learning of Young Children. In Proceedings of The International Federation For Information Processing Working Group 3.5 Open Conference on Young Children and Learning Technologies-Volume 34 (pp. 65-69). Australian ComputerSociety, Inc.

17. Lewin, C., Somekh, B., & Steadman, S. (2008). Embedding interactive whiteboards in teaching and learning: The process of change in pedagogic practice. *Education and information technologies*, 13(4), 291-303.

18. Oğuz, O., Oktay, A., & Ayhan, H. (2004). Education and Turkish Education System in the 21st Century, Istanbul: Values Education Center Publications.

19. Saltan, F., Arslan, K., & Gök, A. (2010). Teachers' Acceptance of Interactive White Boards: A Case Study. In D. Gibson& B. Dodge (Eds.), *Proceedings of Societyfor Information Technology & Teacher Education International Conference* (pp. 2360-2365). Chesapeake, VA: AACE.

20. Schut, C. (2007). Student perceptions of interactive whiteboards in a biology classroom. http://www.ohiolink.edu/etd/sendpdf.cgi/Schut (E.T: 18.10.2018)

21. Smith, H. J., Higgins, S., Wall, K., & Miller, J. (2005). Interactive Whiteboards: Boon or Bandwagon? A Critical Review of The Literature. *Journal of ComputerAssisted Learning,* 21(2), 91–101.

22. Tate, L. (2002). Using the interactive whiteboard to increase student retention, attention, participation, interest, and success in a required general education college course. Shepherd College 2002. http://www.smarterkids.org/research/pdf/tate.pdf. (E.T: 20.10.2018)

23. Tekelioğlu, S., Sürücü, M., Uğur, B. S., Dönmez, A., Ok, M., & Eren, F.(2010). Integration of Intelligent Board to Education Presentation Report, Unpublished course note.

24. Thompson, J., & Flecknoe, M. (2003). Raising attainment with an interactive whiteboard in Key Stage 2. *Management in Education*, 17(3), 29-33.

25. Warwick, P.,&Kershner, R. (2008). Primary Te achers' Understanding of The Interactive Whiteboard As A Tool for Children's Collaborative Learning and Knowledge-Building. *Learning, Media and Technology,* 33(4), 269-287.

26. Weimer, M. (2001). *The influence of technology such as a SMART Board interactive whiteboard on student motivation in the classroom..* http://smarterkids.org/research/paper7.asp (E.T: 21.10.2018)

27. Yıldızhan, Y. H. (2013). The effect of smart board on basic mathematics achievement in basic education. *Middle Eastern & African Journal of Educational Research*, 5, 110-121.

ОТНОШЕНИЕ УЧАЩИХСЯ СТАРШИХ КЛАССОВ К ИНТЕРАКТИВНЫМ ДОСКАМ

Йылдырым Ахмет
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После 20-го века произошли большие достижения в области информационных технологий. Развитие информационных технологий глубоко повлияло на повседневную жизнь и отношения между людьми. Все отрасли в мире пытаются идти в ногу с информационными технологиями и обеспечивают свои системы с помощью этой технологии. Неизбежно, что информационные технологии, которые так сильно влияют на систему, так сильно влияют на систему образования. В образовательном секторе, где элементы, такие как видео, телевидение и радио, использовались в течение определенного периода времени, компьютеры, проекционные устройства и интеллектуальные платы были заменены этими материалами. Технология, конкретизация знаний, более простая структура, чем сложная структура; образование, предоставляя важные инструменты для различных целей, стало важным элементом системы. Национальные проекты и название, которое следует часто слышать, а также некоторые из них. Несмотря на то, что его начали использовать в образовательных учреждениях, его можно охарактеризовать как относительно новый технологический инструмент для большинства преподавателей и учащихся.

Ключевые слова: *информатика, информационные технологии, смартборд, технология, технологические инструменты.*