

OPEN ACCESS

The illustration features a central black graduation cap with a yellow tassel, and a rolled-up white diploma tied with a red ribbon and a gold seal. The background is a vibrant blue, filled with various white line-art icons representing different fields of study: a ruler and triangle, a lightbulb, a planet Saturn, a star, a magnifying glass, a test tube, a leaf, a graph with an upward arrow, a microscope, a calendar, a globe, a pencil, a book, musical notes, gears, a trophy, a molecular structure, a calculator, and various letters like 'B', 'A', and 'C'.

Educational Research and Reviews

10 June, 2018
ISSN: 1990-3839
DOI: 10.5897/ERR
www.academicjournals.org



**ACADEMIC
JOURNALS**
expand your knowledge

ABOUT ERR

Educational Research and Reviews (ISSN 1990-3839) is published bi-monthly (one volume per year) by Academic Journals.

Educational Research and Reviews (ERR) is an open access journal that publishes high-quality solicited and unsolicited articles, in English, in all areas of education including education policies and management such as Educational experiences and mental health, the effect of land tenure system on resource management, Visualization skills and their incorporation into school curriculum, Gender, education and child labour etc. All articles published in ERR are peer-reviewed.

Contact Us

Editorial Office: err@academicjournals.org

Help Desk: helpdesk@academicjournals.org

Website: <http://www.academicjournals.org/journal/ERR>

Submit manuscript online <http://ms.academicjournals.me/>.

Editors

Dr. Peter W. Wong

*Southern Cross University
Australia.*

Assoc. Prof. Manjula Vithanapathirana

*Faculty of Education
University of Colombo
Colombo,
Sri Lanka.*

Associate Editors

Dr. Melissa Vick

*School Of Education
James Cook University
Townsville,
Australia.*

Prof. Ogunsakin R. Ebenezer

*Department of Statistics
Ekiti State University
Ado Ekiti,
Nigeria.*

Dr. Maniam Kaliannan

*Faculty of Administrative Science & Policy Studies
Universiti Teknologi MARA (UiTM)
Selangor,
Malaysia.*

Dr. A. Kadir Maskan

*Dicle University
Ziya Gokalp Education Faculty
Department of Physics Education
Diyarbakir,
Turkey.*

Dr. Tavis D. Jules

*Cultural and Educational Policy Studies
School of Education
Loyola University Chicago
Chicago,
USA.*

Dr. Mohd Akhtar Siddiqui

*Institute of Advanced Studies in Education
Faculty of Education
Jamia Millia Islamia Central University
New Delhi,
India.*

Dr. Adams Onuka

*Centre for Peace and conflict Studies (CEPACS)
University of Ibadan
Nigeria.*

Dr. Yambo John M. Onyango

*University of Eastern Africa
Kamagambo Adventist College Campus
Baraton,
Kenya.*

Dr. Tolga Gök

*Torbali Vocational School of Higher Education
Dokuz Eylul University
Izmir,
Turkey.*

Editorial Board

Prof. García Mayo, María del Pilar

*Departamento de Filología Inglesa y Alemana y de Traducción e Interpretación
Universidad del País Vasco (UPV/EHU)
Paseo de la Universidad 5
Vitoria,
Spain.*

Prof. Frank Witlox

*Ghent University
Department of Geography
Gent,
Belgium.*

Prof. Georgios D. Sideridis

*University of Crete
Department of Psychology
Rethimno,
Greece.*

Prof. Andreas Veglis

*Department of Journalism and Mass Media
Aristotle University of Thessaloniki
Thessaloniki,
Greece.*

Prof. Mutendwahothe Walter Lumadi

*Curriculum & Instructional Studies
College of Education
UNISA,
South Africa.*

Dr. Miriam McMullan

*Faculty of Health and Social Work
University of Plymouth
Plymouth,
UK.*

Prof. Moshe Barak

*Graduate Program for Science and Technology
Education
Ben-Gurion University of the Negev,
Beer Sheva,
Israel.*

Dr. Hiam Zein

*Psychology and Education
Lebanese American University
Chouran-Beirut,
Lebanon.*

Dr. Joel O. Eriba

*Faculty of Education
Benue State University
Makurdi,
Nigeria.*

Prof. Bingjun Yang

*School of Foreign Languages
Southwest University
Chongqing,
China.*

Dr. Ernest W. Brewer

*The University of Tennessee
Educational Administration and Supervision
Tennessee,
USA.*

Prof. Gail Derrick

*Regent University
School of Education
Virginia Beach,
USA.*

Dr. Evridiki Zachopoulou

*Department of Early Childhood Care and Education
Thessaloniki,
Greece.*

Dr. Francesco Pastore

*Seconda Università di Napoli
Italy,*

Dr. Syed Iftikhar Hussain Shah

*Technical Education and Vocation
TEVTA Secretariat
Lahore,
Pakistan.*

Dr. Ravi Kant

*College of Teacher Education
Maulana Azad National Urdu University
Darbhanga,
India.*

Editorial Board

Dr. Dibakar Sarangi

*Directorate of Teacher Education and State Council
for Educational Research and Training
(DTE & SCERT)
Odisha,
India.*

Dr. Elisa Backer

*Faculty of Business
Federation University Australia
Australia.*

Dr. Ahmad Alkhaldeh

*Department of Curriculum and instruction
University of Jordan
Jordan.*

Dr. Mehmet Akif Sözer

*Department of Primary Education
Gazi Faculty of Education
Gazi University
Turkey.*

Educational Research and Reviews

Table of Contents: Volume 13 Number 11 10 June, 2018

ARTICLES

Availability and accessibility of ICT- based instructional tools in medical colleges in Ogun State, Nigeria	391
Nwosu, Jonathan Chinaka, John, Henry Chukwudi and Akorede, O. J.	
A research on the attitude of eight grade students towards earthquake	399
Hülya Kayalı	
The perceptions of King Abdullah II School for Excellence teachers about the importance of using flipped learning for the development of students' reflective thinking in Jordan	406
Mohammed Bader ALYousef, Ibrahim Ali Naanah and Awad Mufleh AL Khazam	
The school image in children's books	417
Yasin Mahmut YAKAR	
The perceptions of modern sports of students in the department of physical education and sports in Turkey	423
Ahmet Atalay	

Full Length Research Paper

Availability and accessibility of ICT- based instructional tools in medical colleges in Ogun State, Nigeria

Nwosu, Jonathan Chinaka^{1*}, John, Henry Chukwudi² and Akorede, O. J.²

¹Department of Educational Foundations, Babcock University, Ogun State, Nigeria.

²Educational Foundations and Instructional Technology, Tai Solarin University of Education, Ogun State, Nigeria.

Received 7 March, 2018; Accepted 18 May, 2018

This study assessed the availability and use of ICT-based Instructional tools in selected medical colleges in Ogun State, Nigeria. This study adopted a descriptive survey research design. The population to be studied is medical lecturers (328), clinical instructors (42) and laboratory technologist (92) from Ben Carson Snr. Medical School, Babcock University, Obafemi Awolowo College of Health Sciences, and Olabisi Onabanjo University (OOU); total being 462. Simple random sampling technique was used to select 248 respondents for the study. This will represent the population to be studied. Data was collected with the use of titled questionnaires (ICT-bIPIMC) and a checklist during their faculty meetings/seminars, and the data collected were analysed using simple frequency and percentage techniques. It was revealed that Computer Aided Instruction (CAI), Social Media, Human Patient Simulation (HPS), PowerPoint Slides (Microsoft) [PP slides, and Medical videos (MV), Multimedia Classrooms (Audio Visual Centre), Projectors, E-Medical journals and animation clips] were the available ICT-based tools for Instructional tools in Ogun State medical colleges. Based on the available finding in this study, social media (45%), E-medical journals (40%), computer-aided instructions (39%), online educational forum (37%), and Internet connected laptops (34%), were the major ICT-based tools used at least twice daily. The study recommended that ICT-based instructional tools should be compulsory for instructional practices among lecturers, laboratory technologists and clinical instructors; also medical colleges should be motivated to use ICT-based tools as instructional tools through training and workshop on how to effectively use the available tools.

Key words: ICT-based Instructional tools, medical colleges, availability, usage.

INTRODUCTION

Technological advancements of this era have revolutionized every field of life; teaching is no exception. The basis of the medical curriculum consists of the fundamental theory and practice of medicine, specifically basic bio-medical, behavior and social sciences, clinical

sciences and general clinical skills, including clinical decision skills, communication abilities, and inter-professional collaboration.

Information and Communication Technology (ICT) tools are important in training, educating and for capacity

*Corresponding author. E-mail: nwosuj@babcock.edu.ng

building programs which play key role in educational process. ICT's impact on medical education has evolved a great deal as both medical science and computer technology have undergone profound enhancement. While developed countries could harvest their investments in ICT, medical schools in developing countries are still struggling with designing, implementing, and instructional delivering through ICT in medical education (Stefan et al., 2016).

World Federation for Medical Education (2016) refers to medical school as an educational institution providing a basic undergraduate and post graduate programs in medicine and other health related programs with medical faculty, medical college, medical academy or medical university. The medical school can be part of or affiliated to a university or can be an independent institution at equal level.

One of the key indicators of best global practices in medical colleges in the world is ICT-based instructional tools which may include software and hardware utilization during teaching and learning process in a medical college; it is a fundamental redesign of the instructional model, shifting from lecture to student-centered instruction, increasing all forms of interaction and incorporating formative and summative assessment (Stefan et al., 2016).

The Association of American Medical Colleges (2007) clearly indicates the following ICT-based instructional technologies that can be used for medical education, which is as follows: Computer Aided Instruction (CAI), Virtual Patients (VP), Social Media, Human Patient Simulation (HPS), Screen-based Virtual Reality, PowerPoint Slides Microsoft: (PP slides), and medical videos (MV) and animation clips.

Also, modern course delivery systems have been emphasized among core teaching facilities and modes of learning recommended by Nigerian University Commission (2016) which are: Clinical skills laboratory, classroom equipment, e-learning materials and research information platforms; the availability of Nigerian Research and Education Network (NgREN) has made access to teaching such as telemedicine and research information readily accessible, and all Nigerian universities are expected to key into it.

One issue regarding ICT in medical education is availability and usage. While industrialized countries benefit from investing in ICT, developing countries could particularly benefit from ICT mediated education because of the lack of human and non-human resources, poor distribution of facilities, and poor access to the latest educational infrastructure. However, access to technology is often an issue in developing countries and could be a useful tool to address many of the challenges in medical education, but the lack of technology and resources could pose a serious limitation (Maharana et al., 2009). However, researchers have paid more attention to the effect of ICT-based instruction on academic performance in medical colleges with less attention on the extent of

availability and accessibility of ICT-based tools in medical colleges.

Several studies have been done by Albarrak and Al-Ghammas (2009) Baxi et al. (2011) and Potomkova, et al. (2012) in the use of ICT-based instructional practices for medical education in relation to academic performance of medical students, but less study has been done to determine the extent to which ICT-based Instructional tools are available and accessed in medical colleges in Nigeria. This study therefore seeks to investigate the availability and accessibility of ICT-based Instructional tools in medical colleges.

Medicine as a discipline is a sophisticated mix of knowledge, skills, behavior and attitudes; which requires hands-on and holistic teaching and learning approaches. However, best global practices have emphasized ICT-based Instructional practices which rely extensively on utilization of ICT-based Instructional tools in medical colleges. The best global practices in medical colleges cannot be achieved without the knowledge of whether the ICT-based tools are available and accessible or not hence, the need for this study. However, past studies have focused on effects of ICT on student's academic performance in medical colleges while there are few studies that assess the availability and accessibility of ICT-tools in medical colleges in Nigeria. Therefore, this study investigates the availability and accessibility of ICT-based instructional tools in selected medical colleges in Ogun State, Nigeria.

Purpose of the study

The main purpose of this study is to investigate the availability and accessibility of ICT-based instructional tools in selected medical colleges in Ogun State, Nigeria. The specific objectives of the study are to:

1. Assess the availability of relevant ICT-instructional tools used for teaching and learning in medical colleges in Ogun State;
2. Assess the accessibility of the available ICT-based instructional tools in the medical colleges.

Research questions

The following research questions will be answered in this study:

1. What are the availability of relevant ICT-instructional tools used for teaching and learning in medical colleges in Ogun State?
2. Are the ICT-based instructional tools accessible in the medical colleges?

Conceptual framework

The conceptual model (Figure 1) shows the interface

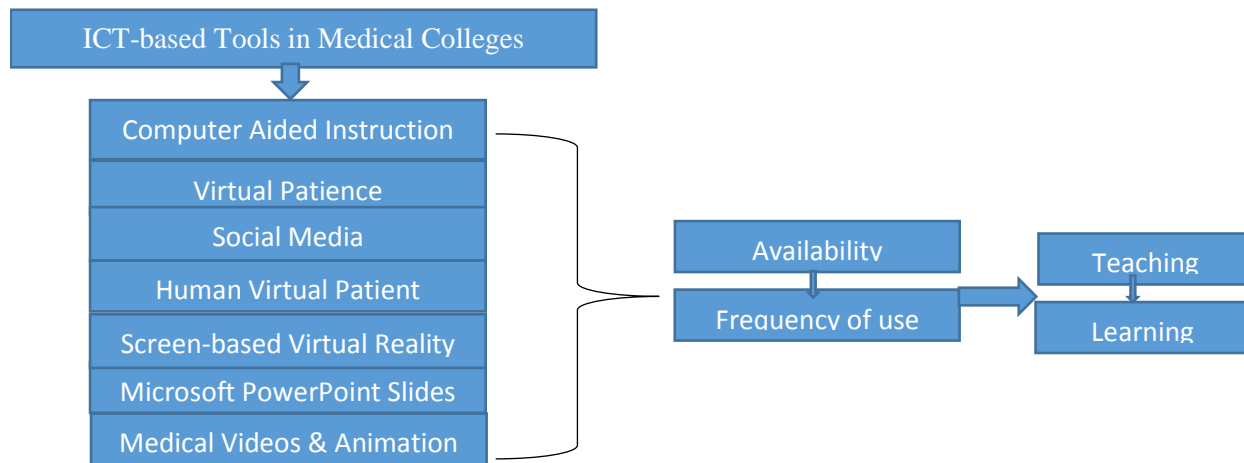


Figure 1. Relationship between the reviewed variables and concept of the study.
Source: Designed by the researcher.

between Computer Aided Instruction (CAI), Virtual Patients (VP), Social Media, Human Patient Simulation (HPS), Screen-based Virtual Reality, PowerPoint Slides Microsoft: (PP slides), Medical videos (MV), Animation clips and medical sciences as an integral symbiotic. Innovations in the adoption of ICT-based instructional in medical sciences toward a revolution in education, allowing adaptive and collaborative learning by the learners and transforming the role of the teacher. Traditionally, education has been based on attending classes day after day, listening to a lecturer providing the necessary course work information, and going through exams to assess knowledge. The evolution of ICT-based instructional practices and systems has changed the way medicine is taught. Medicine, as a complex multi-disciplinary field, has been implementing computerized technologies, with ICT-based tools being a central point of the process in many cases. ICT's impact on medical education has evolved a great deal as both medical science and computer technology have gone under profound enhancement (AAMC Institute for Improving Medical Education, 2007).

METHODOLOGY

The descriptive survey research design of the expo-facto type was adopted for the study. The descriptive survey approach was chosen for the present study because it seeks to gain insight into a phenomenon as a means of providing basic information in an area of study. This study adopted a descriptive survey research design. The populations to be studied are medical lecturers (328), clinical instructors (42) and laboratory technologist (92) from Ben Carson Snr. Medical School, Babcock University and Obafemi Awolowo College of Health Sciences, Olabisi Onabanjo University (OOU). Total being 462. These represented the population sampled in the study. Probability sampling was used in this study to give equal opportunity to every unit in the population to be selected in this study. A simple random sampling technique was used to select

medical lecturers (236), clinical instructors (65), and laboratory technologist (43). 344 respondents will be the actual sample size for this study. The researcher used a self-structured questionnaire and a check list designed for data collection in line with the research questions. The instrument on the ICT-based instructional tools (ICT-bIPIMC) in Ogun State Medical Colleges consisted of 49 set of items.

The data collected from pilot study was used to calculate the reliability coefficient using split-half method. Also, Pearson Product Moment Correlation Coefficient was used to determine the reliability coefficient of the instrument. This indicates that the items were reliable within the acceptable limits. The requirements for internal consistency was an average value of the correlation coefficient which is 0.80. Data generated from the questionnaire are presented and the data were analysed using SPSS version 21.0, and the results were presented using simple frequency counts and percentages.

RESULTS

A total of three hundred and forty-four 344 copies of questionnaires were distributed, out of which, two hundred and forty-eight 248 were fully completed and returned. The results of the administered questionnaires were analyzed with the aid of SPSS 21.0 software.

Presentation of data

The data were presented in tables using simple frequency and percentage techniques.

Demographic features of the respondents

Table 1 also revealed that faculty of clinical sciences, which houses the department of Medicine, Surgery and obstetrics and so on have the highest respondents, while

Table 1. Distribution of respondents by faculty.

Variable	Frequency	Percent
Clinical Sciences	105	42.3
Pharmacy	18	7.3
Basic Medical Sciences	87	35.1
Ben Carson School of Medicine	38	15.3
Total	248	100.0

Source: Field survey, 2018.

Table 2. Distribution of respondents by qualifications.

Variable	Frequency	Percent
PhD.	30	12.0
M.Phil.	Nil	Nil
M.Ed.	Nil	Nil
B.Sc.	16	7.0
M.Sc.	38	15.0
MBBS	100	40.0
MBChB.	6	2.4
BMBS	54	22.0
HND	4	1.6
Total	248	100

Source: Field survey, 2018.

Table 3. Distribution of respondents by job designation.

Variable	Frequency	Percent
Lecturer	126	51.0
Laboratory Technologist	68	27.0
Clinical Instructor	54	22.0
Total	248	100

Source: Field survey, 2018.

Basic Medical Science has 35%, Ben Carson School of Medicine 15% and the Faculty of Pharmacy 7.3% has the lower respondents due to the staff strength available as at the period the research was conducted.

Table 2 revealed that majority of the respondents from the two medical schools possesses MBBS 40%, BMBS 22% which is the main medical degree requirements for teaching and practice of the field of medicine. It was also revealed that M.Ed. and M.Phil. Degrees were not indicated as part of their educational degrees. The respondents (12%) also indicated that they have gotten their PhD in the field of their profession. HND (1.6%) and MBChB. (2.4%) were not indicated as part of the degree they possess in their field. Some of the respondents have indicated that they have B.Sc. (15%) and M.Sc (7%) in the field of practice, which were basically the Laboratory

technicians and clinicians from the two universities.

Table 3 showed that majority (51%) of the respondents was lecturers and the laboratory technologist were 27%, while the clinical instructors were 22%. The result was in concomitant with the staff strength of the two universities based on the percentage indicated in this study

Research question one: What are the available ICT-based instructional tools used for teaching and learning in medical colleges?

Table 4 revealed that Internet-based desktop computers were available (100%). For E-learning availability, 7.7% was available while 92.3% were not available. Mp3 lectures recorded playback where not available for

Table 4. Availability of ICT-based instructional tools used for teaching and learning in the medical colleges.

Variable	Available		Not available	
	Lecturer	Frequency	Percent	Frequency
Internet-connected desktop computers	248	100	Nil	Nil
E-learning	19	7.7	229	92.3
Mp3 lectures recorded playback	Nil	Nil	248	100
Medical videos MV and animation clips	158	63.7	90	36.3
Microsoft PowerPoint Slides	128	51.6	120	48.4
Projectors	248	100	Nil	Nil
Social Media	192	77.4	56	22.6
E-Medical journals	248	100	Nil	Nil
Faculty Cybercafé	216	87.1	32	12.9
Institutional Virtual Library Digital Library	90	36.3	158	63.7
Computer-aided Instruction CAI	128	51.6	120	48.4
Online educational forums	144	58.1	104	41.9

Source: Field survey, 2018.

Table 5. Availability of ICT-based instructional tools used for teaching and learning in the medical colleges.

Variable	Available		Not available	
	Laboratory Technologists	Frequency	Percent	Frequency
Electronics Class Roll ECR	248	Nil	248	100
Multimedia Classrooms Audio Visual Centre	105	42.3	143	57.7
Gaming Application	248	Nil	248	100
Institutionally-produced Educational Software	22	8.9	226	91.1

Source: Field survey, 2018.

lecturers. Projectors were available for use (100%). For the use of medical videos, 63.7% were available; For PowerPoint, 51.6% were available for use. The table also revealed that for social media platform, 77.4% indicated it was available for the lecturers and 22.6% indicated that it was not available. In addition, it was revealed that E-medical journal was 100% available for lecturers use. 87.1% revealed that the medical colleges have faculty cybercafé in their faculty while 12.9% indicated that it was not available for use. Also 36.3% indicated that they have an institutional virtual library (digital library), while 63.7% indicated that it is not available for lecturers use. 51.6% indicated that Computer-aided instruction (CAI) was available for lecturer's use, while 48.4% indicated that it was not available for lecturers use. And finally, 58.1% revealed that online educational forums were available while 41.9% indicated that the forum is not available for lecturers use.

Table 5 depicted that electronics class roll (ECR) were not available for use. Pertaining multimedia classrooms (Audio Visual Centers) availability, 42.3% indicated it was available, while 57.7% indicated that it was not adequately available for the laboratory technologist's use. It was also indicated in the table that Gaming application was not

available for use. And finally, concerning institutionally-produced educational software availability, 8.9% indicated it was available, while 91.1% indicated that the software is not available for use.

As shown in Table 6, 32.3% indicated that virtual patients (VP) were not available for teaching and learning, while 67.7% indicated were not available. Also, the table depicts that human patients were 100% available for teaching and learning. Finally, 39.9% clinical instructors indicated that screen-based virtual reality is available for use while 60.1% indicated that screen-based virtual reality is not adequately available for teaching and learning.

Research question two: Are the ICT-based instructional tools accessible in the medical colleges?

Table 7 depicted that the respondents use Internet-Connected Desktop Computers once weekly (34%), twice weekly (39%), thrice weekly (12%) daily (6%) and 7% does not use it at all for instructional purposes. Also, the respondents use Virtual Patient VP once weekly (11%),

Table 6. Availability of ICT-based instructional tools used for teaching and learning in the medical colleges.

Variable	Available		Not available	
	Frequency	Percent	Frequency	Percent
Clinical Instructors				
Virtual Patient VP	80	32.3	168	67.7
Human Patient Stimulation HPS	248	100	248	Nil
Screen-based Virtual Reality	99	39.9	149	60.1

Source: Field survey, 2018.

Table 7. Accessibility of ICT-based instructional tools in medical colleges.

ICT-based instructional tools	Once weekly		Twice weekly		Thrice weekly		Daily		Not at all	
	F	Percent	F	Percent	F	Percent	F	Percent	F	Percent
Internet-Connected Desktop Computers	86	34.7	98	39.5	30	12.1	15	6.0	19	7.7
Virtual Patient VP	28	11.3	18	7.3	10	4.0	97	39.1	95	38.3
E-Medical journals	100	40.3	12	4.8	24	9.7	48	19.4	24	9.7
Faculty Cybercafé	42	16.9	30	12.1	19	7.7	106	42.7	51	20.6
Institutional V-Library Digital Library	22	8.9	52	20.9	32	12.9	52	20.9	90	36.3
Human Patient Stimulation HPS	62	25	48	19.4	44	17.7	34	13.7	60	24.2
Social Media	112	45.2	14	5.6	64	25.8	32	12.9	26	10.5
Projectors	194	78.2	6	2.4	16	6.5	20	8.1	12	4.8
Screen-based Virtual Reality	32	12.9	Nil	Nil	52	20.9	64	25.8	100	40.3
Computer-aided Instruction CAI	99	39.9	63	25.4	24	9.7	48	19.4	14	5.6
Electronics Class Roll ECR	4	1.6	44	17.7	22	8.9	18	7.3	160	64.6
Multimedia Classrooms A/V Centre	30	12.1	49	19.8	7	2.8	30	12.1	132	53.2
Gaming application	2	0.8	52	20.9	2	0.8	42	16.9	150	60.5
Institutionally made Educational Software	16	6.5	38	15.3	20	8.1	54	21.8	110	44.4
Online Educational forums	94	37.9	15	6.0	20	8.1	15	6.0	104	41.9
Mp3 lectures recorded playback	8	3.2	8	3.2	2	0.8	38	15.3	192	77.4
E-learning	10	4.0	10	4.0	74	29.8	26	10.5	128	51.6

Source: Field survey, 2018.

twice weekly (7%), thrice weekly (4%) daily (39%) and 38% does not use it at all for instructional purposes Next to the table indicates that the respondents use E-Medical journals once a weekly (40%), twice weekly (4%), thrice weekly (9%), daily (19%), while 9% does not use it at all for instructional purposes. The table indicated that the respondents use Faculty Cybercafé once weekly (16%), twice weekly (12%), thrice weekly (7%), daily (42%), while 20% does not use it at all for instructional purposes.

Also, the table indicated that the respondents use Institutional V-Library Digital Library once weekly (8%), twice weekly (20%), thrice weekly (12%), daily (20%), while (36%) does not use it at all for instructional purposes. The table depicts that the respondents use Human Patient Stimulation HPS at least once weekly (25%), twice weekly (19%), thrice weekly (17%), daily (13%), while 24% does not use it at all for instructional purposes.

Also, the above table revealed that the respondents at

least use social media once weekly (45%), twice weekly (5%), thrice weekly (25%), daily (12%), while 10% does not use it at all for instructional purposes. The above table revealed that the respondents use projectors at least once weekly (78%), twice weekly (2%), thrice weekly (6%), and daily (8%), while 4% does not use it at all for instructional purposes.

The table also revealed that the respondents use screen-based virtual reality at least once weekly (12%), thrice weekly (20%), and daily (25%), while 40% does not use it at all for instructional purposes. The table depicts that the respondents use computer-aided instructions (CAI) at least once weekly (39%), twice weekly (25%), and daily (9%), while 5% does not use it at all for instructional purposes. Also the above table indicates that the respondents use electronic class roll at least once weekly (1%), twice weekly (17%), thrice weekly (8%), and daily (7%), while 64% does not use it at all for instructional purposes. The table also revealed that the respondents

use multimedia classroom A/V at least once weekly (12%), twice weekly (19%), thrice daily (2%) and daily (12%), while 53% does not use it at all for instructional purposes. The table depicts that the respondents use gaming applications at least once weekly (0.8%), twice weekly (20%), thrice weekly (0.8%) and daily (16%), while 60% does not use it at all for instructional purposes. Also the table revealed that the respondents use institutionally made educational software at least once weekly (6%), twice weekly (15%), thrice weekly (8%) and daily (21%) while 44% does not use it at all for instructional purpose. It also revealed that the respondents use online educational forums at least once weekly (37%), twice weekly (6%), thrice weekly (8%) and daily (6%) while 41% does not use it at all for instructional purpose. The table also revealed that the respondents use Mp3 lecture recorded playback at least once weekly (3%), twice weekly (3%), thrice weekly (0.8) and daily (15%) while 77% does not use it at all for instructional purpose. Finally, the table depicts that respondents use e-learning at least once weekly (4%), twice weekly (4%), thrice weekly (29%) and 10% daily, while 51% does not use it at all for instructional purpose.

DISCUSSION

This study revealed that Internet-based desktop computers, E-Medical journals, faculty cybercafé, social media, projectors, CAI, PowerPoint Slides, online educational forums, and Medical videos/animation clips are adequately available teaching and learning tools for lecturers in the medical colleges. Which is in concomitant with the basic requirements by the Association of American Medical Colleges (2007) and Nigeria Undergraduate Medical and Dental Curriculum Template, 2012 which clearly states that Computer Aided Instruction (CAI), Social Media, PowerPoint Slides Microsoft: PP slides, and Medical videos MV and animation clips should be the best global tools for instructional tools in medical education. These ICT- based instructional tools are very crucial for teaching and learning in the medical colleges. Asefeh et al. (2012) affirmed that ICT-based tools will help medical lecturers spend less time delivering information and will allow students to take a more active role in their learning and alter the pace of their own learning using the tools.

The study revealed that E-learning, Mp3 lectures recorded playback and institutional virtual library digital library are not readily available for lecturers use. These findings are in agreement with the findings of Stefan et al. (2016) that Mp3 lectures recorded playback is an important mobile educational tool for the target audience to access the information “where, when and how” they want, but it is yet to be fully used in medical colleges. Albarrak and Al-Ghammas (2009) also affirmed with the findings that e-learning can be effective in addressing

most health and medical education through the delivery of learning material without boundaries.

Finally, the findings of this study revealed that Internet-Connected Desktop Computers, Medical videos MV and animation clips, Microsoft PowerPoint Slides, Projectors, Social Media, E-Medical journals, Faculty Cybercafé, Institutional Virtual Library Digital Library, Computer-aided Instruction (CAI), Online Educational forums, Multimedia Classrooms Audio Visual Centre , Virtual Patient VP , Human Patient Stimulation HPS, Screen-based Virtual Reality were the ICT-based tools used, at least once daily by the lecturers, laboratory technologist and clinical instructors in the medical colleges (Albarrak and Al-Ghammas, 2009; Baxi et al., 2011; Potomkova et al., 2012). Also, Prensky (2006) supports this finding through their reports of the need for availability and accessibility of ICT-based tools for instructional purposes in medical colleges. Yusufu et al. (2014) support the fact that ICT-based instructional tools usage in the teaching/learning process can enhance instructional methods with emphasis on learner’s active participation.

The findings of the study also revealed that electronic class records, multimedia AV Centers, MP3 playback recording and e-learning are not being used by the lecturers, laboratory technologist and clinical instructors in the medical colleges. The plausible reasons for this might traced to the fact that these ICT-based tools are part of the ICT-based instructional tools recently recommended for use in medical colleges and might still be in the process of acquisition.

Conclusion

The study revealed that ICT-based instructional tools were not adequately available in the medical colleges, and accessibility of the tools are moderate and still needs be improved. Hence, availability and access to ICT-based instructional tools such as Computer Aided Instruction (CAI), Social Media, and Human Patient Simulation HPS, PowerPoint Slides Microsoft: PP slides, and Medical Videos MV, Multimedia Classrooms Audio Visual Centre, Projectors, and E-Medical journals, and Animation Clips in medicine education will bring about quality and appropriate improvement in training medical students in the medical colleges.

Recommendations

1. Based on the findings of this study, there is a great need for medical colleges to provide MP3 lecturers recorded playback devices, E-learning platforms, and digital libraries for lecturers, so as to enhance the Instructional tools in the medical colleges.
2. Medical colleges should provide institutionally-produced educational software applications that will be installed on

student's smartphones and tablets through the laboratory technologist, which in turn create a knowledge sharing hub between teachers and learners in the medical colleges.

3. Medical colleges should provide virtual patients and screen based virtual reality for clinical instructions, which will help students handle situations that involves strong emotions like bad news or dealing with violent, aggressive patients and reduce the dangers of hospital infections.

The scope of the study was limited to medical colleges in Ogun State, Nigeria, which was as a result of financial incapability. Hence, there is a need to expand the scope to other medical colleges in the southwestern part of Nigeria for adequate generalization of research findings.

Finally, further studies need to be done to assess teacher's competence on the use of ICT-based instructional tools in medical colleges.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

- Albarrak AI, Al-Ghammas H (2009). The role of Information technology in medical and patient education. *Dental Journal*, (1):105-108.
- Asefeh BH, Mahnaz BM, John JZ, Gardiner RA, Peña PA (2012). Information and Communication Technology in Medical Education: An Experience from a Developing Country. A special report on perceptions from 1976-2010.
- Baxi SN, Shah CJ, Parmar RD, Parmar D, Tripathi C B (2011). Student's perception towards different teaching aids in a medical college. *AJHPE*; 1: 15. (Online) (Cited 2016 April 28). Available from URL: <http://www.ajol.info/index.php/ajhpe/article/view/49723>.
- Maharana B, Biswal S, Sahu NK (2009). Use of information and communication technology by medical students: A survey of VSS Medical College, Burla, India. *Library Philosophy and Practice (e-journal)*. (Online) <http://digitalcommons.unl.edu/libphilprac/281>.
- Nigeria Undergraduate Medical and Dental Curriculum Template, (2012). Email info@healthsystems2020.org or visit our website at pg. 5 www.healthsystems2020.org
- Nigerian University Commission (NUC) Monday Bulletin (2016) –NUC Press Release: Medicine, Dentistry Programmes to run for Seven, Not 11 Years. A Publication of the Office of the Executive Secretary. 11:18. <http://nuc.edu.ng/wp-content/uploads/2015/01/MB-9th-may-2016.pdf>
- Potomkova J, Vladimir M, Daniel S (2012). Medical Education for YouTube Generation, ELearning - Engineering, On-Job Training and Interactive Teaching, Dr. Sergio Kofuji (Ed.), ISBN: 978-953-51-0283-0, InTech, Available from: <http://www.intechopen.com/books/e-learning-engineering-on-job-training-andinteractive-teaching/medical-education-for-youtube-generation>
- Prensky M (2006). "Don't bother me Mom—I'm learning." St. Paul, MN: Paragon House.
- Stefan V, Alexandrina V, Nikolay P (2016). New Trends of Training in Information Technology in Medical College of Sofia. *Journal of Educational and Instructional Studies in the World*; 6(1):48-49.
- The Association of American Medical Colleges (AAMC) Institute for Improving Medical Education. (2007). Effective Use of Educational Technology in Medical Education. Colloquium on Educational Technology: Recommendations and Guidelines for Medical Educators March 2007.
- World Federation for Medical Education (2016). Basic Medical Education WFME Global Standards for Quality Improvement the 2015 Revision. Retrieved 27 January 2016, from <http://wfme.org/standards/bme/78-new-version-2012-quality-improvement-in-basic-medical-education-english/file>
- Yusufu I, Kajuru Y, Musa M (2014). Effect of a Computer Mediated Systems Teaching Approach on Attitude Towards Mathematics of Engineering Students. *Journal of Education and Practice*, 5(9):201418.

Full Length Research Paper

A research on the attitude of eight grade students towards earthquake

Hülya Kayalı

Department of Social Sciences and Turkish Education, Marmara University, Turkey.

Received 7 March, 2018; Accepted 13 May, 2018

The aim of this study is to determine the attitudes of eighth-grade students in secondary schools towards earthquake. For this purpose, the attitude test towards earthquake was applied to 240 eighth grade students (107 females and 133 males) from five secondary schools in Istanbul. Quantitative method was used in the study. Also, to analyze the dataset collected from this study, t-test and variance analysis techniques were used. This study has shown that students generally have positive thoughts and attitudes towards earthquakes and damages.

Key words: Analysing of attitudes toward earthquake, eighth-grade students, earthquake.

INTRODUCTION

Turkey is one of the world's three most important seismic zones on the Alpine-Himalayan seismic belt, located in the Mediterranean region (Şahin and Sipahioğlu, 2002:53; Bikçe, 2017:25). Due to the presence of the active fault segments in the Mediterranean earthquake region from the past to the present, many earthquakes occurred in Turkey. There is a very big broken line in the north of the Anatolia plate and this is called North Anatolian Fault Line (Broken Line). This fault line starts from the Sea of Marmara and extends from Bolu, Corum, Erzincan and Erzurum to Iran. On the other hand, the Eastern Anatolian Fault zone, coming from the south via Amik Ovasi-Kahramanmaraş-Malatya-Elazığ, is connected to the North Anatolian Fault Zone near the Bingöl-Karlıova. Other small fault lines except for these two fault lines are also located in this region. Undoubtedly, these fault lines coincide with the

seismically active zones at the same time (Özey, 2006:32). Here the presented studies indicated that in our country, most of the cities and industrial facilities are located in the 1st-degree earthquake zone. Due to this reason, the region's seismic hazard should be considered when constructing buildings, bridges, hospitals etc. Throughout history, a great number of violent earthquakes occurred in Istanbul because the level of seismic risk of this city is very high (Tütüncü, 2017:4-9; Bikçe, 2015:6). Historical earthquake records prepared by Prime Ministry Disaster and Emergency Management Authority, Republic of Turkey (AFAD) indicated that the oldest known earthquake that occurred in Istanbul was in the year 212. After this year, many hazardous earthquakes occurred in this region. The earthquake catalog of Kandilli Observatory and Earthquake Research Institute, Bogazici University shows that the intensity of

E-mail: hkayali@marmara.edu.tr.

Author(s) agree that this article remain permanently open access under the terms of the [Creative Commons Attribution License 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

earthquake was IX in 325, 358, 427, 447, 478, 715, 865, 986, 1344, 1462, 1509, 1659, 1719, 1754 and 1766 years, but in 553 and 1894 years the intensity of earthquake felt was X. In 1509, the IX intensity earthquake caused many people to lose their lives, caused a great destruction in Istanbul, over 1,000 houses were collapsed, and between 4 and 5 thousand people lost their lives (Sezer, 1996:169). Nearly 4000 people lost their lives and many peoples were also injured due to the earthquake that occurred in the 1766 year. Particularly, the earthquake also caused serious damages in Büyük and Küçük Çekmece with Karamürsel on the southern shore of the Gulf of Izmit and surrounding area and some official buildings (e.g., the court building) were collapsed (Afyoncu and Mete, 2002:85-87). The earthquake that took place in 1894 led to the death of 474 people, the injuries of 482 people, the damage of 387 durable structures and 1087 houses, 299 shops (Sezer, 1996:171). The various intensity of earthquakes occurred in Istanbul from 1900 to the present day. In 1999, the intensity of the Izmit earthquake was X and caused great damages. On August 17, 1999, due to the Izmit earthquake, the city of Istanbul became one of the most affected provinces. Due to this earthquake, 976 people died and 3547 people were injured in Istanbul. In addition to this, many buildings collapsed. For example, the number of damaged or severely damaged buildings was 3614 and the number of moderately damaged and slightly damaged buildings was 12.370 and 10.630, respectively (Ceylan, 2003:57). Various levels of damages in the houses were observed due to the ground structure and the fact that the structures were not constructed properly.

Especially after the 1999 Izmit earthquake, improving understanding of a conscious society and making necessary preparations for earthquake hazards became important. After the Izmit earthquake, scientific studies carried out in Turkey and the international arena are related to the emerging post-earthquake psychological problems (Aksoy, 2013:249). Additionally, activities related to earthquake education have become widespread in primary and secondary education institutions, but the activities are not at the desired level in adult level (Başibüyük, 2004:1). Due to the fact that many devastating earthquakes occurred in Istanbul throughout history, preparedness against earthquakes and improvement of knowledge and consciousness about them are required.

As aforementioned, generally devastating earthquakes that occurred in Istanbul caused serious damages such as loss of many human lives and properties. Due to the earthquakes, amount of loss of human lives and properties strongly depend on people's knowledge and education in this field. These people living in Istanbul should be aware of the earthquake fact and be in a positive attitude towards earthquake and conservation. Also, individuals must be ready for the possibility of occurrence of an earthquake at any time and learn to live

with an earthquake. Because of this reason, students at the young age should be provided with earthquake training and taught how to protect themselves against earthquake hazards. As a result of this, it can be expected that the students can have positive attitude towards earthquake like a natural event. As shown, the attitude of the students in secondary education towards earthquake becomes significant. Therefore, this study aims to investigate the attitudes of eighth grade secondary schools students towards earthquake. Also, it aims to reveal whether attitudes of the students towards earthquake are based on their gender and the types of schools they attend or not. In addition, in basic training and especially in secondary education, students' attitude towards earthquake is very important.

DATA AND METHODS

The study was conducted on students from five secondary schools in the provinces of Avcılar, Bahçelievler, Maltepe, Pendik, and Ümraniye located in Istanbul. The test subject students were randomly selected. In total, they were 240, of which 107 are girls, and 133 are boys. In selecting the primary schools, socio-economic and cultural levels of the students were considered as the main criteria. For this, environment and living conditions of the students and their families were also considered. It means that the selected students' families have different socio-economic and cultural levels. In this study, Likert type scale consisting of 40 items was used to measure the attitudes of the students towards earthquake. This method was modified by Demirkaya (2007a). To improve validity and reliability of this method, Cronbach's alpha test (0.73) is additionally used for this study because it is a better way of measuring the strength of consistency, especially internal consistency of test items. A quantitative method was used for attitude towards earthquake; the collected data from the study were analyzed in a computer environment. Additionally, to analyze the data, t-test and variance methods were used.

RESULTS

In this study, a significant difference in the level of $P < 0.05$ ($P = 0.00$) in favor of female students between the sex of the students and attitude scores for the earthquake was found. However, an important difference between the students' attitude scores for earthquake and the school they attend was not detected.

When the answers of the attitude test of the students toward earthquake were examined, it was observed that 66.7% of the students completely agreed that earthquakes cause serious damages to human lives and properties. In addition, 28.3% of the students approximately agree with the previous group. But, 3.8% of the students did not decide on it. 0.8 and 0.4% of the students do not agree and never agree on this, respectively. If the findings are analyzed according to the gender differences of the students, 96% of the female students reported that they agreed on the negative influences of the earthquakes on human lives and properties, but 4% of the female students said that they

could not decide on it. Furthermore, 94% of the boy students said that they agree on this like the large percentage of the female group. On the other hand, 2% of the male students said that they do not agree completely with the other boys mentioned. It can be concluded that 95% of students are aware that earthquake seriously causes loss of life and property. It shows that the girls are more aware than the boys.

The students were asked if they could predict the time earthquakes occur. Their answers are as follows: 12.1% of the students fully agreed with it. 33.3% of the students agreed with it. 32.9% of the students were undecided about it. 10.8% of the students reported that they did not accept its possibility and the other 10.8% of students said that its possibility is non-existent. Moreover, 40.2% of the female students report that they agree with it, while 23.4% of the female student do not agree with it. On the other hand, 50% of the boy students report that they thought that the prediction of earthquakes is possible, while 20.3% of the boy students do not agree with it.

Up till now, various studies on the forecasting of earthquakes in the world are conducted. However, it is not possible to forecast earthquakes' occurrence time yet. It is seen that only 21.6% of the students know this when asked about the subject. Also, it was observed that the information on this subject is sufficiently not known except for 21.6% of the students. Earthquakes are bad shakes. This question's answers are listed as follows: 40.4% of the students fully think about it like that. 64.3% of the students thought that the subject is not fully correct but acceptable. 9.2% of the survey students are undecided about it. 3.3 and 0.8% of the students do not completely accept this and never agree on this subject, respectively.

90.7% of the female students stated that they agree but 3.8% of the female students do not agree with this. While 83.5% of the male students agreed with the subject, 4.5% of the male students did not agree with the subject.

The next question from the Likert list is that is earthquake a natural event that hurts people. The given answers of the test subject students for this are listed as follows: 50.4, 36.7, 10, 2.5 and 0.4% of the students fully agree, agree, undecided, do not agree, never agree with this, respectively. While 86% of the girls reported that they agree, 3.7% disagree with this. 88% of the male students agree but 3% disagree with this. This finding indicates that the students are obviously aware of the damage caused by the earthquakes.

The students were asked if small earthquakes prevent large earthquakes. Their answers are as follows: 6.3% of the students fully agree, 15% nearly agree, 40% remain undecided, 20.8% do not agree and 17.9% never agree with this. While 23.4% of the female students stated that they agree, 35.5% disagree with this. Whereas 19.5% of the male students stated that they agree, 41.3% disagree with this.

The students were asked if earthquakes occur

everywhere. Their answers are as follows: 47.5% of the students fully agree, 30.8% nearly agree, 11.7% remain undecided, 7.5% do not agree and 2.5% never agree with this. While 81.3% of the female students stated that they agree, 6.5% disagree with this. Whereas 76% of the male students stated that they agree, 12.8% disagree with this.

Furthermore, they were asked if earthquakes give people pain and sadness. Their answers are as follows: 60.4% of the students fully agree, 27.1% nearly agree, 9.6% remain undecided, 2.9% do not agree with this. While 87% of the female students stated that they agree, 4.7% disagree with this. Whereas 88% of the male students stated that they agree, 3.8% disagree with this.

The students were asked if earthquakes give people fear. Their answers are as follows: 52.1% of the students fully agree, 41.7% nearly agree, 4.6% remain undecided, 0.8% do not agree and 0.8% never agree with this. While 94% of the female students stated that they agree, 1.9% disagree with this. Whereas 93% of the male students stated that they agree, 1.5% disagree with this. This observation suggests that the test subject female students are more afraid of earthquakes than the male students.

Also, the students were asked if earthquake is an exciting natural event. Their answers are as follows: 15.8% of the students fully agree, 21.7% nearly agree, 13.3% remain undecided, 21.7% do not agree and 27.5% never agree with this. 35% of the female students stated that they agree; however, 50.5% disagree with this. While 40% of the male students stated that they agree, 48% disagree with this.

The students were asked if earthquakes are always destructive. Their answers are as follows: 10% of the students fully agree, 10.8% nearly agree, 13.8% remain undecided, 44.2% do not agree and 21.3% never agree with this. 18.7% of the female students stated that they agree; however, 66.4% disagree with this. While 22.6% of the male students stated that they agree, 64.7% disagree with this.

The students were asked if human beings can resist earthquakes. Their answers are as follows: 9.6% of the students fully agree, 17.1% nearly agree, 16.7% remain undecided, 27.1% do not agree and 29.6% never agree with this. 21.5% of the female students stated that they agree; however, 76.6% disagree with this. 31% of the male students stated that they agree, but 46.6% disagree with this.

The students were asked if earthquakes happen suddenly. Their answers are as follows: 46.7% of the students fully agree, 35.8% nearly agree, 10.8% remain undecided, 5.4% do not agree and 1.3% never agree with this. While 85% of the female students stated that they agree, 6.5% disagree with this. 80.5% of the male students stated that they agree, 6.8% disagree with this.

The students were asked if earthquakes have benefits. This interesting topic is answered by the students. Their

answers are as follows: 4.2% of the students fully agree, 9.6% nearly agree, 24.2% remain undecided, 24.6% do not agree and 37.5% never agree with this. While 5.6% of the female students stated that they agree, 72% disagree with this. 20% of the male students stated that they agree, but 54% disagree with this.

The students were asked if earthquakes are necessary for the construction of the earth shapes such as mountains. Their answers are as follows: 9.2% of the students fully agree, 20% nearly agree, 40% remain undecided, 16.3% do not agree and 14.6% never agree with this. While 24.3% of the female students stated that they agree, 33.6% disagree with this. 33.1% of the male students stated that they agree, but 28.6% disagree with this.

Moreover, the students were asked if earthquake is nothing to be feared. Their answers are as follows: 4.6% of the students fully agree, 12.9% nearly agree, 18.8% remain undecided, 36.3% do not agree and 27.5% never agree with this. While 14% of the female students stated that they agree, 64.5% disagree with this. 20.3% of the male students stated that they agree, but 63.2% disagree with this.

Durable buildings are not destructed by the earthquakes larger than 6 magnitudes. This issue is also asked the students as a topic. Their answers are as follows: 26.3% of the students fully agree, 43.3% nearly agree, 19.6% remain undecided, 7.9% do not agree and 2.9% never agree with this. While 71% of the female students stated that they agree, 11% disagree with this. 68.4% of the male students stated that they agree, but 10.5% disagree with this. It is seen that the students are commonly thinking about the fact that durable houses are generally not damaged by earthquakes

After a destructive earthquake, many buildings collapsed. As a result of this, the environment got worse. This issue is also asked the students. Their answers are as follows: 42.5% of the students fully agree, 40% nearly agree, 12.9% remain undecided, 3.8% do not agree and 0.8% never agree with this. While 84% of the female students stated that they agree, 1.9% disagree with this. 81% of the male students stated that they agree, but 6.8% disagree with this.

It is impossible to prevent earthquake. The answers of the students to this question are as follows: 22.5% of the students fully agree, 19.6% nearly agree, 26.7% remain undecided, 15% do not agree and 16.3% never agree with this. While 42% of the female students stated that they agree, 29% disagree with this. 42% of the male students stated that they agree, but 33% disagree with this.

After earthquakes, people start to construct the durable buildings. This is very significant. The answers of the students to this question are as follows: 28.8% of the students fully agree, 46.3% nearly agree, 19.2% remain undecided, 2.9% do not agree and 2.9% never agree with this. While 74% of the female students stated that they

agree, 8.4% disagree with this. 76% of the male students stated that they agree, but 3.8% disagree with this.

Buildings and goods cause more serious damages to human lives than the earthquakes that are happening. The students were also asked this question. The answers of the students to this issue are as follows: 22.1% of the students fully agree, 24.2% nearly agree, 27.9% remain undecided, 18.3% do not agree and 7.5% never agree with this. While 44% of the female students stated that they agree, 27% disagree with this. 48% of the male students stated that they agree, but 25% disagree with this.

To protect ourselves from the earthquakes, we can shelter ourselves under resistant goods. This approach is asked to the students as a topic in this study. The answers of the students to this issue are as follows: 41.7% of the students fully agree, 39.6% nearly agree, 11.3% remain undecided, 5.4% do not agree and 2.1% never agree with this. While 83.2% of the female students stated that they agree, 6.5% disagree with this. 80% of the male students stated that they agree, but 8% disagree with this. It is seen that 81.3% of them know how to protect themselves during the earthquake, have sufficient information about how to be protected by taking shelter under earthquake-resistant goods. This obviously shows that the students have knowledge about the things to be done during the earthquake.

Earthquake affects people's psychology negatively. The answers of the students to this issue are as follows: 43.3% of the students fully agree, 35.8% nearly agree, 17.9% remain undecided, 2.1% do not agree and 0.8% never agree with this. While 77% of the female students stated that they agree, 2.8% disagree with this. 81% of the male students stated that they agree, but 3% disagree with this.

After the earthquake, epidemic diseases occur. This important issue is discussed with the students. The answers of the students to this issue are as follows: 6.7% of the students fully agree, 19.6% nearly agree, 43.8% remain undecided, 22.1% do not agree and 7.9% never agree with this. While 25.2% of the female students stated that they agree, 36.4% disagree with this. 27.6% of the male students stated that they agree, but 25% disagree with this.

No action can be taken against earthquake and damages. The answers of the students to this issue are as follows: 5.8% of the students fully agree, 6.3% nearly agree, 17.9% remain undecided, 31.3% do not agree and 38.3% never agree with this. While 14.3% of the female students stated that they agree, 72.9% disagree with this. 14.3% of the male students stated that they agree, but 67.7% disagree with this. This result indicates that 69.6% of the students have the consciousness that cautions can be taken against damages caused by earthquakes.

In the areas which are under an earthquake risk, the settlement units should not be constructed. The answers of the students to the question are as follows: 38.8% of

the students fully agree, 22.5% nearly agree, 22.9% remain undecided, 10.4% do not agree and 5.4% never agree with this. While 58% of the female students stated that they agree, 17.8% disagree with this. 64% of the male students stated that they agree, but 14.3% disagree with this.

In every home, there should be a preparation bag for the earthquake. The answers of the students to this question are as follows: 81.3% of the students fully agree, 10.8% nearly agree, 6.7% remain undecided, 0.4% do not agree and 0.8% never agree with this. While 93% of the female students stated that they agree, 2% disagree with this. 92% of the male students stated that they agree, but 0.8% disagree with this.

During the earthquake, buildings collapse because people steal from materials of the constructed buildings. The answers of the students to this topic are as follows: 20.4% of the students fully agree, 26.3% nearly agree, 25.8% remain undecided, 13.8% do not agree and 13.8% never agree with this. While 42.5% of the female students stated that they agree, 33.6% disagree with this. 50.4% of the male students stated that they agree, but 22.5% disagree with this.

The earthquake is a significant cause that negatively changes people's lives. The answers of the students to this question are as follows: 40.8% of the students fully agree, 32.9% nearly agree, 22.9% remain undecided, 2.9% do not agree and 0.4% never agree with this. While 70.1% of the female students stated that they agree, 3.7% disagree with this. 76.7% of the male students stated that they agree, but 3.0% disagree with this.

Earthquake in this region causes negative influences on industry and economics of the region. The answers of the students to this question are as follows: 32.1% of the students fully agree, 43.3% nearly agree, 21.3% remain undecided, 2.1% do not agree and 1.3% never agree with this. While 72% of the female students stated that they agree, 5.6% disagree with this. 78% of the male students stated that they agree, but 1.5% disagree with this.

The important thing here is that people must be trained in order to decrease the damages of the earthquakes. The answers of the students to this topic are as follows: 50.4% of the students fully agree, 29.6% nearly agree, 15.4% remain undecided, 2.5% do not agree and 2.1% never agree with this. While 79.4% of the female students stated that they agree, 4.7% disagree with this. 80.5% of the male students stated that they agree, but 4.5% disagree with this. This suggests that 80% of the students agree on this matter and they are aware of the importance of the education in this respect.

The students were asked if they watch earthquake with interest. The answers of the students are as follows: 41.7% of the students fully agree, 31.7% nearly agree, 12.9% remain undecided, 7.5% do not agree and 6.3% never agree with this. While 75% of the female students stated that they agree, 14% disagree with this. 72% of the male students stated that they agree, but 13.5%

disagree with this.

The students were asked if they do not panic during an earthquake. The answers of the students to this topic are as follows: 17.5% of the students fully agree, 21.3% nearly agree, 26.3% remain undecided, 15.4% do not agree and 19.6% never agree with this. While 35.5% of the female students stated that they agree, 41% disagree with this. 41.4% of the male students stated that they agree, but 30% disagree with this.

The students were asked if they help people wounded during earthquake. The answers of the students to this are as follows: 50.8% of the students fully agree, 34.2% nearly agree, 10.4% remain undecided, 3.3% do not agree and 1.3% never agree with this. While 88.8% of the female students stated that they agree, 2.8% disagree with this. 82% of the male students stated that they agree, but 6% disagree with this.

The students were asked if they would want to move from the place where earthquake occurs. The answers of the students to this are as follows: 32.9% of the students fully agree, 26.7% nearly agree, 22.1% remain undecided, 10.8% do not agree and 7.5% never agree with this. While 58% of the female students stated that they agree, 14% disagree with this. 61% of the male students stated that they agree, but 22% disagree with this.

The students were asked if they do not want to think about anything about the earthquake. The answers of the students are as follows: 18.3% of the students fully agree, 24.6% nearly agree, 32.5% remain undecided, 14.2% do not agree and 10.4% never agree with this. While 42.5% of the female students stated that they agree, 26.2% disagree with this. 43.6% of the male students stated that they agree, but 23.3% disagree with this.

The students were asked if they think that developing technology can help to predict the location, magnitude and time of occurrence of earthquake in the future. The answers of the students are thus: 37.9% of the students fully agree, 23.3% nearly agree, 25.4% remain undecided, 7.5% do not agree and 5.8% never agree with this. While 53.3% of the female students stated that they agree, 16.8% disagree with this. 67.6% of the male students stated that they agree, but 10.5% disagree with this.

The students were asked if earthquakes can be prevented. The answers of the students are thus: 16.3% of the students fully agree, 10% nearly agree, 30% remain undecided, 16.3% do not agree and 27.5% never agree with this. While 23.4% of the female students stated that they agree, 44% disagree with this. 28.6% of the male students stated that they agree, but 43.6% disagree with this.

The students were asked what they do during earthquake. The answers of the students are thus: 31.7% of the students fully agree, 22.5% nearly agree, 20.4% remain undecided, 12.9% do not agree and 12.5% never

agree with this. While 54.2% of the female students stated that they agree, 21.5% disagree with this. 54.1% of the male students stated that they agree, but 28.6% disagree with this.

DISCUSSION

When the attitude scores of the eighth-grade students of the secondary school are examined, it can be said that the attitudes of the students are generally positive. A significant difference in favor of female students between the gender of the students and the point average scores towards earthquake was found in this study. However, the study of Demirkaya (2007a) indicated that male students' attitudes toward earthquake are more positive than female students. On the other hand, an important difference between attitude scores of the students towards earthquake and the school they attend was not found.

According to the results of attitude test towards earthquake, it was found that nearly 62.4% of male students and approximately 63.8% of female students were in a positive attitude toward earthquake. The percentage of those who are undecided in the responses to the attitude test is around 20%, which is almost the same for girls and boys.

The topics with the highest student attitudes are listed as follows: earthquake causes loss of life and property; earthquakes are bad shakes; earthquake is a natural event that hurts people; earthquakes occur suddenly; earthquake gives people pain and sadness; earthquake gives people fear; after earthquake, the appearance of the environment gets bad; in every home, there should be a preparation bag for the earthquake; to protect people from earthquakes, they can shelter themselves under resistant goods; I will help people damaged by the earthquake; people must be trained to in order to decrease the damages of the earthquakes. The findings strongly indicate that it is seen that students have positive thoughts and attitudes towards earthquake and its damages.

In addition to the topics mentioned above, the other topics with the higher student attitudes are listed as follows: durable buildings are not destructed by the earthquakes larger than 6 magnitude; after the destructive earthquakes, people start to construct the durable buildings; the earthquake is a significant cause that negatively changes people's lives; the earthquake occurred in the region causes negative influences on industry and economics of the region.

In this paragraph, the findings of the study are compared with previous studies such as Demirkaya (2007a). One of the highest student attitude topics is that the earthquake causes serious loss of life and property. According to this study, 66.7% of the students fully agree and 28.3% agree with this. However, for the same topic,

Demirkaya (2007a) found that 73.9% of the students fully agree and 18.9% agree with this. The study carried out by Karakuş (2013) also supports this article.

In every home, there should be a preparation bag for the earthquake. According to this study, 81.3% of the students fully agree and 10.8% agree with this. However, for the same topic, Demirkaya (2007a) found that 70.3% of the students fully agree and 16.2% agree with this.

While 21.6% of the students stated that they could not previously predict when earthquakes would occur, 32.9% were undecided. In the study conducted by Demirkaya (2007b), most of the students stated that earthquake cannot be determined previously. 69.6% of the students stated that measures against earthquake and its damages can be taken so that damages of the earthquake could be reduced to a minimum level. The studies carried out by Aydın (2010) and Aydın and Coşkun (2010) support the result. 50.4% of the students totally participate in it, 29.6% of the students participate in the item which is that people should be trained for not suffering from the earthquake. Similar results were also obtained in the study conducted by Aksoy and Sözen (2014).

In the fields under earthquake risk, the settlement units should not be constructed. The answers of the students are thus: 38.8% of the students fully agree and 22.5% agree with this. However, Demirkaya (2007a) found that 45% of the students fully agree with this. Although it is seen that the students' attitude towards earthquake is positive attitude generally, the ratio of those who are undecided in this subject is also high due to the fact that the students do not have enough knowledge about earthquakes and their effects. The information about earthquake and the preparation for natural disasters should be given in schools (Çoban, et al., 2017:131). Dikmenli and Gafa (2017) emphasize the importance of earthquake education in their researches (Dikmenli and Gafa, 2017).

As known, earthquakes are a significant subject in the course of social studies because they cause severe loss of life and property. Due to the findings of the study, it is suggested that lessons should be given before and during a possible earthquake, during and after the earthquake, what the students should do and what they should not do. The methods and techniques should be used to ensure the permanence of this information.

The effectiveness of cooperative learning method and traditional teaching methods in the teaching of earthquake topic in the 5th-grade social science lesson of elementary school was investigated and compared in the study of Kutay Atar (2003).. The important result of this study is that the teaching of earthquake topic by cooperative learning method increases the success and permanency of the students than traditional teaching methods. In a study conducted by Yılmaz (2015), Arı and Yılmaz (2016), it is found that that inquiry-based learning methods have an effect on students' attitudes towards

earthquake. With the application of these methods, students will be more informed and conscious about a possible earthquake.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

- Afyoncu E, Mete Z (2002). 1766 İstanbul Depremi, Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri (22-23 Mayıs 2000), İstanbul Üniversitesi Edebiyat Fakültesi Tarih Araştırma Merkezi Yayını, İstanbul (in Turkish).
- Aksoy B (2013). Depremi Yaşamış Olan 9. Sınıf Öğrencilerinin "Deprem" Kavramına Yönelik Algılarının Nitel Açısından İncelenmesi, Zeitschrift für die Welt der Türken Journal of World of Turks, ZfWT 5:1.
- Aksoy B, Sözen E (2014). Lise Öğrencilerinin Coğrafya Dersindeki Deprem Eğitimine İlişkin Görüşlerinin Çeşitli Değişkenler Açısından İncelenmesi (Düzce İli Örneği). Uşak Üniversitesi Sosyal Bilimler Dergisi 7(1), (in Turkish).
- Arı E, Yılmaz S (2016). Sorgulayıcı Araştırma Odaklı Fen Bilimleri Uygulamaları: Afetten Korunma ve Güvenli Yaşam Ara Disiplini, International Journal of Humanities and Education, 2(3).
- Aydın F (2010). İlköğretim Sekizinci Sınıf Öğrencilerinin "Deprem" Kavramını Algılamaları: Fenomenografik Bir Analiz. Turkish Studies International Periodical For The Languages, Literature and History of Turkish or Turkic. Volume 5/3.
- Aydın F, Coşkun M (2010). Observation of the students' "earthquake" perceptions by means of phenomenographic analysis (primary education 7th grade – Turkey). International Journal of the Physical Sciences. 5:8.
- Başbüyük A (2004). Yetişkinlerde Deprem Bilgisi ve Etkili Faktörlerin İncelenmesi, Milli Eğitim Dergisi, Sayı: 161, (in Turkish).
- Bikçe M (2015). Türkiye'de Hasara Ve Can Kaybına Neden Olan Deprem Listesi (1900-2014), 3. Türkiye Deprem Mühendisliği ve Sismoloji Konferansı, 14-16 Ekim-DEÜ-İzmir (in Turkish).
- Bikçe M (2017). Türkiye'deki Depremlerde Alınan ve Alınabilecek Önlemler, Uluslararası Mühendislik Araştırma ve Geliştirme Dergisi, International Journal of Engineering Research and Development, Cilt:9 Sayı:2.
- Ceylan MA (2003). Marmara Depreminin (17 Ağustos 1999) Yalova Şehrini Etkileri, Gündüz Eğitim ve Yayıncılık, Ankara (in Turkish).
- Çoban M, Sözbilir M, Göktaş Y (2017). Deprem Deneyimini Yaşamış Kişilerin Deprem Öncesi Hazırlık Algılarının Belirlenmesi: Bir Durum Çalışması, Doğu Coğrafya Dergisi, Sayı:37, (in Turkish).
- Demirkaya H (2007a). İlköğretim 5. 6. Ve 7. Sınıf Öğrencilerinin Depreme Yönelik Tutumlarının Çeşitli Değişkenlere Göre İncelenmesi, Türkiye Sosyal Araştırmalar Dergisi, Yıl:11, S:3, Ankara (in Turkish).
- Demirkaya H (2007b). İlköğretim Öğrencilerinin Deprem Kavramı Algılamaları Ve Depreme İlişkin Görüşleri. Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi. 8, (in Turkish).
- Dikmenli Y, Gafa İ (2017). Farklı Eğitim Kademelerine Göre Afet Kavramı, Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi Sayı: 44, (in Turkish).
- Karakuş U (2013). Depremi Yaşamış ve Yaşamamış Öğrencilerin Deprem Algılarının, Metafor Analizi İle İncelenmesi. Doğu Coğrafya Dergisi, Sayı: 29, (in Turkish).
- Kutay AS (2003). Sosyal Bilgiler Dersinde Deprem Konusunu İşbirlikli Öğrenme Yöntemi İle Öğretimin Etkliliğinin Araştırılması, Marmara Üniversitesi Eğitim Bilimleri Enstitüsü Yayınlanmamış Yüksek Lisans Tezi (in Turkish).
- Özey R (2006). Afetler Coğrafyası, Aktif Yayınevi, İstanbul (in Turkish).
- Sezer H (1996). 1894 İstanbul Depremi Hakkında Bir Rapor Üzerine İnceleme, Tarih Araştırmaları Dergisi Cilt: 18 Sayı:29, Ankara (in Turkish).
- Şahin C, Sipahioğlu Ş (2002). Doğal Afetler ve Türkiye, Gündüz Eğitim ve Yayıncılık, Ankara (in Turkish).
- Tütüncü S (2017). Deprem Hasar Tahmin Programı İle İstanbul İçin Olası Deprem Kayıplarının Belirlenmesi (Yayınlanmamış Yüksek Lisans Tezi, Yıldız Teknik Üniversitesi Fen Bilimleri Enstitüsü), İstanbul (in Turkish).
- Yılmaz S (2015). Sorgulayıcı Araştırma Odaklı Fen ve Teknoloji Uygulamaları: Afetten Korunma ve Güvenli Yaşam Ara Disiplini (Yayınlanmamış Yüksek Lisans Tezi, Çanakkale Onsekiz Mart Üniversitesi Eğitim Bilimleri Enstitüsü), Çanakkale (in Turkish).

Full Length Research Paper

The perceptions of King Abdullah II School for Excellence teachers about the importance of using flipped learning for the development of students' reflective thinking in Jordan

Mohammed Bader ALYousef*, Ibrahim Ali Naanah and Awad Mufleh AL Khazam

Curriculum and Instruction Technology, World Islamic Science and Education University, Jordan.

Received 20 December, 2017; Accepted 1 May, 2018

The study aims to reveal the perceptions of King Abdullah II School for Excellence teachers about the importance of using flipped learning in developing the reflective thinking of their students in Jordan. The population of the study consists of 227 male and female teachers. The sample of the study consists of 180 teachers: 87 males and 93 females selected using simple random method from the study society during the second semester of 2016/2017 session. The study tool, questionnaire used containing 50 items was divided into 5 stages: critical vision, detection of fallacies, give of convincing explanations, and suggestion of solutions. The study showed that the teachers' perception of using flipped learning in developing their students' reflective thinking was high in different disciplines; and there were significant differences in their perceptions based on their gender and experience. Lack of differences in their perceptions depends on specialization variable. From the findings of the study, the researchers presented a set of recommendations.

Keywords: flipped learning, reflected thinking.

INTRODUCTION

God created man and distinguished him from other creatures by giving him the ability to reason and think about many situations and his surroundings. Thinking is the most complex skill of human behavior, the most important tool that helps man to adapt to his environment and use knowledge to achieve his goals and solve problems. There are many types of thinking exercised by man, including reflection.

Reflective thinking is one of the types of thinking that makes an individual plan and evaluate his method and steps to make the right decision. It helps man to face problems and change phenomena and events. A person who thinks has the ability to understand relationships, make summaries, use information to strengthen his point of view, analyze information, review and search for alternatives (Abdel Wahab, 2005).

*Corresponding author. E-mail: dr_malyousef@yahoo.com.

The concept reflective thinking refers to "meaningful mental activity based on reflection that involves the skills of visual vision, detection of fallacies, reaching conclusions, providing abstract interpretations, and developing proposed solutions to scientific problems" (Al-Qatrawi, 2010:10).

According to Alafon (2012) and Hudaibah and Ambusidi (2015), contemplative thinking includes five basic skills:

1. Visual Vision (Meditation and Observation): It is the ability to know subject through images, drawings and shapes.
2. Detection of fallacies: It means the ability to identify gaps in the subject and identify incorrect relationships.
3. Access to conclusions: It is the ability to arrive at logical relationships about the subject.
4. Giving convincing explanations: It means the ability to give logical meaning, using previous and new experiences.
5. Developing suggested solutions: The ability to develop logical steps to solve problems through a series of steps based on mental perceptions

Erzlu and Arslan (2009) point out that reflective thinking leads to the discovery of evidence that gives attitudes new meanings. In this process, the individual can explore and deepen new experiences, become aware of what he or she is learning and think about how to modify existing knowledge to get new one by linking information to each other. Reflective thinking has a variety of characteristics (Al-Far, 2011), (Obaid and Afana, 2003):

1. A distinct mental activity that depends directly on the general laws of phenomena; it stems from consideration, sensory experience and reflects the relations between phenomena.
2. Reflective thinking requires the use of standards, critical visual vision and it must be measured.
3. is closely related to the practical activity of man, and indicates the personality of man.
4. Is cognitive thinking, focusing on problem solving, decision making, and law enforcement,
5. It interprets results and reaches the optimal solution to any problem.
6. Is an effective thinking that follows a precise and clear methodology based on correct assumptions.

Traditional teaching method has become useless, and does not stimulate the passion for learning, because it is not compatible with the environment outside the school, where technology has taken over. This generation needs technology to add excitement and suspense to the learning environment, curriculum materials and classrooms. There is also need for effective communication between teachers and learners, to meet the individual needs of each student by using modern

technologies and strategies such as e-learning strategy, blended learning strategy, web quest and flipped learning strategy (Khalifa and Mutawa, 2015).

Flipped Learning is one of the types of blended learning that uses technology to deliver lectures outside the classroom. It is widely used by Bill Gates, the founder and former CEO of Microsoft, who sees this kind of education as exciting and innovating (Bram, 2013).

Flipped learning strategy helps students to receive new concepts of studying at home; it helps teachers to use learning media and resources for lessons, such as videos, websites, social networks or e-learning management systems like Moodle, blackboard. Students can study at home using modern technologies such as smart devices (Randall, 2013).

Flipped learning has many advantages in education (Sang and Nam, 2014), (Pearson, 2013):

1. Promotes the optimal use of modern technology in education
2. Gives students the opportunity to preview the content before the time of class.
3. Ensures good use of separate time
4. Builds stronger relationships between teachers and students
5. Improves students' achievement and develops their comprehension
6. Provides interactive activities in the classroom focusing on the skills of higher level of knowledge.

As modern education method considers learners to be the center of the process of learning, researcher of knowledge, thinker and contemplator independently without the guidance of teachers, by exploitation of the technological potential available to them outside the classroom, such as smart phones and tablets, Websites, social networking sites, various websites of diverse information, help links, and online guides, this study examines the perceptions of teachers of King Abdullah II Schools for Excellence about the use of inverted learning in the development of their students' thinking in Jordan

Problem of the study

The researchers have noted through their previous work in the field of education and supervision at the Ministry of Education, that there are weaknesses in different skills, particularly thinking, since students rely on learning to memorize and conserve information. Also, some studies have indicated the low level of students' thinking ability like that of Al Baali (2006) and Abdul Wahab (2005). In their study, Al-Qur'an and Al-Hamouri (2011) noted that students have difficulty in employing thinking skills to solve problems. They also noted that enough time is not given in the classroom to carry out the programs and strategies needed to develop students' abilities to think

and reflect. To do so, the strategy of flipped learning has to come up. Flipped learning is a technical solution to the development of thinking skills. The problem of the study is therefore determined by answering the main questions of the study:

Research question

1. What are the perceptions of teachers of King Abdullah II School for Excellence about the use of flipped learning in developing the thinking skills of Jordan students?
2. Are there differences in the perceptions of teachers of King Abdullah II Schools for Excellence about the importance of using flipped learning in the development of reflective thinking in their students according to gender, experience and specialization?

The importance of the study

1. Encourage teachers to use education technology, and to exploit students' smart devices.
2. Direct the Ministry of Education and various educational institutions to activate the application of flipped learning, and use it in the development of thinking among students.

Study terms

Perceptions

It is the degree of awareness of the teachers of King Abdullah II Schools for Excellence about the contribution of flipped learning to the development of students' thinking; it is measured by the tool developed by the researcher, and is characterized by honesty and persistence.

King Abdullah II Schools for Excellence

It belongs to the Ministry of Education in Jordan, which attracts outstanding students, aims to provide a model environment to create a generation capable of reaching the future with confidence and efficiency.

Flipped learning

An educational strategy based on the use of modern technological media and global information network that allows the teacher to prepare lessons through video clips, audio files and other media for students outside the classroom (at home, for example); the students use their

computers or smartphones before attending class, while classroom time is allocated for discussion, implementation of various activities and feedback.

Reflective thinking

The student's mental activity in the educational situations in front of him enables him to identify his strengths and weaknesses, to discover logical fallacies, to reach conclusions, to provide convincing explanations, and to develop suggested solutions.

Previous studies

This section deals with the studies that enable the researcher to access them after his knowledge of the literature in this field. The researcher mentioned some studies related to flipped learning, and meditation as follows.

Arcos (2014) conducted a study aimed at understanding the perceptions of teachers in the general education system who implement the flipped learning system through open educational resources on the performance of learners in some US schools. The researcher used the descriptive approach. A teacher uses and applies the flipped learning system. The study shows that the use of open educational resources instead of the opposite learning led to increased learners' satisfaction with the learning process, and participation, as well as increase in the rate of cooperation of colleagues in the management of learning.

The study of Ahmadi (2011) aimed at revealing the attitudes of teachers in the leading schools in the Medina area towards the importance of educational techniques in the development of thinking among students. The study was applied to a sample of 140 teachers who were chosen by random stratified method. The study indicates that the attitudes of teachers were high for all fields, and that there are differences of statistical significance due to the variables of the study, such as specialization and literary benefit, BSc, experience in teaching and in favor of top experienced teachers. The study recommended focusing on teaching methods based on the use of educational techniques, and that it improves students' thinking.

Al ostaze (2011) conducted a study on the level of reflective thinking ability of science teachers in the implementation of educational tasks at the basic stage. The sample consisted of 108 teachers; descriptive analytical method was used. The results of the study indicated that the level of the contemplative thinking ability of science teachers is less than the default rate of 70%; there were statistical significant differences based experience variable; there were no statistical significant

differences of in the variables of gender and scientific qualification.

Jeremy (2007) did a study at the University of Ohio, using flipped learning in mathematics. He providing students with illustrations and videos prepared in advance; they were told to do some of the learning activities and duties in the classroom, assuming to be at home. Learning outside the classroom was based on the Smart Tutoring System (STS), such as laptops with access to Internet. The results of the study show that the students were not sufficiently satisfied with the flipped learning strategy as they were more adaptive to the traditional method and based primarily on teachers' efforts. The results were somewhat unsatisfactory. As for students' activity and classroom interaction, the results indicated a preference for the experimental sample, but not to the extent that the results could be distributed along the same lines. The researcher recommended further research and experiments on the flipped learning strategy and providing sufficient training period for both teachers and learners.

Comment on the previous studies and the location of the current study

Some of the studies dealt with flipped learning such as: Arcos, (2014), Graham, (2013), Jeremy, (2007), others studies dealt with general thinking and contemplative thinking such as Ahmadi (2011), (Jeremy, (2007); and some studies have used the analytical descriptive approach such as: Arcos, (2014), Graham, (2013), Jeremy (2007), Ahmadi (2011), and Professor (2011).

The researcher benefited from the previous studies in identifying the problem and formulating its hypotheses, determining the procedures used in this study, designing the study and its tools

What distinguishes the current study from its predecessor is it is one of the first studies to examine the perceptions of the teachers of King Abdullah II Schools of Excellence about the importance of using flipped learning in the development of thinking among students in Jordan.

STUDY PROCEDURES AND METHODOLOGY

The population of the study consists of all teachers of King Abdullah II Schools of Excellence (227). The sample of the study was 180 teachers: 87 males and 93 females were selected by simple random method from the study society during the second semester of 2016/2017. Table 1 shows the distribution of the study sample according to its variables.

The study instrument

The study instrument consisted of a questionnaire developed according to the educational literature on the subject of the study, especially the study of Ahmadi (2011) and Abo Nahl (2010). The study tool consisted of 57 sections divided into five fields.

The validity of instrument

The validity of the study instrument was verified by presenting it to a group of 10 arbitrary specialists and experienced members of the Faculty of Educational Sciences in Jordanian universities, in addition to some supervisors, 7 arbitrators (70%). The amendments received by the arbitrators were taken into consideration, and the arbitrators unanimously agreed to delete, add or amend any of the paragraphs. Upon the deletion of 7 paragraphs, the researchers' opinions and observations were taken; four paragraphs were amended. The final form consisting of 50 out of 57 paragraphs was included (Table 2).

The researchers used a five-point scale; the scale scores are given as follows: Grade 5 is a very strong response, grade (4) is OK, grade (3) is neutral response, grade (2) is unapproved response, grade (1) is severely disagreeable response.

The researcher saw the use of the gradual criterion to judge the responses of the members through the following equation:

$(\text{highest value} - \text{lowest value}) \div \text{Number of categories} = \text{Number of categories} = 5$

$5 - 1 = 4$

$4 \div 5 = 0.8$

The reliability of the instrument

To verify the statistical treatments, the researcher extracted the coefficient of internal consistency using the coefficient Kronbach Alpha; the stability coefficient was based on the total score (89.0). This value is sufficient and acceptable for the purposes of this study.

Study variables

The study includes the following variables:

Independent variables

1. Sex has two categories: (male, female)
2. Experience in teaching has three levels: (from 1 to 5 years, from 6 to 10 years, more than 10 years).
3. The academic field has two levels: scientific and human.

The gender variable was chosen because of the difference in the pattern of thinking among the categories of this variable. In addition, the teachers' society consists of males and females. The choice of the variable of the academic field for its relation to the cognitive aspect and its different levels indicate the difference in knowledge and skill in each individual.

Dependent variables

Perceptions of teachers of King Abdullah II Schools of Excellence for the use of flipped learning in the development of students' reflective thinking.

Statistical processes

The means and standard deviations of the perceptions of teachers of King Abdullah II Schools of Excellence will be calculated for the importance of using inverted learning in the development of reflective thinking. In order to answer the second question of the study, the means, standard deviations, and the independent sample

Table 1. Distribution of the sample of the study according to its variables (N=180).

S/N	Variable	Level		Percentage
1	Gender	Male	87	84.4
		Female	93	51.6
2	Specialization	Scientific	81	45
		Humanitarian	99	55
3	Experience in the field	1-5 years	38	21
		6-10 years	54	30
		Above 10 years	80	48

Table 2. Items questionnaire on study fields.

Field	Number of paragraphs
Critical visual vision	7
Detection of ablutions	9
Reach conclusions	8
Give convincing explanations	14
Put suggested solutions	12
Total	50

Table 3. The gradual criterion for judging the perceptions of the members of the study sample.

4.20 - 5.00	Very high
3.40 - 4.19	High
2.60 - 3.39	Medium
1.80- 2.59	Low
1.00 - 1.79	is very low

t-Test of teachers' perceptions by gender variable and academic field will be calculated. In the area of teaching experience, means and standard deviations will be calculated using One-Way ANOVA.

RESULTS AND DISCUSSION

To answer the first question of the study, which states: "What are the perceptions of the teachers of King Abdullah II Schools for Excellence about the importance of using flipped learning in the development of students' thinking in Jordan?" The results of the perceptions of the teachers of King Abdullah II Schools of Excellence in the study were presented according to the sections of the study instrument divided based on fields (Table 4).

Table 4 shows that the degree of the teachers' perceptions of the importance of using reverse learning in the development of students' reflective thinking was high with an average of 3.83 and a standard deviation of

0.52. In the area of the instrument, the first area to reach conclusions came first with an arithmetic mean of 4.03 and a standard deviation of 0.75. In the second place, the field detecting of ablutions came with an average of 3.97, and a standard deviation of 0.66. In the fourth place came the field of developing proposed solutions with an average of 3.73, and a standard deviation of 0.47. In the fifth place came the field give convincing explanations with an average of 3.66 and a standard deviation of 0.49. In order to understand the perceptions of the teachers of King Abdullah II schools for each of the five fields, the statistical averages and standard deviations of each paragraph in each field were extracted in descending order as follows:

The first area "reaching conclusions"

Table 5 shows that this 7 items of field were highly rated. Their means ranged between 3.99 - 4.19, and their standard deviations ranged between 1.05 – 0.74, except for paragraph which came in average estimate, with an average of 3.38 and its standard deviations 0.94. This field as a whole came first with an average of 4.03 and a standard deviation of 0.75.

The Second area is "Detecting Mistakes"

Table 6 shows that all paragraphs were high; their mean

Table 4. Means and standard deviations for the study fields.

Field	Domain	Mean	Standard deviation	Degree
First	Reach conclusions	4.03	0.75	High
Second	Detection of ablations	3.97	0.54	High
Third	Critical visual vision	3.77	0.66	High
Forth	Put suggested solutions	3.73	0.47	High
Fifth	Give convincing explanations	3.66	0.49	High
Total		3.83	0.52	High

Table 5. The arithmetical averages and the standard deviations of the perceptions of the subjects on paragraphs the first area is "reaching conclusions".

Rank	Paragraph number	Paragraph	Mean	Standard deviations	Degree
1	2	Flipped learning contributes to clear results.	4.19	0.74	High
2	4	Flipped learning helps to move from year to year.	4.17	0.74	High
3	5	Inverted learning helps to make judgments about the validity of the conclusion.	4.15	0.75	High
4	3	Flipped learning contributes to organizing ideas in a variety of areas.	4.15	0.71	High
5	1	Flipped learning helps to use previous experiences to reach conclusions.	4.11	0.85	High
6	6	Flipped learning helps to analyze the relationship between different concepts.	4.10	1.140	High
7	8	Flipped learning helps to move from the local to the global.	3.99	1.05	High
8	7	Backward learning helps to achieve the logical sequence of ideas.	3.38	0.94	Medium

Table 6. The means and the standard deviations of the perceptions of the study subjects in the second area.

Rank	Paragraph number	Paragraph	Mean	Standard deviations	Degree
1	9	Flipped learning contributes to identifying gaps in different subjects.	4.11	0.83	High
2	5	Flipped learning helps to bridge gaps in perceptions and ideas.	4.11	0.78	High
3	7	Flipped learning helps identify incorrect relationships in subjects.	4.09	0.95	High
4	8	Flipped learning contributes to the identification of irrational relationships in different subjects.	4.08	0.41	High
5	1	Flipped learning helps to modify some misconceptions.	4.04	0.66	High
6	4	Backward learning helps to understand unorganized thoughts.	4.04	0.74	High
7	3	Flipped learning helps to recognize deficiencies.	3.86	1.09	High
8	2	Flipped learning helps validate information in terms of: (scientific health, modernity, applicability).	3.74	0.84	High
9	6	Flipped learning helps to recognize ambiguities.	3.70	0.61	High

ranged between 4.11 and 3.70. Their standard deviations ranged between 0.61 and 0.83. This field as a whole came in second place with an average of 3.97 and a standard deviation of 0.54.

The third area is "critical visual vision"

Table 7 shows that 2 paragraphs were very high; their mean ranged between 4.31 and 4.28. Their standard deviations ranged between 0.26 and 0.48. Table 8 shows

that 3 paragraphs were high; their mean ranged between 4.16 and 3.98. Their standard deviations ranged between 0.74 and 0.88 and Table shows that (3) paragraphs were Medium, their mean ranged between (3.15) and 3.32 Their standard deviations ranged between (0.52) and 0.68.

The fourth area, "Developing Proposed Solutions"

Table 8 shows that 2 paragraphs in this field were very

Table 7. The means and standard deviations of the perceptions of the study subjects in the three areas of the "Critical Visual Vision".

Rank	Paragraph number	Paragraph	Arithmetic mean	Standard deviation	Degree
1	3	Flipped learning contributes to the presentation of aspects of the subject in various forms.	4.31	0.48	Very High
2	1	Flipped learning helps to give an accurate description of the concepts and their components.	4.28	0.56	Very High
3	7	Backward learning helps to show the relationships between concepts and information using charts and illustrations.	4.16	0.74	High
4	5	Flipped learning contributes to linking the subject elements.	4.16	1.12	High
5	4	Flipped learning helps to organize data.	3.55	0.88	High
6	2	Flipped learning helps identify similarities and differences.	3.32	0.52	Medium
7	6	Flipped learning helps to analyze the elements of the subject.	3.24	1,08	Medium
8	7	Flipped learning helps predict results.	3.15	0.68	Medium

Table 8. The means and standard deviations of the perceptions of the study subjects in the fourth area "development of proposed solutions".

Rank	Paragraph number	Paragraph	Mean	Standard deviation	Degree
1	2	Flipped learning contributes to the discussion of ideas.	4.42	0.68	Very High
2	8	Flipped learning helps to visualize and predict.	4.36	0.46	Very High
3	3	Flipped learning helps to predict results.	4.16	0.82	High
4	5	Flipped learning contributes to clarifying the relationship between different concepts.	4.16	0.41	High
5	9	Flipped learning helps to examine accidents and intended events.	3.98	1,09	High
6	4	Flipped learning helps produce the most solutions and ideas.	3.96	0.44	High
7	12	Flipped learning helps to test hypotheses.	3.82	0.66	High
8	4	Flipped learning helps to assume alternatives to the hypothesis test.	3.77	0.78	High
9	16	Flipped learning helps to formulate assumptions and alternatives.	3.19	0.88	Medium
10	6	Flipped learning helps pay attention to detail as much as possible.	3,04	0.72	Medium
11	1	Flipped learning helps to offer compelling solutions.	3.02	0.54	Medium
12	7	Flipped learning helps to bring up new ideas.	2.88	0.68	Medium

high. Their mean ranged between 4.42 and 4.36. Their standard deviations ranged between 0.68 and 0.46. 6 paragraphs in this field were high. Their mean ranged between 4.16 and 3.77. Their standard deviations ranged between 0.82 and 0.78. 4 paragraphs in this field were medium. Their mean ranged between 3.19 and 2.88. Their standard deviations ranged between 0.88 and 0.64. This field as a whole came fourth with an average of 3.73 and with a standard deviation of 0.47.

The fifth area is "convincing explanations"

Table 9 shows that 1 paragraph in this field was very high. Its mean was 4.31 and standard deviation was 0.48. 11 paragraphs in this field were high. Their means ranged between 4.12 and 3.40. Their standard deviations ranged between 0.46 and 0.88. 1 paragraph was medium. its mean was 2.79, and its standard deviation

was 0.72.

This field as a whole came in fifth place with an average of 3.66 and a standard deviation of 0.49.

The researchers believe that these high estimate of the perceptions of King Abdullah II schools of excellence teachers for the importance of flipped learning in the development of reflective thinking in all areas is due to the teachers' belief in the importance of flipped learning as it enhances the role of the teacher, which makes the learner participate effectively; discuss, try, examine, analyze, The use of flipped learning gives the student a qualitative leap by interacting with his colleagues, conversing, commenting, contradicting his point of view, and participating in the planning, preparation, and execution of activities. This finding is consistent with a study with Al-Ahmadi (2011), which showed that teachers' attitudes towards the importance of teaching techniques in thinking development were high in all areas, and Graham (2013), which showed that flipped

Table 9. The means and the standard deviations of the perceptions of the individuals in the fifth field.

Rank	Paragraph number	Paragraph	Means	Standard deviation	degree
1	7	Flipped learning contributes to discovering the facts.	4.31	0.48	Very high
2	10	Flipped learning helps in interpreting the facts contained.	4.12	0.46	High
3	11	Flipped learning helps to interpret attitudes, opinions, and events.	4.09	0.62	High
4	12	Flipped learning contributes to linking observations to conclusions.	3.91	0.81	High
5	14	Inverted learning helps to analyze images in light of the interpretation of attitudes.	3.83	0.78	High
6	13	Flipped learning helps to analyze situations clearly.	3.66	0.54	High
7		Flipped learning helps to connect to the intellectual while handling subjects.	3.62	1.09	High
8	3	Flipped learning gives convincing explanations of situations.	3.51	0.38	High
9	1	Flipped learning helps to give correct and logical justification.	3.51	0.58	High
10	2	Flipped learning gives clear explanations.	3.46	0.42	High
11	4	Flipped learning gives rational explanations.	3.41	0.64	High
12	8	Flipped learning gives integrated and coherent justifications.	3.40	0.88	High
13	9	Flipped learning gives meaningful justification.	2.79	0.72	Medium

learning provided a flexible learning environment, The study of the teacher which showed that the level of thinking ability of the science teachers is less than the default rate (70%).

To answer the second question of the study

Are there differences in the perceptions of teachers of King Abdullah II Schools of Excellence about the importance of using flipped learning in the development of students' reflective thinking according to gender, academic (scientific, human) and years of experience? To find out if there were statistically significant differences at the level of $\alpha = 0.05$ in the perceptions of the teachers of King Abdullah II Schools of Excellence about the importance of the use of flipped learning in developing their students' thinking according to gender variable, the arithmetic mean and standard deviations of each section field, and for the domain as a whole by sex variable were calculated (Table 10).

Table 10 shows that there are apparent differences in the perceptions of the teachers of King Abdullah II Schools of Excellence about the importance of using flipped learning in the development of reflective thinking according to gender variable. t-test was used to determine the statistical significance of these differences (Table 11).

Results of independent t-test were used to indicate the differences in the perceptions of teachers about the importance of flipped learning in the development of thinking among students by gender variable.

Table 11 shows that there are statistically significant differences at the level of $\alpha = 0.05$ in all areas of the study instrument in favor of female teachers. This may be because the teachers are more familiar with educational

and scientific developments. The teachers are more likely to compete and show everything that is new and innovative; they are also more serious in applying what they learn from the training courses, as well as the characteristic of students' desire, concern and interest in learning and striving for excellence and innovation. They work harder to make students learn. For the teachers to have proper appearance within the school and the community they need knowledge, need to do research and use modern methods of teaching, such as reversed education. The results of this study are consistent with the results of Al-Azri (2007). The results of his study indicate that there are statistically significant differences between males and females and in favor of females in the practice of teachers to develop skills of thinking. This result differs with the study of AL ostaz (2011), which indicated that there are no statistically significant differences between males and females with regard to the level of thinking ability of science teachers. To find out if there were statistically significant differences at the level of ($\alpha = 0.05$ in the perceptions of the teachers of King Abdullah II Schools of Excellence about the importance of using reverse learning in the development of students' thinking according to the variable of teaching experience, the means and the standard deviations of each paragraph of the field, and the field as a whole were calculated (Table 12).

Table 12 shows that there are differences in the perceptions of the teachers of King Abdullah II Schools of Excellence about the importance of using reflected learning in the development of reflective thinking according to the variable of experience.

To determine the statistical significance of these differences, ANOVA analysis was used to indicate the teachers' estimates of the importance of inverted learning in developing their students' thinking according to the

Table 10. The means and standard deviations of teachers' estimates of the importance of inverted learning in developing their students' thinking by gender variable.

S/N	The field	Gender	The number	Arithmetic mean	Standard deviations
1	Reach conclusions	Male	87	3.90	0.48
		female	93	4.11	0.46
2	Detecting fallacies	Male	87	3.88	0.62
		female	93	3.98	0.81
3	Critical visual vision	Male	87	3.74	0.78
		female	93	3.98	0.54
4	Develop suggested solutions	Male	87	3.68	1.09
		female	93	3.77	0.38
5	Give convincing explanations	Male	87	3.89	1.02
		female	93	4.01	0.42
The tool as a whole		Male	87	3.82	0.58
		Female	93	3.95	1.07

Table 11. Results of independent t-Test indicating differences in the perceptions of teachers about the importance of flipped learning in the development of thinking among students by gender variable.

S/N	The field	Value of "t"	Level of significance
1	Reach conclusions	12,423	0.004
2	Detecting fallacies	11,112	0,000
3	Critical visual vision	15,207	0,000
4	Develop suggested solutions	10,616	0.002
5	Give convincing explanations	12,712	0,000

variable of experience. Table 13 illustrates this.

Table 13 shows that there are statistically significant differences at the level of $\alpha = 0.05$ in all domains at the three levels of experience in favor of the most experienced teachers. This may be due to the fact that the instructional experience provides teachers with a clear conception of teaching methods and strategies. This is because they have been trained under the supervision of the Ministry of Education, as well as their experiences gained through the years and knowledge of everything new in technology and education strategies during their service at home and abroad in various educational institutions.

This finding is in line with the study of Ahmadi (2011), which indicated that there are differences of statistical significance due to the experience of teachers with higher experience

To find out if there were statistically significant differences at the level of $\alpha = 0.05$ in the perceptions of the teachers of King Abdullah II Schools of Excellence about the importance of using flipped learning in the

development of their students' reflective thinking according to specialization variable, t-test was used (Table 14).

Table 14 shows that there are no statistically significant differences at the level of significance $\alpha = 0.05$ due to the specialization variable. This result is explained by the fact that teachers regardless of their specialization are convinced of the importance of flipped learning in the development of students' reflected thinking. This is achieved through the exchange of visits between them regardless of their specialization. Most of them also have a post-bachelor educational qualification; they use diverse teaching methods and strategies, and employ the latest in education technology. This result is consistent with Professor's (2011) study.

RECOMMENDATIONS

1. Direct the Ministry of Education to train teachers and encourage them to use the flipped learning.

Table 12. Means and standard deviations for study fields according to experience variable.

S/N	The field	Experience	N	Means	Standard deviations
1	Reach conclusions	From 1 to 5	38	2.91	1.40
		6-10	54	3.75	0.63
		More than 10 years	88	4.12	0.73
2	Detecting fallacies	From 1 to 5	38	3.34	1.23
		6-10	54	3.89	0.39
		More than 10 years	88	4.06	0.52
3	Critical visual vision	From 1 to 5	38	2.96	1.46
		6-10	54	3.74	0.58
		More than 10 years	88	3.98	0.66
4	Develop suggested solutions	From 1 to 5	38	3.33	1.09
		6-10	54	3.91	0.43
		More than 10 years	88	4.16	0.56
5	Give convincing explanations	From 1 to 5	38	3.48	1.09
		6-10	54	3.79	0.41
		More than 10 years	88	4.24	1.22
The tool as a whole		From 1 to 5	38	3.20	1.07
		6-10	54	3.82	0.52
		More than 10 years	88	4.11	0.49

Table 13. The results of ANOVA according to experience variable.

Field	Source of variance	Degrees of freedom	Sum of squares	Mean of squares	"t" Value	Significance
Access to conclusions	Between groups	3	10.03	0.33	2.19	0.004
	Within groups	176	17.12	0.16		
	Total	179	27.15			
Detecting fallacies	Between groups	3	6.72	2.51	3.09	0.000
	Within groups	176	48.64	0.42		
	Total	179	55.36			
Critical visual vision	Between groups	3	9.17	0.94	0.118	0.000
	Within groups	176	56.72	0.49		
	Total	179	65.89			
Develop suggested solutions	Between groups	3	13.08	0.33	1.29	0.001
	Within groups	176	22.73	0.26		
	Total	179	35.81			
Give convincing explanations	Between groups	3	11.05	2.23	2.11	0.000
	Within groups	176	15.14	0.38		
	Total	179	26.19			
Total	Between groups	3	10.01	1.27	1.12	0.000
	Within groups	176	Total squares	0.34		
	Total	179	10.03			

2. The school should exploit the smart devices that the students have in flipped learning, and exploits class time

to practice various thinking processes.
3. Further studies on flipped learning in the Arab world

Table 14. The results of independent sample (t-Test) according of specialization variable.

Specialization categories	N	D.F	Means	Standard deviations	“t” value	Level of significance
Scientific	81	178	3.48	0.25	2.76	0.061
Humanitarian	99		3.50	0.32		

should be conducted.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

- Abdel Wahab F (2005). The effectiveness of using some of the meta-knowledge strategies in the collection of physics and the development of reflective thinking and the trend towards its use among secondary secondary students. *Journal of Scientific Education, The Egyptian Association for Scientific Education*, 8:159-212.
- Abo Nahl G (2010). Thinking skills in the content of the curriculum of Islamic education for the tenth grade basic and the extent of acquisition of students, Master Thesis, Faculty of Education, Islamic University, Gaza.
- AL Ostaz M (2011). The level of the ability to reflective thinking among science teachers in the basic stage. *Al-Azhar University Journal Human Sciences Series*, 13(1):132-161.
- Al-Ahmadi A (2011). The Attitudes of Teachers in the Leading Schools in Madinah Al Munawwarah Region Towards the Importance of Educational Techniques in the Development of Thinking among Their Students, Master Thesis, University of Jordan, Jordan.
- Al-Far Z (2011). The Effectiveness of the Use of Knowledge-Based Web Trips in Teaching Geography in the Level of Reflective Thinking and Achievement of Eighth Grade Students , Master Thesis, University of Damascus, Syria.
- Al-Qar'an J, Al-Hamouri K (2011). The relationship between the level of thinking and cognitive competence to engage with high school students in Zarqa. *Journal of Faculty, Ain Shams University*, 3(35):375-331.
- Al-Qatrawi A (2010). The impact of the use of the strategy of similarities in the development of science processes and reflective thinking skills in science among the eighth grade students. Master Thesis, Islamic University, Gaza.
- Arcos B (2014). Flipping with OER: K12 teachers'views of the impact of open practices on students. In *Proceedings of The 10th annual open Courseware Consortium Global Conference "Open Education for a Multicultural World"*. Ljubljana: Slovenia.
- Baali I (2006). Proposed Unit in Survey-Based Physics for the Development of Some Reflective Thinking Skills and Material Orientation among First Year Secondary Students, *Journal of Studies in Curriculum and Teaching Methods*, 111:14-52.
- Erzlu N, Arslan M (2009). The effect of developing reflective thinking on metacognitive awareness at primary education level in Turkey. *Reflective Practice*, 10(5):683-695.
- Graham B (2013). Student Perceptions of the Flipped Classroom. Master Thesis, University Of British Columbia, Okanagan.
- Hudaibah E, Ambusidi A (2015). The Impact of the McCarthy Model on the Development of Reflective Thinking and the Achievement of Science among Sixth Grade Students. *Journal of Educational Sciences*, 12(1):1-15.
- Jeremy F (2007). The effects of the classroom flip on the learning environment: a comparison of learning activity in a traditional classroom and a flip classroom that used an intelligent tutoring system, PHD Dissertation, ohio state university, USA.
- Khalifa H, Mutawa Z (2015). Effective Teaching Strategies, Al-Mutanabi House for Publishing and Distribution Riyadh, Saudi Arabia.
- Pearson Education Inc (2013). Flipped learning Model dramatically improves course pass rate for at-Risk students", available at: www.Pearsonpd.com, Retrieved: 21/5/2016
- Randall S, Davis D, Dean L, Nick Ball (2013). Flipping the classroom and instructional technology integration in a college- level information systems spreadsheet course. *Educational Technology Research and Development*, 61(4):563-580.
- Sang H, Nam H (2014). Effects of Flipped Classroom Based on Smart Learning on Self- directed and Collaborative Learning. *International Journal of Control and Automation*, 7(12):69-80.

Full Length Research Paper

The school image in children's books

Yasin Mahmut YAKAR

Department of Turkish Language Education, Faculty of Education, Erzincan University, Turkey.

Received 8 May, 2018; Accepted 30 May, 2018

Literary works for children help the child to acquire reading habits and to be a helpful citizen in the society. Therefore, individuals obtain quality children's literature from the very beginning of childhood. In this context, the study aims to determine the reflection of the school concept in literary works prepared for children. No other individual study has been reported on the reflection of the school concept in children's books. Document analysis was used in the study. Ten story books and novels prepared for children with reflections of the school image in the study were examined. Documents examined in the study were obtained by means of an expert and read orally. Descriptive analysis was conducted followed by content analysis to analyze the data. The results of the study suggest that the school image is mostly positively reflected in the children's books and that success and internal and external properties of the school are important in shaping character of the individual. On the other hand, poverty affects the education of a child. The school image in children's books is important for children to read, and therefore the school image in children's books should be realistic and constructed in such a way as to positively affect the child's readership.

Key words: Children's book, school, children's literature.

INTRODUCTION

Literary works for children help both the child to acquire reading habits and to become beneficial to the society. Therefore, individuals meet children's literatures of quality from the very beginning of childhood. In this context, the study is to determine the reflection of the school concept in literary works prepared for children. The need for such research is that no other individual study has been reported on the reflection of the school concept in children's books, and that an individual spends a significant period of time in school.

Children's literature is defined as a literature that speaks in the language level of children in the age of development and adolescence, and helps them with the ability to understand and comprehend the world of

emotion and thought (Şimşek, 2002). The greatest difference between children's literature and that of adults is that the language material used is according to the child and the selected theme and subject are appropriate for the child's feelings, thoughts and imagination. In particular, it is imperative for children to meet works that can be a positive model in order for individuals to achieve the targeted positive traits as stated by Karatay (2007). The contradictory conditions of protagonists in tales, stories and novels portrays experiences of social problems which becomes a case studies for character formation; while the tales and stories in which such contrasts as good and bad, right and wrong, beautiful and ugly, strong and weak compete, present a real world to

E-mail: yymyakar@hotmail.com.

Author(s) agree that this article remain permanently open access under the terms of the [Creative Commons Attribution License 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

the child.

Children's literature is not different from generic literature in terms of fiction and other features it should possess. However, the subject / theme and characters should be very well structured, especially in relation to the age of the individual that is of question. Children are influenced by the messages and characters in the texts they read. Educating the child through literary texts is a path that has been used since ancient times. Many positive behaviors and values can be conveyed to the child using emotions, thoughts and behaviors of the characters in the texts and through messages given in an implicit manner in the texts (Karatay, 2011; Karatay et al., 2015; Arıcı, 2016).

A good number of academic studies on character education through works written for children have been reported. In some of these studies, children's books can help the child to develop behavior and make decisions, so that children can find facts they might encounter in real life (Gibbs and Earley, 1994; Bohlin, 2005; Karatay, 2007). In other studies (Yilmaz, 2016a; 2016b; 2016c; Ezell et al., 2014), there is a very close relationship between literature and education, and many children's books of different kinds are basically prepared based on the principles preliminarily adopted for the child (Ezell et al., 2014).

Almerico (2014) suggested that the characteristics of good characters in literary works are transmitted to children who read these works, arguing that literature is basically a powerful educational tool. Yilmaz (2016a, 2016b, 2016c) states that many positive messages are conveyed to a child through the characters in fictional texts for children. In this context, myriad studies both in Turkey and in the world have been reported on the relationship between children's literature and character education (Gibbs and Earley, 1994; O'Sullivan, 2004; Karatay, 2007; Lintner, 2011; Klein et al., 2014; Almerico, 2014; Freeman, 2014; Karatay et al., 2015; Özdemir and Tulumcu, 2017). The common point of these works is that fictional qualities and character traits in both adult and children's books can create awareness in the readers of these works.

The school is defined in the dictionary as "the place where all kinds of education and training are conducted collectively" (TDK, 2011). The school is the first place in the life of an individual who begins to live in an independent environment from the family. So, the stress and yearning emerging by the separation from the family for the first time is an important milestone for the child. However, the school has a structure in which there are many different characters because it is a place where individuals from different parts of the society are educated. In addition, the school is also important for the child in terms of having many formal practices and a scheme that the child has not encountered before.

The school is also the name of a seventeen-year journey for a child who starts to study regularly from the pre-school period because an individual who continues to

study without break, must go to school for seventeen years to have a bachelor's degree diploma. During the school terms, the time an individual spends at school is almost more than that spent with the family (Gökçe, 2012). In this respect, it can be concluded that the effect of the time spent in school and the school itself plays a role in the character of the individual.

The fact that no study has been found on the concept of "school" in children's literature, which has a serious effect on the character formation of the individual in the relevant literature constitutes the departing point of this study. Therefore, the study aims to contribute to the related literature and to determine the reflection of the concept of "school" in children's books. In this vein, an answer was sought for the question "how and to what extent does the school concept appear in fictional texts for children?"

METHODOLOGY

Research design

The study was designed by document analysis. Yıldırım and Şimşek (2011) define document analysis as a type of analysis for written and oral materials. According to Bowen (2009), document analysis is functional in that it provides an opportunity for detailed examination. In the study, document analysis was conducted since the reflection of the school image in the fictional books prepared for children was examined.

Documents examined

In the study, ten books in the type of stories and novels prepared for children between 10 to 14 years with reflections of the school image were examined. The stories and novels were examined because fiction-based expressions are present more in these types than in other literary genres (Table 1). Table 1 contains information about the documents examined and selected based on the expert's opinion. Since a certain number of books were enough to satisfy the data analysis, searching for more resources was avoided. In this context, ten different works from eight different publishing houses were studied. Abbreviations related to the mentioned sources are given to facilitate citation of the documents examined in the text.

Data collection and analysis

Stories and novels that included the school image were obtained to collect the data. Experts were consulted with regards to the content of the works whether they are suitable for children and their ages. Afterwards, resources were read by the researcher orally. In addition, the works were descriptively analyzed taking into consideration the "school" image because descriptive analysis is generally used to classify the resources, while the content analysis is employed to deepen the research. Following the descriptive analysis, content analysis of the data collected was conducted. In order to increase the validity and reliability of the work, the data set was read several times, and direct as well as indirect citations were made. In addition, to provide coding consistency during analysis, a qualitative research expert was consulted in the cross section of the study and the consistency between these codes was calculated according to the reliability formula of Miles and Huberman (1994)

Table 1. Sources examined in the study.

Title	Author	Publishing house	Edition year	Number of pages	Abbreviation
Günişığına Yolculuk	Adnan Binyazar	Can Çocuk	2015	181	GY
Okul Arkadaşım	Melisa Gürpınar	Özyürek Yayıncılık	2016	160	OY
Küçük Öğretmen	Arif Berberoğlu	Evrensel Çocuk Kit.	2012	72	KÖ
Okul Radyosu Yayında	Ülker Kurtan	Abm Yay.	2016	196	ORY
Çılgın Okul	Duran Çetin	Nar Çocuk	2017	159	ÇO
Okul Yolunda	Filiz Tosyalı	Özyürek Yayıncılık	2012	176	OY
Of Yaa! Yine mi Ödev?	Şebnem Güler Karacan	Nesil Çocuk	2013	112	OYM
Okul Fena Karıştı	Birsen Ekim Özden	Timaş Çocuk	2017	184	OFK
Okul Ne Zaman Biter?	Mustafa Orakçı	Timaş Çocuk	2017	91	ONZB
Sınıfta Kalanlar Okul Açtılar	Miyase Sertbarut	Çizmeli Kedi	2013	96	SKOA

(Reliability = Agreement / (Agreement + Disagreement) for which the consistency level must be 70%. The results proved 83%.

FINDINGS

In the present study, the first finding that draws attention to this study is the success. Those who go to school continuously target the success and fear failure. In one of the books examined was "I swore on my own every morning I go to school." No laziness, no failure, I do not have that right (Sertbarut, 2013: 19), which could be regarded as examples. In addition, the children talk to each other about the school environment and the expectations from them even before the school started and statements as "There was time for the school to start, but Ismail's situation created a fear in myself" (Sertbarut, 2013: 14) could illustrate the situation. Besides, school failure and the fear of failure are also remarkable. There are those who left school because of the failure in school, as well as those who started working immediately. Statements like "Celo, after his father's meeting with the teacher, never came back. His father found a job near the pizza restaurant for the child. (Sertbarut, 2013: 39)" suggest, the parents can demand that their children end their education because of failure in the school.

Failure in school can sometimes even lead to the idea of escape from home. "Let's plan together if anybody comes. I'm sick of being told stupid, chowder-head every day at school. Are you used to it?" (Sertbarut, 2013: 48) this shows that children are both suffering from the insults at school as well as from the failure they experience. Besides, there are students who struggle to go to better schools and become more successful and better educated. It is possible to see this situation from the statements: "Some children in school are preparing for the examinations. They want to go to the best schools, get the highest score (Sertbarut, 2013: 21)".

Another characteristic that is seen in children's books is the physical structure of the school and the effect of the activities related to learning at school on children. On the

first day of school, the statements uttered by the teacher are "Welcome to school. Here you will learn to read and write. You will work hard. You will be good people after all (Çetin, 2017: 48)". These statements are remarkable in terms of expressing the mission attributed to the school. The teacher emphasizes that as a result of the children's misbehavior, the school is not a place of naughtiness but a learning space (Çetin, 2017: 96).

However, it is also possible to find lines (OA, 119) which emphasize that the education provided at school is not only what can be used in everyday life (OA, 119) but also an ongoing process outside the school (Çetin, 2017: 157). Observations of the physical appearance and possibilities of the school the children attend are also the reflections of the characters in children's books. Such statements as "My school is like a majestic monarch sitting on its throne, situated in a large garden, with a timber ridge whose reputation is apparent at first sight. Maybe it was a little old, old-fashioned, but all the way up to the neighborhood gave an awe-inspiring feeling to those around it. It would create a feeling that it could not be approached easily. The large garden was full of great, high trees (OA, 36-37)." These descriptions are important in terms of the place of the school in the child's world. While the teachers and administrators were talking to each other, they mentioned the redesigning of the school environment in accordance with the children's needs (Çetin, 2017: 28).

The excitement that children experience when they start school is among the most important aspects of the school in the works examined. It is possible to follow what the school means for first year students from the following lines: "A new space, different faces and a different environment. These are impressions that the children who are coming to sign up are not accustomed to. While some perceive it as a new playground, for some it is a new space where they will continue regularly based on what they have heard from their brothers and sisters' school" (Çetin, 2017: 7).

Besides, the first day of the school is one of the important points in the works that can be immediately

understood from the behaviors of the children who have just started school (Çetin, 2017: 45). It is possible to find lines in descriptions that portray schooling as a very important change in the life of a child, such as setting up another planet, and that the school is a whole new set of duties and responsibilities (OA, 32 to 33). While in some works the school is presented as a huge and gigantic structure (8 to 9) where one can be lost especially for the children who are far away from neighboring and sharing in the apartment life, in other words school is described as a separation and impenitent sadness for those who are very dependent on their mothers. This sadness is so great that from time to time even the compassionate attitudes of teachers and administrators can not remove it (Çetin, 2017: 8).

An important reflection observed in the sources is that daily works and courses in schools are closely related with a routine. The opinion "this is what you always do at school (Orakçı, 2017: 62)" explains how children feel about school. However, there are occasional practices that change this routine. The most striking one is being a guard student. Keeping guard for the students who see the duty as an extraordinary privilege rather than a duty means a time frame in which only the superiors can do, the freedom to come to the school without a bag, and a time when it is not necessary to enter the classes (Orakçı, 2017: 47). The school newsletter is another one of the reflections that can be evaluated outside the routine in the school. The school newsletter is seen as an important activity for children interested in the newsletter. Children collect news and take pictures for this newsletter (Ekim, 2017: 19,22). Another practice that can be considered besides school paper is the school notice board. Pictures taken and classified based on a theme by responsible students are shown on the school notice board (Kurtan, 2016: 12). The school radio draws attention in the works as a remarkable extracurricular activity for children. The radio is considered to broadcast only in the school, sometimes play songs, and sometimes promote the development of the school (Kurtan, 2016: 30). The effect of the school on human character attracts attention in the works examined. The school has a formative influence on the child's life (Gürpınar, 2016: 25), and that many behaviors / considerations among important values are acquired at school. The following lines illustrate the fact: "To preserve that unique nature that the world offers us is perhaps due to the loyalty to a primary school in a neighborhood because where we are born, live and start to grow up shapes us. (Gürpınar, 2016: 39)"

The way to the school is also an important observation seen in the works. Children living by small coastal towns near the sea have a chance to walk to the school while children living in big cities go to school with services that are like prison vehicles covered with metal bars (Tosyalı, 2012: 5). However, it can be considered in this context that children see it as a game to walk to the school when it is beautiful (Tosyalı, 2012: 5) and regard walking to the

school with their friends as a privilege and power they settle by emigrating (Sertbarut, 2013: 17).

Another important notice is the access to the school, which is to start and attend the school. It is not possible for children in the places with no school or where there is only primary school to continue their education in their vicinity (Binyazar, 2015: 30). Children who must teach themselves and continue school when they are at the age of 14 in the third grade of primary school are also included in the works (Binyazar, 2015: 65). Poverty is also one of the most important causes of attending school late, which is very frequently seen in the works so much so that there are even some children who are unable to afford to go and enroll at school (Binyazar, 2015: 173). Due to the financial difficulties, the difference in dress and the dietary needs of the children satisfied by the school and the presence of only bagels and tea in the canteens of the schools where the poor children attend (Gürpınar, 2016: 80) are important signs of poverty. In connection with poverty, the boarding school is one of the main observations in the works examined. There is a high interest in these schools because of the financial burden on the parents.

As a matter of fact, children who prefer boarding schools in their works usually are from the poor families. Therefore, most of the time, applicants to boarding schools are enrolled by drawing lots because applications are more than the available school facilities (Berberoğlu, 2012: 55). The problems of the children who are forced to continue their education away from their families at a young age in the boarding school are also observed in the works. The aspirations of children towards their homes and their families are evident (Berberoğlu, 2012: 41).

DISCUSSION

Examining the observations of the school concept in children's books, it was found that the school concept was reflected in works with different features and images. The presence of the school concept in children's books in terms of success is a point drawing attention. It is important in this context that children work tirelessly to be successful, and that their families put pressure on their children consciously or unconsciously in this regard.

However, the point that is of importance is that success is considered only in academic sense by both parents and teachers. When children's academic achievements such as literacy and mathematics are taken into consideration, their achievements in areas such as painting, music and sports are ignored. In this respect, it can be pointed out that only teachers and parents who focus on academic success of the children are criticized. On account of failure, leaving the school and escaping from the house is another image obtained in terms of success. Another important issue in this regard is that teachers consider children's leaving school as a solution for the problem rather than focusing on the solution.

Another observation in the texts is that parents lead children to work at an early age due to short-term economic concerns rather than promoting school success and attendance. Thus, it can be concluded that efforts should be made to change the perception of the parents and the society in the works. In the works examined, some of the children want and endeavor to continue their education in more qualified schools as a continuation of the success. This can be viewed as a successful reflection of the school image on the children's books.

One other school image seen in the fictional books for children is centered on the physical structure of the school and the educational activities in the school. The effects of the physical characteristics and facilities of the school on the children vary as the years pass. While the meaning of school for children varies at early ages, at older ages this can change, and after graduation, the school is depicted as a place where old and beautiful memories are formed for the individual. Another point focuses on educational activities held in the school. Teachers constantly warn children about life and what they learn in school can be used in daily life. Thus, children question the quality of education in the schools in these works. It is important to note that teachers warn that learning is not only academic but a life-long process and try to improve the physical facilities of the school considering children. Here, it can be acknowledged that positive messages are presented to the child readers.

The excitement to start school and the stress of being separated from family and having an independent time slot in a different environment are other reflections of the school concept in children's books. It is certainly one of the important turning points of everybody's life for every individual to start study. Meeting with new people and different personalities creates a great source of excitement for the child. By emphasizing that the enthusiasm that happens is normal when starting school and that a child could be excited in every new environment for the first time, child reader gets prepared for life. Another one is that starting school restricts certain freedoms that children have. Messages are conveyed here related to life underlining that schooling brings some duties and responsibilities. The stresses that the children experience which are too much dependent on the family, when they start to study are covered in the works. In the same works, both the children and the families who raise their children in an overprotective manner are being criticized.

Another feature of the school concept in children's books is the school routines. The days, lectures and activities that always start in the same way in the school are frequently mentioned in the works. In this way, message is given that each institution in life runs on a certain routine and works are done in a certain way. However, some tasks and activities that the child can take out of this routine are also striking. Even though the watcher is reflected as a way to get rid of the student's routine, the duties and responsibilities of the watcher learner cannot be passed unspecified. Thus, the child is

reminded that the duty and responsibility of the child is inevitable and necessary. Practices such as school newsletters, school slips and school radio can also be considered important in this context because these duties take place outside the school routine through some student initiative. It is aimed to encourage the readers by giving place for practical duties in the works which bring together the student's effort and responsibility and emphasize the importance of having the support of teachers and parents in this issue. This is important for child readers.

Acquisition of both academic understanding and emotional and behavioral skills reflected in children's books is an important aspect of the school concept. It is communicated to the reader that the school has a crucial role in shaping the character of the person and the school develops a person by emphasizing the effects of friends, teachers, and administrators on the individual. The path and vehicles used to go to school are also important observations in the works. The fact that children regard it as a game to go to the school when the weather is fine shows that they are still children though they are old enough to go to school. The difficulties and problems of urban life are expressed by comparing the children who go to the school on foot and live by the seaside with those going to the school in shuttles whose windows are covered by iron bars.

Poverty is also an aspect of the school reflected in children's books. Children who cannot go to the school because of poverty and must leave due to financial difficulties right at the beginning are conspicuous. However, having to continue school in a boarding school and so longing for the family can be regarded as another reflection related to poverty. There are two fundamental messages to be presented with the child readers: first everyone can be poor or fall into a poor situation after being wealthy. Nevertheless, one should go to school. Second, the possibilities for children who are well-off may be a dream for children in a poor situation. In this context, both messages in children's books written on school are positive and necessary.

In conclusion, this study, which examines the school concept reflected in children's books, shows that school image is mostly positively reflected in children's books. It was found that success and both internal and external facilities of the school have been found to be important in shaping the character of the individual, and that poverty is a condition affecting the education of the child. It was also found that the school image in children's books is important for child readers in this sense, so the school concept in children's books should be realistic and should be constructed in such a way that it can have a positive effect on child readers.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

- Almerico GM (2014). Building character through literacy with children's literature. *Research in Higher Education Journal*, 26:1-13.
- Arıcı AF (2016). Çocuk edebiyatı ve kültürü, Ankara: Pegem A Yayınları.
- Berberoğlu A (2012). Küçük öğretmen. İstanbul: Evrensel Çocuk Kitaplığı.
- Binyazar A (2015). Günışığına yolculuk. İstanbul: Cançocuk Yayınları.
- Bohlin KE (2005). Teaching character education thorough literaure, USA: Routledge
- Bowen GA (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2):27-40.
- Çetin D (2017). Çılgın okul. İstanbul: Nar Çocuk. https://www.kitapyurdu.com/kitap/cilgin-okul/322345.html&filter_name=%C3%A7%C4%B1lg%C4%B1n%20okul
- Ekim Özen B (2017). Okul fena karıştı. İstanbul: Timaş Yayınları. https://www.kitapyurdu.com/kitap/patlak-zeka-cemcan-1--okul-fena-karisti/372072.html&filter_name=okul%20fena%20kar%C4%B1%C5%9Ft%C4%B1
- Freeman GG (2014). The implementation of character education and children's literature to teach bullying characteristics and prevention strategies to preschool children: An action research project. *Early Childhood Educ*, 42:305-316.
- Gibbs LJ, Earley EJ (1994). Using children's literature to develop core values. Bloomington: Phi Delta Kappa Educational Foundation.
- Gökçe F (2012). Okulda geçirilen zaman konusunda veli ve öğretmen görüşleri. *Kuram ve Uygulamada Eğitim Bilimleri, Educational Sciences: Theory and Practice*, 12(4):2541-2560
- Güler Karacan Ş (2013). Of yaa! yine mi ödev? İstanbul: Nesil Çocuk.
- Gürpınar M (2016). Okul arkadaşım. İstanbul: Özyürek Yayınevi.
- Karatay H (2007). Değer aktarımı açısından yerli ve yabancı çocuk edebiyatı ürünleri. 38. ICANAS, Uluslararası Asya ve Kuzey Afrika Çalışmaları Kongresi (939-948). Ankara: Atatürk Kültür, Dil ve Tarih Yüksek Kurumu.
- Karatay H (2011). Karakter eğitiminde edebi eserlerin kullanımı. *Turkish Studies*, 6(1):1439-1454.
- Karatay H, Destebeşi F, Demirbaş M (2015). Çocuk edebiyatı ürünlerinin 6, 7, ve 8. sınıf öğrencilerinin karakter gelişimine etkisi. *Erzincan Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 9(2):123-140.
- Klein EC, Ezell D, Powell SS, Ezell PS (2014). Character education using children's literature, puppets, magic tricks and balloon art. *International Journal of Humanities and Social Science*, 4(14):1-15.
- Kurtan Ü (2016). Okul radyosu yayında! İstanbul: abm Yayınları. <https://www.odakitap.com/okul-radyosu-yayinda-ulker-kurtcan/9786052374139>
- Lintner T (2011). Using "Exceptional" children's literature to promote character education in elementary social studies classrooms. *The Social Studies*, 102:200-203.
- Miles MB, Huberman AM (1994). Qualitative data analysis: An expended sourcebook. California: SAGE Publications.
- O'Sullivan S (2004). Books to live by: Using children's literature for character education. *The Reading Teacher*, 57(7):640-645.
- Orakçı M (2017). Okul ne zaman biter? İstanbul: Timaş Yayınları. https://www.kitapyurdu.com/kitap/levent-okul-ne-zaman-biter/434349.html&filter_name=okul%20ne%20zaman%20biter
- Özdemir M, İdi Tulumcu F (2017). Değerler eğitiminde edebi eserlerden yararlanma: Fatma Aliye'nin Muhadarat romanı örneği. *Sakarya University Journal of Education*, 7(4-özel sayı):720-729.
- Sertbarut M (2013). Sınıfta kalanlar okul açtılar. İstanbul: Çizmeli Kedi Yayınları.
- Şimşek T (2002). Çocuk edebiyatı, Ankara: Rengarenk Yayınları.
- Türk Dil Kurumu (TDK) (2011). Türkçe sözlük, Ankara: Türk Dil Kurumu Yayınları.
- Tosyalı F (2012). Okul yolunda. İstanbul: Özyürek Yayınevi.
- Yıldırım A, Şimşek H (2011). Sosyal bilimlerde nitel araştırma yöntemleri. Ankara: Seçkin Yayıncılık.
- Yılmaz O (2016a). Kurgusal nitelikli çocuk kitaplarında ayı karakteri. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi*, 5(2):801-817
- Yılmaz O (2016b) Kurgusal nitelikli çocuk kitapları ve karakter eğitimi. *Ana Dili Eğitimi Dergisi*, 4(3):311-325.
- Yılmaz O (2016c). A phenomenological study on Turkish language teachers' views on characters in children's books. *Journal of Education and Training Studies*, 4(3):194-201.

Full Length Research Paper

The perceptions of modern sports of students in the department of physical education and sports in Turkey

Ahmet Atalay

Department of Sport Management, School of Physical Education and Sport, Ardahan University, Ardahan, Turkey.

Received 8 December, 2016; Accepted 17 February, 2017

The aim of this study is to determine the perceptions of modern sports of the students studying at the departments of physical education and sports in Turkey, and to examine them based on different variables such as age, gender, department, grade, academic gross domestic product (GPA) and the habit of actively doing sports. In terms of the data analysis process, the descriptive statistics were presented with the values of frequency, percentage, average and standard deviation. In order to determine the differences in the group average of the population, the researcher made use of one sample t-test. To compare three-phase groups, variance analysis (ANOVA) was conducted and the Sidak post hoc test was used for paired comparisons. The analysis was conducted using the statistical package for social sciences (SPSS) 21.0 packet program. The Cronbach Alpha analysis was also used to test the reliability of the three statements about modern sports in the survey. Following the validity and reliability studies conducted by Özer, the Cronbach Alpha was measured as 0.75 while specifically for the current study the Cronbach Alpha coefficient was found to be 0.80. In a review of the study findings, no statistically meaningful differences between the participant students' age, gender and active sports participation variables and the socio-economic, political and educational sub dimensions of the scale were found. On the other hand, there were differences found between students' departments, classes and grade point averages and the sub dimensions of the scale. The study results revealed that to improve perceptions of modern sports in Turkey, socio-economic, political and educational factors must be considered. In this sense, the need for new revisions has arisen considering the socio-economic, politic and educational issues all together.

Key words: School, sports, physical education, sports management, modern sports understanding.

INTRODUCTION

While sport provides opportunity for the eminence of countries, it also represents an obvious call for cultural, social and economic aspects (Nicholson et al., 2011). Insufficient physical activity that has become a universal

disorder is the fourth most common cause of death (Kohl et al., 2012).

Insufficient level of physical activity, especially obesity is a disorder that has fatal results like cardiovascular

E-mail: ahmet.atalay.75@gmail.com. Tel: 905075789783.

Author(s) agree that this article remain permanently open access under the terms of the [Creative Commons Attribution License 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

disease and diabetes. Therefore, children and young people should be encouraged to participate in physical activities, and sports with the aim of being healthy generations (Melekoğlu, 2015). Even in developed countries of western societies, physical activity level is low. Nowadays, 31% of population at the age of 15 and older ones are inactive (Hallal et al., 2012).

Today, sport is a significant factor in upbringing qualified persons who have completed their physical, social and emotional development, and also it can be considerably deemed as supporter of socializing process for children and adolescents (Pherson, 1981).

Participating in sport influences social and emotional development in addition to healthy development of young generation (Marquis and Baker, 2015). Participating in regular physical activity significantly contributes to cognitive functions development together with supporting healthy aging process for children, adolescents and also adults (Booth et al., 2000; Weuve et al., 2004). Such factors as competition, entertainment, rivalry and developing rivalry motivate participating in this area (Koivula, 2009). Participating in sport has substantial functions in terms of strengthening the entire society, enhancing communication, cooperation, solidarity and social ties in society (NSW Sport and Recreation, 2007).

Sport is a central element and prominent dimension of popular culture within many countries (Mewett, 1999). Because sport plays a vital role within communal actions. According to the Sport and Recreation New Zealand (SPARC) (2003), sport and physical activity fosters cooperation and helps strengthen social ties and networks within communities. For example, Harris (1998), suggest that sport can be used to foster new friendship and social connectivity often across class, religious and ethnic boundaries. There is a significant parallel between extending sports, which is one of the most common and influential institutions of modern society, to wider populations and having people play sports as well as the development level of the society (Ünal, 2009). That the habit of playing sports becomes a modern understanding would also increase the gains of sports.

The presence of common sense is the basic element in sports becoming a lifestyle and the popularization of modern sports understanding. In this sense, modern sports understanding can be defined as consisting of physical, socio-cultural and mental bases with the aim of improving agents' health, social, spiritual and mental well being. It also seeks to ensure that every side of society benefits from these bases in optimal levels.

In fact, participation in sports contributes to agents' cognitive, affective, physical and motor development as well as reinforces and organizes behaviors, skills, social and communicative abilities, a sense of excitement and competition, civil participation, and mental and emotional well being. Playing sports is an action with a goal in itself (Mirzeoğlu, 2013; Kale and Erşen, 2003; Zorba et al.,

2005; Ramazanoğlu and Ramazanoğlu, 2004; Allender et al., 2006; Edwards, 2013; Stepto and Butler, 1996; Acet, 2005; Erdemli, 2008). Also, in terms of its social contributions, sports is a determining factor in improving cooperation, unity, solutions to social problems, empowering a sense of belonging, social interactions, peace, love and respect, and ultimately it is a determining factor in improving social health and well being (Wermeulen and Verweel, 2006; Grieve and Sherry, 2012; Sherlock et al., 2010; Wessels and Joseph, 2013; Fereidouni et al. 2005).

That every side of society can reap the benefits of sports mentioned above is an indication of modern sports understanding. Thus, the acceptance and popularization of this understanding in society requires providing physical and mental background.

Statement of the problem

While Strong et al. (2005) emphasizes the supportive nature of an active lifestyle in society, Eime et al. (2015) underlines the significance of composing an effective and widespread sports environment for this aim, which can be said to refer to the mental preparation phase. However, in the name of the popularization of modern sports understanding, it is essential to promote a strong physical background, and an extensive and accessible facility network. Halonen et al. (2015) highlights the need for improving the facility concept, generalizing it and increasing the availability of these facilities.

It is vital to popularize sports in society, to have agents gain the above-mentioned qualifications and to perceive sports as a universal culture (Atasoy and Kutler, 2005). Despite its popularity around the world and its common language (Çeyiz and Özbek, 2014), sports gains popularity and prevalence based on societies' socio-economic conditions (Ekmekçi et al., 2013).

In Turkey, the government is primarily responsible for improving and popularizing sports in society. The 59th statement in the Constitution of the Republic of Turkey states that "The Republic encourages the prevalence of sports in society," which indicates that sports is a constitutional duty (the Constitution of the Republic of Turkey, 59th Statement).

Especially with the contributions to social structures and the encouraging attitudes of institutions, it is aimed to improve and popularize modern sports understanding in Turkey. One of leading factors in this goal is the students studying at the School of Physical Education and Sports, which delivers sports education in the country. That students practice educational activities in this sense would contribute to this understanding. It is crucial and essential to prepare and foster a background in Turkey which would improve the country through progress and independent institutions (Serarslan, 2005).

This study aims to explore the students' opinions studying at Physical Education and Sports departments in Turkey, and to examine them based on different demographic variables (Age, Gender, Department, Class, Academic Grade Point Averages and Active Participation in Sports).

METHODOLOGY

Research model

First of all, pollsters were selected to collect the data and a short briefing on the scale was given to the pollster. The data of the study was gathered through face to face surveys with students currently studying at departments of physical education teaching, sports management, movement and exercise, and recreation in sports fields of the universities in Turkey.

The sample of the study

According to the 2014 to 2015 report of the Higher Education Board, there are a total of 66 sports departments in Turkey's universities, 57 of which are the School of Physical Education and Sports, 7 are Institutes of Sports Sciences and 2 of them are the Supreme Council of Sports Sciences and Technology (Higher Education Board, 2015). The sample of the study was composed of the students currently studying at the various institutions in Turkey mentioned earlier. This group was determined with the random sampling method considering time, place, financial limitations and easy applicability of the method. 52 universities and 6,318 students studying at these universities participated in the study within Turkey.

Data collection tools

The survey used for data collection, *Sports Executives' Opinions towards Creating a Modern Sports Understanding*, was developed by Özer (2011). The questions in the survey are categorized under three sub dimensions: questions 1 to 10 belong to the socio-economic sub dimension; questions 11 to 20 belong to the educational sub dimension and questions 21-30 belong to the political sub dimension. It is a 5-point Likert scale in which statements ranged from 1 to 5 (1: *Definitely Disagree*, 2: *Disagree*, 3: *Undecided*, 4: *Agree*, 5: *Definitely Agree*). For a correct and efficient survey filling process, necessary instructions were given properly and the ambiguities were clarified for the participants. 7,500 surveys were delivered within the study context, 1,182 of the recollected ones were declared null and void, and 6,318 of them were accepted as valid for the study.

Data collection and analysis processes

Within study goals, the surveys were delivered and the obtained data and the participants' responses were encoded and computerized using Microsoft Excel. In the data analysis process, the descriptive statistics were presented via frequency, percent, average and standard deviation values. The t-test was used to check whether the ensemble average of the mass differed from its value. Additionally, to compare three-phase groups, variance analysis (ANOVA) was conducted and the Sidak post hoc test was

used for paired comparisons. The analysis was conducted using the statistical package for social sciences (SPSS) 21.0 packet program.

However, since the sample group differentiated, exploratory factor analysis and validity-reliability analysis were also implemented on the scale. Upon factor analysis, three sub dimensions were determined. These sub dimensions were labeled: *socio-economic*, *educational* and *politic dimensions*, just like in the original form of the scale. Kaiser-Meyer-Olkin (KMO) sample sufficiency coefficient in the factor analysis was measured as 0.92, which refers to adequacy for showing factor structure of 6.318 surveys (The criteria value is $KMO > 0.70$). Additionally, according to the Bartlett test results ($p = 0.01, p < 0.05$), the sub dimensions are meaningful in structural terms.

The Cronbach Alpha analysis was conducted to test the reliability of 30 statements related to modern sports understanding. The Cronbach Alpha coefficient was found to be 0.75 in Özer' (2011) study while the results of the current study's analysis revealed the Cronbach Alpha as 0.80. This indicates that the scale is quite reliable. Following the reliability studies, factor analysis was implemented in order to test the construct validity of 30 statements in the survey. Since 3, 7 and 11 items are negative statements, their scores were reversely encoded and included in the analysis as such (Table 1).

The obtained three dimensions constitute about 66% of the total variance. In such studies, the variance rate is generally expected to be 60% or more. In a review of the dimensions, it was determined that the socio-economic sub dimension constituted 26% of the total variance, and its internal consistency was measured as 0.77. In terms of the educational sub dimension, it constituted 22% of the total variance with 0.75 internal consistency coefficient. For the political sub dimension, it was measured that it constituted 18% of the total variance and its internal consistency coefficient was 0.71. It was revealed that the validity and reliability of the 30 statements related to modern sports understanding were provided.

FINDINGS

It was determined that 20% of the participants were under 19, 54% were between 20 to 22 and 26% were at the age of 23 and older. It is also seen that 44% of them were female while 56% were male. 63% of the sample group was revealed to be actively participating in sports. 46% of the participant students were studying at teaching departments, 29% in sports management, 20% in coaching and 6% in recreation departments. 30% of them were first year, 40% were second year, 21% were at third year and 10% were fourth year students. 18% of these students had of low level grade point averages (1 to 1.99), 57% had medium (2 to 2.99), and 26% had high level grade point averages (3.00 to 4.00) (Table 2).

Determining the variables affecting modern sports understanding

Variance analysis (ANOVA) and the t-test were conducted with the aim of examining the relationships between participants' age, gender, active participation in sports, departments in which they study and grade point

Table 1. The construct of modern sports understanding survey.

Statement	Factor load	Internal consistency (%)	Explained variance
Socio-economic dimension			
I think the financial resources set aside for sports in our country are sufficient	0.577		
I think the activities and organizations conducted by public and private institutions with the aim of expanding sports in society are adequate	0.621		
I think the number of sports facilities in our country is insufficient.	0.463		
I don't think that without creating a modern sports understanding in society, sports wouldn't be popularized	0.603		
I think there is a direct proportion between the development level of the country and modern sports understanding	0.611		
I think with the establishment of modern sports understanding in society the health expenses of the society would decrease	0.599	26	0.77
I think with the establishment of modern sports understanding in society the violence rate in society would decrease.	0.573		
Creating a modern sports understanding in society could positively contribute to the solutions of social problems	0.589		
An increase in society's wealth is an important factor in creating a modern sports understanding and increasing the number of athletes	0.539		
A modern sports understanding has been created in our country	0.585		
Educational dimension			
I think sports culture and education are not delivered properly at educational institutions	0.470		
The basic education of creating a modern sports culture understanding should start at primary grade level	0.493		
I think in Turkish media, the programs which encourage and raise awareness about sports are adequate	0.609		
I think local administrations should play a more active role in creating a modern sports understanding and in the popularization of sports	0.476		
The creation of modern sports understanding in society would contribute to our international achievement in sports.	0.472		
Increasing the effectiveness of school sports activities would contribute to creating a modern sports understanding in society	0.462	22	0.75
I think the TV programs on both public and private channels which promote sports and raise awareness do not draw interest.	0.446		
I think the graduates from Physical Education and Sports Departments aren't of adequate qualification in terms of sports culture and education	0.473		
I think mass media tools are quite effective in creating modern sports understanding in society	0.439		
The reason for the low number of licensed athletes in our country is the insufficient sports education and sports awareness	0.436		
Political dimension			
I think the institutions which are responsible for sports management in our country are successful enough	0.651	18	0.71

Table 1. Contd.

The sports activities organized with the support of the government would contribute to create a modern sports understanding	0.459
I think the efforts of youth and sports clubs to popularize sports in our country are adequate	0.625
The sports legislations cannot meet the needs of modernization and popularization of sports	0.473
The inadequate number of qualified sports executives and sportsmen is one of the key problems in sports	0.582
The federations should play a more active role in creating and popularizing a modern sports understanding	0.641
An independent and influential genre should be created in Turkish sports in order to create and popularize a modern sports understanding	0.641
The absence of a mechanism to inspect sports policies in our country is one of the basic problems	0.683
There should be a functional national sports policy in order to create and popularize a modern sports understanding	0.679
A new sports policy should be established in order to create and popularize a modern sports understanding	0.653

averages, and modern sports understanding sub dimensions. The results are presented in Table 3. The Sidak paired comparison test was applied to determine the sources of the differences which were determined in the sub dimensions following variance analysis (Table 3).

Reviewing the relationships between the participant students' age groups and sub dimensions of the scale, the average dimension scores of the participants were found to be the same, which indicates that the age of participants does not have any effect on their modern sports understandings, and that the participants at different ages were at similar perception levels of modern sports understanding ($p>0.05$) (Table 4).

Following a review of the relationships between the sample group's gender features and sub dimensions of the scale, the average dimension scores of the participant students were measured to be the same, which indicates that the gender of the participants does not affect their modern sports understandings, and male and female participants possess similar perception levels concerning modern sports understanding ($p>0.05$) (Table 5).

After examining the relationships between the participants actively participating in sports and the sub dimensions of the scale, it was revealed that the average dimension scores of the participants were not different from each other, which indicates that the participants' conditions related to their active participation in sports have no effect on their modern sports understandings, and that both active and inactive participants have similar perception levels related to modern sports understanding ($p>0.05$) (Table 6).

According to the results, it was determined that the students' current departments do not have any effect on the socio-economic dimension average scores, and that the participants studying at different departments have the same average dimension scores ($F=0.29, p>0.05$).

In terms of the educational sub dimension, it was measured that the participant students' departments affected their average dimension scores, and that the students from recreation departments had higher average educational dimension scores than the ones from other departments ($F=6.16, p<0.05$). Thus, it can be inferred that when compared to the students from other departments, the students at recreation departments think that educational issues surrounding raising modern sports awareness are quite important ($p<0.05$).

On the basis of the political sub dimension of the scale, it was measured that the departments of the participants were influential on their average dimension scores, and the scores of students studying at recreation departments were found to be higher than other departments' students' scores ($F=11.05, p<0.05$), which indicates that recreation department students find political (management) issues surrounding modern sports understanding more important than other students ($p<0.05$) (Table 7).

According to the results, the class levels of the students do not have any effect on the socio-economic and education sub dimensions scores, and average dimension scores of the participants do not differ from each other's. Based on the results of the political sub dimension of the scale, it was determined that the participants' class levels affect their average dimension

Table 2. The participants' features.

Age	N	Percentage
Under 19	1.256	19.9
20- 22 age	3.399	53.8
23 age and above	1.663	26.3
Total	6.318	100.0
Gender		
Female	2.770	43.8
Male	3.548	56.2
Total	6.318	100.0
Actively doing sports		
Yes	4.001	63.3
No	2.317	36.7
Total	6.318	100.0
Department		
Teaching	2.879	45.6
Sports management	1.824	28.9
Coaching	1.242	19.7
Recreation	373	5.9
Total	6.318	100.0
Grade		
1	1.879	29.7
2	2.499	39.6
3	1.321	20.9
4	619	9.8
Total	6.318	100.0
Score averages		
Low (1-1.99)	1.125	17.8
Medium (2-2.99)	3.574	56.6
High (3.00-4.00)	1.619	25.6

Table 3. ANOVA test values based on age variable.

Dimension	Age group (Years)	N	X	s.s.	F	p
Socio-economic dimension	≤19	1256	2.62	0.52	0.71	0.49
	20-22	3399	2.62	0.57		
	≥23	1663	2.64	0.55		
Educational dimension	≤19	1256	3.08	0.47	0.16	0.85
	20-22	3399	3.07	0.50		
	≥23	1663	3.07	0.54		
Political dimension	≤19	1256	3.58	0.64	2.05	0.13
	20-22	3399	3.56	0.69		
	≥23	1663	3.53	0.67		

Table 4. T-test values based on gender variable.

Dimension	Gender	N	X	s.s.	t	p
Socio-economic dimension	Female	2.770	2.62	0.55	0.36	0.72
	Male	3.548	2.63	0.55		
Educational dimension	Female	2.770	3.07	0.48	0.01	0.99
	Male	3.548	3.07	0.52		
Political dimension	Female	2.770	3.55	0.67	0.71	0.48
	Male	3.548	3.56	0.68		

Table 5. T-test values based on active participation in sports variable.

Dimension	Actively doing sports	N	X	s.s.	t	p
Socio-economic dimension	Yes	4.001	2.62	0.57	0.96	0.34
	No	2.317	2.63	0.52		
Educational dimension	Yes	4.001	3.07	0.49	0.74	0.46
	No	2.317	3.08	0.52		
Political dimension	Yes	4.001	3.56	0.70	0.23	0.82
	No	2.317	3.56	0.64		

Table 6. ANOVA test values based on department variable.

Dimension	Department	N	X	s.s.	F	p	Paired comparison
Socio-economic dimension	Teaching (1)	2.879	2.62	0.56	1.24	0.29	i
	Sports management (2)	1.824	2.61	0.56			
	Coaching (3)	1.242	2.64	0.54			
	Recreation (4)	373	2.66	0.53			
Educational dimension	Teaching (1)	2.879	3.06	0.53	6.16	0.01	4>1,2,3
	Sports management(2)	1.824	3.05	0.47			
	Coaching (3)	1.242	3.09	0.48			
	Recreation (4)	373	3.16	0.47			
Political dimension	Teaching (1)	2.879	3.56	0.68	11.05	0.01	4>1,2,3
	Sports management(2)	1.824	3.50	0.68			
	Coaching (3)	1.242	3.59	0.67			
	Recreation (4)	373	3.71	0.64			

scores, and that it was found to be higher among first year students than second class students ($F=3.27$, $p<0.05$), which indicates that first year students think that political (management) issues surrounding modern sports awareness are more important when they are compared to second year students ($p<0.05$) (Table 8).

In terms of the socio-economic sub dimension, the grade point averages of the participants were found to be effective on their average dimension scores, and the participants with higher grades had higher average dimension scores than the students with lower grade point averages ($F=5.80$, $p<0.05$). The participants with

Table 7. ANOVA test values based on class grade variable.

Dimension	Grade	n	X	s.s.	F	p	Paired comparison
Socio-economic dimension	1	1879	2.63	0.53	1.41	0.24	-
	2	2.499	2.61	0.56			
	3	1.321	2.64	0.57			
	4	619	2.63	0.53			
Educational dimension	1	1.879	3.08	0.48	1.68	0.17	-
	2	2.499	3.06	0.49			
	3	1.321	3.09	0.50			
	4	619	3.07	0.62			
Political dimension	1	1.879	3.59	0.66	3.27	0.02	1>2
	2	2499	3.53	0.69			
	3	1.321	3.58	0.68			
	4	619	3.55	0.68			

Table 8. ANOVA test values based on academic GPA.

Dimension	GPA	n	X	s.s.	F	p	Paired comparison
Socio-economic dimension	Low (1-1.99)	1.125	2.58	0.55	5.80	0.01	1<3
	Medium (2-2.99)	3.574	2.62	0.55			
	High (3.00-4.00)	1.619	2.66	0.57			
Educational dimension	Low (1-1.99)	1.125	3.02	0.50	8.42	0.01	1<2,3
	Medium (2-2.99)	3.574	3.08	0.50			
	High (3.00-4.00)	1.619	3.09	0.50			
Political dimension	Low (1-1.99)	1.125	3.51	0.72	5.61	0.01	1<3
	Medium (2-2.99)	3.574	3.55	0.66			
	High (3.00-4.00)	1.619	3.60	0.68			

higher grades think that socio-economic matters related to the development of modern sports understanding were more important when they were compared with the ones with lower grades ($p < 0.05$).

Based on the education sub dimension, it was seen that the grade point averages of the participants had an influence on their average dimension scores, and that the participants with medium levels of grades had higher average dimension scores than the ones with lower grades ($F = 8.42, p < 0.05$), which could indicate that the participants with high and medium levels of grades think that education issues related to the development of modern sports understanding are quite significant compared to the participants with lower grades ($p < 0.05$).

In terms of the political sub dimension, it was revealed that grade point averages of the participants had

influences on their average dimension scores, and the participants with higher grades had higher political dimension average scores than the ones with lower grades ($F = 5.61, p < 0.05$). From this, it is determined that the participants with higher grades accept political (management) issues surrounding the development of modern sports understanding as more important when they were compared with the students with lower grades ($p < 0.05$). Based on the study's results, it is concluded that academic success levels of the participants had an effect on their modern sports understandings ($p < 0.05$).

DISCUSSION

It seems possible to develop and popularize modern

sports understanding (MSU) in Turkey on the condition that various social institutions would act with a common understanding. One of these institutions is university and sports departments delivering education within universities. When agents studying at these departments gain scientific knowledge related to sports and transfer it to society, this contributes to the development of MSU, to the constitution of a qualified sports culture and to an increase in the popularization of sports in the country.

Likewise, universities' comments on sports from a scientific perspective and making it a practical issue can be perceived as both an individual and a social gain. Thus, the generations studying at the sports departments of universities are expected to contribute to both the intellectual and physical sides of MSU in Turkey and to transfer this to the following generations.

In this context, this study aims to determine the perceptions of modern sports in Turkey of those students studying at the departments of physical education and sports and to examine differences based on demographic variables of the participants. According to the results based on the data obtained from the sub scales, meaningful differences between the political sub scale and participants' departments, classes and academic grade point averages were found.

It was determined that in terms of the political sub scale, the participants' departments were influential on average dimension scores and this influence and difference was found to be higher in average scores in the political dimension of recreation students than the students at the other departments ($F=11.05, p<0.05$). It is inferred that political (management) issues surrounding modern sport understanding are more important for recreation students than other departments' students ($p<0.05$).

In terms of the political sub dimension, the participants' classes were also influential on average dimension scores, and the difference in first year students were higher than second year students ($F=3.27, p<0.05$), which can be interpreted as that compared to second year students, first year students think that political (management) issues are more important for modern sport understanding ($p<0.05$).

In terms of the political sub scale, the participants' average scores were found to be effective in average dimension scores, and the participants with higher scores also have higher political dimension scores than the students with lower grades ($F=5.61, p<0.05$). The participants with higher scores are thought to perceive political (management) issues as more important for improving modern sports understandings than the participants with lower scores ($p<0.05$).

It can be accepted that a health functioning of social institutions depends on the effectiveness of political power in the country. In this sense, political understanding is determinant and is of great influence in

creating and increasing mass interest in sports which is one of these social institutions.

Today, primarily developed countries give the necessary importance to sports (Özen et al., 2012). This is due to the fact that sports is a significant tool in raising healthy generations and establishing social peace, and sports policies of countries are dealt with in this sense (Doğu and Yetim, 2014). Within these policies, crucial legislative regulations have been enacted. However, for Turkey, it seems a must to revise these legislative policies and political understanding.

The low numbers of licensed athletes and low success rate in Turkey are indicators that sports has not been adopted as a life style and of an inadequate level of necessary sports policies in the country (Aykın and Bilir, 2013). There should be established a sports policy which is practical and appropriate for daily conditions. Sports is of vital importance in guiding the country's improvement (İmamoğlu et al., 2007).

Sports policies for Turkey absolutely aim to encourage a high level of participation and incentives. In fact, the sole need of the country is the creation of a sports culture (Bağlan, 2014). Thus, within the sports system, there are needs of competitive power and modern management models which would meet the requirements immediately (Dilek, 2013). With the aim of transferring these political and legislative regulations into practice, especially the regulations supporting the youth and accepting them as a valuable source in this sense should not be ignored (Şentuna and Çelebi, 210). As emphasized earlier, legislative regulations and political understanding should focus on mass participation and encouragement. In this sense, organization of sports activities by public institutions could be an important step.

The state is primarily responsible for improving and popularizing sports understanding in Turkey. The 59th statement in the Constitution of the Republic of Turkey mentions states that "The Republic encourages the prevalence of sports in society," which indicates that sports is a constitutional duty (the Constitution of the Republic of Turkey, 59. Statement).

Karataş et al. (2011) remarks that there should be sportive activities and organizations so as to have the masses internalize sports while Aydın (2008) implies that public institutions are to organize activities and organizations supporting sports. In a study by Şahin and İmamoğlu (2011), 86% of the participants expressed that sports services are under the responsibility of the state. With the aim of meeting this liability, the state is expected to organize sports activities and organizations to increase people's interests in sports (Karahüseyinoğlu et al. 2003). However in another study by Aydın et al., (2007) it is understood that the state was unable to reach the desired standards related to sports, and was unable to popularize it among the masses.

Addressing the sports understanding in the country

from an educational perspective is necessary in order to have political understanding contribute to the development of modern sports understanding. Referring to this necessity and the findings related to the sub scales, meaningful differences between the education sub scale and participants' department and class were found.

It was found in the education sub scale that the participants' departments affected the average dimension scores, and the average dimension scores of recreation department students were higher than the other departments' students' scores ($F=6.16, p<0.05$). It is seen that the students in the recreation department accept the issues surrounding modern sports understanding as more important when they are compared to other departments' students ($p<0.05$).

It was revealed that students' grade point averages played a role in the education sub scale average scores and that the participants with high and medium levels of grades had higher education sub scale average scores than other participants with lower grades ($F=8.42, p<0.05$). The participants with high and medium level grades think that the educational issues surrounding the development of modern sports understanding are important when compared to the students with lower grades ($p<0.05$).

Education is the unique tool of both individual and social development. It is also determinant in creating a sports culture and modernization of sports understanding. Physical education courses and sports culture, especially those delivered at schools can influence all aspects of an individual's life. Kirk (2004) implies that the students who play sports within his skills play an important role in society and in sports culture. At this point, it is vital to extend in-school and out-of-school sports activities.

In fact, Melekoğlu (2015) emphasizes that the students who participate in sports activities within a school setting continue to participate in such activities when they are out of school. Thus, Aydoğan et al. (2015) underscores that sports activities should be given to the individuals more often and effectively within school settings so as to assess this understanding in an effective way because a school setting is ideal for increasing participation in sports. Thus, it should be increased through developing various strategies with school management (Drake et al., 2015).

Individuals' participation in in-school and out-of-school activities is of vital importance in terms of physical, cognitive and mental development. With the development and modernization of sports understanding, one can expect to witness multi-dimensional developments among students. Participation in sports activities within a school setting helps the youth to maintain and improve mental health (Jewett et al., 2014). It would not be incorrect to think that the student showing healthy mental developments would also have higher academic success.

It is unquestionable that there is a positive relationship between students' academic success and sports activities (Pequero, 2010; Guest and Schneider, 2003).

At this point, a study by Feldman and Matjasko (2007) revealed that the students who participated in one or more activities had the highest grade point averages while the ones not participating had the lowest grade point averages. Although the positive relationship between participation in sports activities and academic success have been proved clearly and scientifically, the study conducted by Ünal (2011) revealed that, in Turkey, the importance of the matter has not been thoroughly understood and sports understanding has yet to be instilled in students' minds at schools in Turkey.

Certainly, one of the determining factors of participation in in-school and out-of-school sports activities includes students' or their families' socio-economic status. As a result, Sarı (2012) conducted extensive research in Turkey and found that the students from low income families participated in extracurricular activities quite less than other students. Thus, it is expected that students with high academic success adopt a more positive sports understanding and a higher level of modern sports understanding.

In terms of students in Turkey, the popularization of sports culture and modernization of perspectives towards sports not only depends on schools but also on the cooperation and mutual support of public institutions and mass media tools. Increasing awareness and encouraging society to take part in sports is a much easier task using mass media. Regarding the interest in sports today, the public shares an opinion which has provided a background for the increase in the number of agents who actively play sports or who are interested in sports activities as spectators. Mass media tools play a significant role in the creation, enlightenment and guiding of this public opinion (Ünsal and Ramazanoğlu, 2013; Şahan and Çınar, 2004). Yücel et al. (2015) stated that mass media tools play a determining role in agents' playing sports and in their sports preferences because active participation can be encouraged through the advertising of various sports branches through media (Karataş et al. 2011).

With the unitary state system in Turkey, the provincial administrations in Turkey and especially the local departments are expected to act in accordance primarily with schools and other institutions, and to extend sports culture to the whole country by starting with cities first. In other words, since the local administrations are the closest management unit to the public, they play an essential role in the modernization and popularization of sports understanding.

In a review of European countries, local administrations meet the public's recreation and sports needs, raise awareness in public and instill this understanding through working in cooperation with both public institutions and

private subsidiaries. These institutions which undertake the delivery of appropriate and scientific education, prepare the setting and provide services (Mersinli, 2009). Concerning the situation in Turkey, Ateş (2011) indicates that sports activities inherently possessing local and common features would be more efficient if they delivered to the public with the cooperation of municipalities and other local administrations.

Local administrations are the governmental institutions which deliver local services in the development and modernization of sports, which encourages people to play sports and meet people locally. Municipalities are expected to give particular importance to the public's content concerning sports, to increase the quality of service, attendance and new memberships at sports facilities; namely, they are expected to be more active in the issues related to sports participation (Yüzgenç and Alay, 2014; Sunay, 2000).

Dealing with sports culture with a modern understanding and providing all sides of society with sports participation are among the key sports policies. Especially an approach which does not consider the differences in all sides of society would affect the development of modern sports understanding in a negative way. In this sense, the findings related to the study's sub dimension of socio-economic status suggest that there is a meaningful relationship between the participants' socio-economic status sub dimension and grade point averages. Considering the relational rates, the participants' grade point averages were found to be effective on their average dimension scores, and the average socio-economic dimensions scores of the participants with higher grade point averages were seen to be higher than the students with lower grade point averages ($F=5.80, p<0.05$).

In this context, compared to the participants with lower grade point averages, the participants with higher grade point averages think that socio-economic issues surrounding the development of modern sports understanding are more important ($p<0.05$). Through investing in sports more in terms of individual, administrative and social perspectives, developed countries encourage people to spend more time playing sports (Bernard and Busse, 2004). In fact, it can be inferred that the economic development of countries coincide with their achievements in sports (Saatçioğlu and Karaca, 2012). Societies' attitudes towards sports reflect their general structure. Contemporary societies accept sports as an inseparable part of life (Yetim, 2010), and as the most important indicator of their development (Yazıcı, 2014).

Social progress and modernization are the highlights of countries' sports understandings. Güzel et al. (2012) claims that sports culture is something to be gained in developed countries while according to Bulgu (2013) widespread participation in sports is the indicator of the

development of sports culture in a country.

Social development can be expressed through social, cultural and economic indicators. The development and modernization of sports understanding can be interpreted as being one of these indicators. The widespread participation in sports in economically and socially developed countries where there are high level of incomes is a commonly known fact (Erkal, 1982).

According to Atasoy and Kuter (2005), sports become more widespread based on a society's socio-economic conditions. Additionally, in a more specific study, Atan et al. (2014) expresses that the places which are developed in socio-cultural and economic terms have a more positive attitude and have greater expectations from physical education and sports while Yener and Güngörmüş (2006) emphasize that there is a parallel between cities' socio-economic development levels and sports achievements. To Doğan and Moralı (1999), almost all of the individuals sports regularly come from medium and high levels of income groups.

Conclusion

Modern sports understanding refers to a sports culture in which all sides of the society participate in the process, and which strives for both individual and social well being. The research results suggest that the modernization and popularization of modern sports understanding in Turkey should be dealt with as a whole (socio-economic, political and educational dimensions) instead of from only one perspective.

In a review of the study findings, no statistically meaningful differences between the participant students' age, gender and active sports participation variables and the socio-economic, political and educational sub dimensions of the scale were found. On the other hand, there were differences found between students' departments, classes and grade point averages and the sub dimensions of the scale.

Compared to the students at other departments, the students from recreation department think that educational and political issues surrounding the development of modern sports understanding are more important than other issues, and these issues are to be dealt with thoroughly. Compared to the second year students, the first year students were found to think that political issues are of more significance in popularization of MSU in Turkey, and necessary political steps should be taken accordingly. And lastly, the students with higher grade point averages accept the socio-economic, educational and political issues surrounding the development and popularization of MSU in Turkey as important, and they agree that these issues should be taken into consideration as a whole.

According to the findings, it is concluded that

regulations should be improved through assessing the socio-economic, political and educational issues as a whole so as to develop and popularize MSU in Turkey. Thinking that the state is primarily responsible for these sports issues, we can also imply that the precisions of related public institutions concerning this matter would be a determinant in the process. It is vital in Turkey that the government enforces and popularizes sports concepts and should take necessary precautions (Sunay and Saracalıoğlu, 2003). Because, as also mentioned above, the state is responsible for creating, developing and popularizing sports culture in the country within its laws.

Dealing with MSU as a whole seems to be the only way to expand sports culture to every side of society no matter which socio-economic inequalities exist. In doing so, public institutions contribute to diversifying sports activities through providing in cash or in kind contributions. The active participation of local administrations and mass media tools in the process would increase the accessibility of the organized sports activities and the participation rate. Also, in terms of education, together with active roles of schools and amateur sports clubs in such activities, modern sports understanding would start at schools and expand to popularize, which would in turn contribute quantitatively and qualitatively to sports culture in the country.

And ultimately, the legislative responsibilities of the government related to sports would gain functionality when this process is supported by political power and when the legislative regulations are imposed. It would not be wrong to state that the Turkish Republic would deal with issues surrounding socio-economic, political and educational aspects of the development of MSU, and would fulfill necessary legislative regulations in order to improve the country.

CONFLICT OF INTERESTS

The author had not declared any conflict of interests.

REFERENCES

- Acet M (2005). Sporda saldırganlık ve şiddet. Morpa Yayınları, İstanbul, Turkey.
- Allender S, Cowburn G, Foster C (2006). Understanding participation in sports and physical activity among children and adults: A review of qualitative studies. *Health Educ. Res.* 21(6):826-935.
- Atan T, Eliöz M, Polatcan İ (2014). Expectations of parents participation of their children in physical education lessons living in different regions in Turkey. *J. Educ. Faculty.* 16(1):57-74.
- Atasoy B, Kuter FÖ (2005). Globalization and sports. *J. Uludağ University Faculty Educ.* XVIII(1):18-22.
- Ateş Y (2011). Mahalli idarelerin sporla ilgili işlevleri ve spor kulüplerine yardımları. *Dış Denetim Dergisi.* Nisan-Mayıs Haziran. pp. 254-259.
- Aydın AD (2008). Determining the role of the summer sporting school during the contribution of sports to society in Turkey. *Ataturk J. Physical Educ. Sports Sci.* 10(1):3-11.
- Aydın AD, Demir H, Yetim A (2007). A research to determine the levels of realization of the preaimed objectives within the Turkish policies of sports. (sample of directorate general of youth and sports). *J. Phys. Educ. Sport Sci.* 1(2):87-96.
- Aydoğan Y, Özyürek A, Akduman GG (2015). The views of preschool children about sports. *Int. J. Sci. Culture Sports.* 4:595-607.
- Aykın AG, Bilir FP (2013). Government programs and sports policies. *J. Çukurova Univ. Inst. Soc. Sci.* 22(2):239-254.
- Bağlan MA (2014). Spor hukuku yazıları. In: K. Erkiner (Eds). *Türkiye'de hukukun kadın penceresi ve kadının spora katılımı*, İstanbul Barosu Yayınları, Turkey, pp. 45-55.
- Bernard AB, Busse MR (2004). Who wins the olympic games: Economic resources and medal totals. *Rev. Econ. Stat.* 86(1):413-417.
- Booth ML, Owen N, Bauman A, Clavisi O, Leslie E (2000). Social cognitive and perceived environment influence associated with physical education in older Australians. *Preven. Med.* 31(1):15-22.
- Bulgu N (2013). Social benefits from sport participation: The case of students of kazakhstan ahmet yesevi university. *Hacettepe Univ. J. Turk. Stud.* 18:25-45.
- Çeyiz S, Özbek O (2014). Interactions between globalization and sports. *Int. J. Sci. Culture Sports. Special Issue 1:*487-495.
- Dilek İ (2013). Comparative analysis of current status and organizational structure of sports clubs in Turkey and Italy. *Bahçeşehir Üniversitesi, Sağlık Bilimleri Enstitüsü, Yüksek Lisans Tezi*, İstanbul, Türkiye.
- Doğan B, Moral S, (1999). Üniversite öğretim elemanlarının spora ilgili tutumları ile yaşam ve iş doyum düzeylerinin spor yapma alışkanlıkları ile incelenmesi. *Celal Bayar Üniversitesi Beden Eğitimi ve Spor Bilimleri Dergisi* 3(1):15-27.
- Doğu GA, Yetim A (2014). Yakın dönem gençlik ve spor politikalarının değerlendirilmesi. *Int. J. Sci. Culture and Sports. Special Issue:* 805-813.
- Drake KM, Longacre MR, MacKenzie T, Titus LJ, Beach ML, Rundle AG, Dalton MA (2015). High school sports programs differentially impact participation by sex. *J. Sports Health Sci.* 4:282-288.
- Edwards MB (2013). The role of sports in community capacity building: An examination of sports for development research and practice. *Sports Manage. Rev.* 235:1-14.
- Eime RM, Casey MM, Harvey JT, Sawyer NA, Symons CM, Payne WR (2015). Socioecological factors potentially associated with participation in physical activity and sports: A longitudinal study of adolescent girls. *J. Sci. Med. Sports* 18:684-690.
- Ekmekçi AD, Ekemekçi R, İrmiş A (2013). Globalization and Spor Industry. *Pamukkale J. Sports Sci.* 4(1):91-117.
- Erdemli A (2008). Spor yapan insan. E Yayınları, İstanbul, Turkey.
- Erkal ME (1982). Sosyolojik açıdan spor. Filiz Kitabevi, İstanbul, Turkey.
- Feldman AF, Matjasko JL (2007). Profiles and portfolios of adolescent school-based extracurricular activity participation. *J. Adolescence.* 30:313-332.
- Fereidouni HG, Foroughi B, Tajaddini R, Najdi Y (2015). Sports facilities and sportsing succes in Iran: The resource curse hypothesis. *J. Policy Model.* 37:1005-1018.
- Grieve J, Sherry E (2012). Community benefits of major sports facilities: The darebin international sports centre. *Sports Manage. Rev.* 15:218-229.
- Guest A, Schneider B (2003). Adolescents' extracurricular participation in context: The mediating effects of schools, communities and identity. *Sociol. Educ.* 76(2):89-109.
- Güzel P, Özbey S, Noordegraaf MA (2012). Effects of universiade to spread out olympic education. *J. Hum. Sci.* 9(1): 296-321.
- Hallal PC, Andersen LB, Bull FC, Guthold R, Haskell W, Ekelund U (2012). Global physical activity levels: Surveillance progress pitfalls and prospects. *Lancet* 380:247-257.
- Halonen JI, Stenholm S, Kivimäki M, Pentti J, Subramanian SV, Kawachi I, Vahtera J (2015). In change in availability of sports facilities associated with change in physical activity? A prospective cohort study. *Prevent. Med.* 73:10-14.
- Harris J (1998). Civil society, physical activity and the involvement of sports sociologists in the preparation of physical activity professionals. *Sociol. Sport J.* 15:138-150.

- İmamoğlu AF, Karaoğlu E, Erturan EE (2007). Structural characteristics and basic problems of the sport clubs in Turkey. *Gazi Phys. Educ. Sport Sci.* 12(3):35-61.
- Jewett R, Sabiston CM, Brunet J, O'Loughlin EK, Scarapicchia T, O'Loughlin J (2014). School sports participation during adolescence and mental health in early adulthood. *J. Adolescent Health.* 55:640-644.
- Kale R, Erşen E (2003). *Beden eğitimi ve spor bilimlerine giriş*. Nobel Yayınları, Ankara, Turkey.
- Karahüseynoğlu MF, Arslan C, Ramazanoğlu F (2003). Elazığ halkının spora eğiliminin incelenmesi. *Doğu Anadolu Bölgesi Araştırmaları Dergisi* 4:70-74.
- Karataş Ö, Yücel AS, Karademir T, Karakaya YE (2011). The sports facilities adequacy level of sport promotion in Malatya and people's sports trend. *Hacettepe J. Sport Sci.* 22(4):154-163.
- Kirk D (2004). Framing quality physical education: The elit sports model or sports education. *Physical Education and Sports Pedagogy.* 9(2):185-195.
- Kohl WH, Craig CL, Lambert EW, Inove S, Alkandari JR, Leetongin G, Kahlmeier S (2012). The pandemic of physical inactivity: Global action for public health. *Lancet* 380:294-305.
- Koivula N (2009). Sport participation: Differences in motivation and actual participation due to gender typing. *J. Sport Behavior.* 22(3):360-380.
- Marquis WA, Baker BL (2015). Sport participation of children with or without developmental delay: Prediction from child and family factors. *Res. Devel. Disabilities.* 37:45-54.
- Melekoğlu T (2015). The effect of sports participation in strength in primary school students. *Soc. Behav. Sci.* 186:1013-1018.
- Mersinli D (2009). Yerel yönetimlerde spora yönelik rekreasyon hizmetleri ve büyükşehir belediyelerinin rekreasyonel faaliyetlere olan yaklaşımlarını değerlendirilmesi. *Akdeniz Üniversitesi, Sosyal Bilimler Enstitüsü, Yüksek Lisans Tezi, Antalya, Turkey.*
- Mewett PG (1999). Fragments of a composite identity: Aspects of Australian nationalism in a sport setting. *Austr. J. Anthropol.* 10(3):357-375.
- Mirzeoğlu N (2013). Spor bilimlerine giriş. In N. Mirzeoğlu (Eds). *Sporun bilimsel temelleri*. Spor Yayınevi, Ankara, Turkey. pp. 67-92.
- Nicholson M, Hoye R, Houlihan B (2011). Introduction. Inside: Participation In: *Sport International Policy Perspective*. (Edt: Nicholson M, Hoye R, Houlihan B). New York: Routledge.
- NSW Sport and Recreation 2007. *Sport and physical activity in New Wales*. Available at: www.dsr.nsw.gov.au/assets/pubs/industry/sportandphysicalactivity.pdf f. (Accessed: 16 January 2015).
- Özen G, Koçak F, Boran F, Sunay H, Gedikli N (2012). Evaluation of academic aspects relating to existing problems at Turkish sports management. *SPORMETRE Beden Eğitimi ve Spor Bilimleri Dergisi* X(4):107-116.
- Özer U (2011). Çağdaş spor bilincinin oluşmasında spor yöneticilerinin görüşleri. *Gazi Üniversitesi, Sağlık Bilimleri Enstitüsü, Yüksek Lisans Tezi, Ankara, Türkiye.*
- Peguero AA (2010). A profile of latino school-based extracurricular activity involvement. *J. Latinos Educ.* 9(1):60-71.
- Pherson MC (1981). Socialization into and Through Sport Involvement. Inside: *Handbook of Social Science of Sport*. (Edt: Lüschen GRF, Sage GH, Sfeir L). Stipes Publishing, Champaign.
- Ramazanoğlu F, Ramazanoğlu N (2004). Sporda sosyal alanlar. In: F. Ramazanoğlu (Ed). *Spor tesislerinin planlandırılması ve işletilmesi*. Bıçakçılar Kitabevi, Ankara, Turkey, pp. 47-64.
- Saatçioğlu C, Karaca O (2012). The economy and sports: The impact of economic development on international sporting success. *Yalova Üniversitesi Hukuk Fakültesi Dergisi* 1:27-42.
- Sarı M (2012). An investigation of high school students' participation in extracurricular activities. *Kurumsal Eğitim Bilim Dergisi* 5(1):72-89.
- Serarslan MZ (2005). *Spor yönetimi ve örnek olay analizi*. Morpa Yayınları, İstanbul, Turkey.
- Sherlock E, O'Donnel JS, White B, Bloke C (2010). Physical activity levels and participation in sports Irish people with haemophilia. *Haemophilia* 16(1):202-209.
- Sport and Recreation New Zealand (SPARC) (2003). *Statement of intent 2003-2004*. Wellington, New Zealand.
- Steppeo AS, Butler N (1996). Sports participation and emotional wellbeing in adolescents. *Lancet* 347(9018):1789-1792.
- Strong WB, Malina RM, Blimkie CJ, Daniels SR, Dishman RK, Gutin B, Hergenroeder AC, Must A, Nixon PA, Pivarnik JM, Rowland T, Trost S, Trudeau F (2005). Evidence based physical activity for school-age youth. *J. Pediatrics* 146(6):732-737.
- Sunay H (2000). Türkiye'de sporun yaygınlaştırılması. *Milli Eğitim Dergisi* 147:53-57.
- Sunay H, Saracaloğlu AS (2003). The factors direct to the branches of Turkish athletes and their expectations. *SPORMETRE Beden Eğitimi ve Spor Bilimleri Dergisi* 1(1):43-48.
- Şahan H, Çınar V (2004). Kitle iletişim araçlarının spor kamuoyu üzerine etkisi. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi.* 12(1):291-311.
- Şahin MY, İmamoğlu F (2011). Akademisyenlerinin ve milletvekillerinin spor siyaset etkileşimine yönelik görüşleri. *Gazi Beden Eğitimi ve Spor Bilimleri Dergisi* XVI(2):1-21.
- Şentuna M, Çelebi M (2010). Türkiye'deki gençlik ve spor ile ilgili kamu kurumları ve sivil toplum kuruluşlarının gençlik politikalarının değerlendirilmesi ve bir model örneği. *SPORMETRE Beden Eğitimi ve Spor Bilimleri Dergisi* VIII(3):109-117.
- Türkiye Cumhuriyeti Anayasası (1982). Madde 58-59.
- Türkiye Cumhuriyeti, Yüksek Öğretim Kurumu. (2016 Mayıs 15). https://istatistik.yok.gov.tr/yuksekogretim/istatistikleri/2015/2015_T3_v2.pdf.
- Ünal H (2009). Spor bilincinin yaygınlaştırılmasında sosyal pazarlamanın toplum tutumuna etkisi. *Marmara Üniversitesi, Sağlık Bilimleri Enstitüsü, Doktora Tezi, İstanbul, Türkiye.*
- Ünal H (2011). Spor bilincinin yaygınlaştırılmasında sosyal pazarlamanın toplum tutumuna etkisi. *Celal Bayar Üniversitesi Beden Eğitimi ve Spor Bilimleri Dergisi.* 6(2):11-22.
- Ünsal B, Ramazanoğlu F (2013). Spor medyasının toplum üzerindeki sosyolojik etkisi. *Eğitim ve Öğretim Araştırmaları Dergisi.* 2(1):36-46.
- Vermeulen J, Verweel P (2006). Participation in sports: bonding and bridging as identity work. *Sports in Society: Cultures, Commerce, Media, Politics.* 12(9):1206-1219.
- Wessels A, Joseph JE (2013). The effects of sports and aggression on society. *Eur. Psychol.* 28(1):1-22.
- Weuve J, Kong HS, Manson JE, Breteler MMB, Ware JH, Grodstein F (2004). Physical education: Including, walking and cognitive function in older women. *J. Am. Med. Asso.* 292(12):1454-1461.
- Yazıcı AG (2014). Toplumsal dinamizm ve spor. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi* 3(1):394-405.
- Yenel F, Güngörmüş HA (2006). Türkiye'deki illerin sosyo-ekonomik gelişmişlik sıralaması ile sportif gelişmişlik düzeylerinin belirlenmesi. *SPORMETRE Beden Eğitimi ve Spor Bilimleri Dergisi.* IV(2):61-72.
- Yetim A (2010). *Sosyoloji ve spor*. Berikan Yayınevi, Ankara, Turkey.
- Yücel AS, Kılıç B, Korkmaz M, Göral K (2015). Spor yapan çocukların spor tercihleri ve bunu etkileyen bazı faktörlerin incelenmesi. *Uluslararası Hakemli Akademik Spor Sağlık ve Tıp Bilimleri Dergisi* 14(5):20-54.
- Yüzgeç AA, Özgül Alay S (2014). Yerel yönetimlerin sunduğu spor hizmetlerinde hizmet kalitesi. (gençlik merkezleri ve aile yaşam gençlik merkezleri örneği). *Spor Bilimleri Dergisi* 25(2):79-93.
- Zorba E, İkizler HC, Tekin A, Miçoğulları O, Zorba E (2005). *Herkes için spor*. Morpa Yayınları, İstanbul, Turkey.

Related Journals:

