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Message from the Editor-in-Chief

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We are proud to say that TOJNED publishes July, 2020 issue. This issue has international different papers from various fields are shared with professionals. It is a free online journal and offeres free Access to all articles. When the journals are free to access all published articles, it increases the level of impact factor.

TOJNED is a multidisciplinary peer-reviewed journal in the field of teacher education. TOJNED welcomes the submission of manuscripts that meets the general criteria. TOJNED is dedicated to increasing the depth of the subject across disciplines with the ultimate aim of expanding knowledge of teacher education. TOJNED is seeking for qualified and high profile researchers to join its editorial team as editors or reviewers.

TOJNED thanks and appreciate editors who have acted as reviewers for one or more submissions of this issue for their valuable contributions. Any views expressed in these publications are the views of the authors and are not the views of the Editor and TOJNED.

TOJNED will organize INTE-2020 (www.int-e.net) at Cyprus International University. INTE series is an international educational activity for academics, teachers and educators. This conference is now a well known teacher education event. It promotes the development and dissemination of theoretical knowledge, conceptual research, and professional knowledge through conference activities. Its focus is to create and disseminate knowledge about teacher education.

Call for Papers

TOJNED invites article contributions. Submitted articles should be about all aspects of teacher education. The articles should be original, unpublished, and not in consideration for publication elsewhere at the time of submission to TOJNED. Manuscripts must be submitted in English.

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ACADEMIC WRITING LEARNING SKILLS: TEACHING FACTS AND EXPECTED REMDIES

Dr. Aissa HANIFI

University Hassiba Benbouali Chlef - Algeria
aissahanifi800@yahoo.com

ABSTRACT

Writing as a skill still occupy an important space in the EFL teaching and learning spheres in general and in university curriculum in particular. Many reasons have worked together to make writing a skill that an important part of the students' success in English language learning is a based on its mastery. Yet, EFL university students still face real challenges to manage the writing skill appropriately students claim that they still have difficulties to overcome major writing problems such as the lack of appropriate vocabulary and the insufficient knowledge of the English language writing conventions. Yet, students' problems would seem more serious when dealing with academic writing aspects. At the late stage of the Master graduation, students attend academic writing course where they need to learn the basic skills of critical essay writing. It is at such a level of Master studies that teachers of the critical essay module are aroused by the complicated fact of the students' mastery to the critical writing essay and analytical reasoning skills .The present paper aims at investigating the academic writing challenges of Master students at Chlef University and the possible strategies for addressing such academic and critical writing challenges. The study relied on an online survey submitted in the form of a Likert scale questionnaire to 27 Master students from Chlef University. Results revealed that Most students' major problems are their poor sentence structure , their lack of mastery of academic writing conventions and their weak ability to analyze writing topics.

Keywords : Academic writing, Critical thinking, English language, Writing problems

Introduction

Learning how to write and read became vital for many people in the growing industrialized modern societies (Harmer, 2014).After It has become a feature of literacy for adults and children, writing has given literate citizens more advantage over those who are deprived of the ability to read and write. In the education context, students' success and advancement throughout their learning career often relies on the students' assessment to their writing proficiency through exams and tests. Teachers in general and foreign language teachers in particular, therefore, work relentlessly to develop the students 'writing skill in general and their academic writing skills in particular. This is in the time when students often need to write essays , dissertations and exams and that is what makes writing a demanding skill students face. In the process of academic writing learning, students are asked to manage academic conventions, the language and the text type or genre. Numerous studies has been made in the world academic spheres on the major problems that students face to write according to academic norms and conventions. Yet; more focus was the international students' academic writing development who need to maximize their academic writing potential in English for their degree courses (Bailey, 2011).The current paper scope will be limited to depict Algerian university students' major problems they generally face with academic writing.

What is Academic Writing?

Although it is not easy to provide an exact definition to academic writing, there has been attempts to define academic writing under more than one approach. In early approaches, academic writing meant simply moving from paragraph to paragraph writing in a more controlled process (Gulkat, 2004). Starting from the 60's and on , more emphasis was to be on the sentence structure .Later on , researchers started to draw attention to the main differences that would exist between different cultures. People may have different reasoning because they belong to different cultures and no human no individual's mind can be independent from its culture (Shweder, 1991). Thus, beside linguistic problems, Cultural differences are another challenge for ESL learners. For students, academic writing means essentially the type of writing that they need to do for university courses including assignments, reports, essays and dissertations. Students' attention should be drawn to the fact that writing for university study purposes is different from writing in previous secondary and middle school. Through academic writing, students have to be trained on topics of academic community interest where they discuss thoughts and findings with logic and evidence. The chosen topics which are to be dealt with in the already mentioned assignments address a specific type of audience .i.e. 'target reader' (Mennens MSc & Wilkinson MSc, 2002).

Features of Academic Writing

Writing as a skill serves for a varied communicative purposes which correspond to different contexts throughout life. Being involved in the different interpersonal settings includes expressing feelings and thoughts which do not follow a structure of punctuation and grammar. Similarly, in these kind of settings it is acceptable to use colloquial expressions, abbreviations and time buying expressions such as ‘that’s cool’, ‘by the way’, ‘mmm ...it’s alright’. However in academic writing, students are asked to respect punctuation rules and grammar. In academic essay writing, students are asked to comment and analyze given topics using evidence from other sources. Thus, the students’ type of writing should be of interest to other students and scholars .However, writing from other texts remains a real challenge for most students to overcome speck (2001).Along with that , students to present their reasoning in clear and well-structured manner. Eventually students need to learn that each type of assignment has a different format (essay, report, dissertation, project, etc.) and thus requires a different way of analysis and discussion that should lead to a logical conclusion. Besides being clear , accurate and logical in organization, academic writing should « *use authentic texts and examples from a wide range of disciplines* » (Bailey , ibid.)

The Importance of Academic Skills’ Development

Unlike oral communication, in written forms of communication, people lack non –verbal support (body language, voice, gestures, etc.).Thus, writers need to seek other techniques to make their message understandable by the target readers. Student, therefore, are asked to develop sound writing skills to help readers understand what they really want to say to achieve their university success in the end .Such development of good writing skills may cause a lot stress for university students especially while doing their assignments and exams, yet, in doing so, they will not only be awarded by better grades but they will develop effective writing skills for university different writing tasks and future research career later on. Furthermore, through academic writing mastery and development, student manage to demonstrate their own understanding of given topics, their ability to argue, to analyze using reason and logic. With regard to the purpose of academic writing, Bailey (2011) lists the following common reasons that are clear for writers:

- ✓ *to report on a piece of research the writer has conducted*
- ✓ *to answer a question the writer has been given or chosen*
- ✓ *to discuss a subject of common interest and give the writer’s view*
- ✓ *to synthesis research done by others on a topic*

Developing the students’ academic writing potential boost also their ability in improving other relevant skills such as reading and note-taking , critical thinking and analysis, organizing ideas and finally communicating effectively with a reader.

What to Consider in Writing an Academic Paper?

Students need to be aware that academic writing is a writing that is done by a scholar to another scholar. Hence, they need to take important aspects into consideration. When sitting down to write their academic paper, students need first to check what they know about their topic. For instance, if asked to comment on one of Hemingway’s novels, students should be familiar with Hemingway’s other novels so that they can understand what themes are important to him and his work. Moreover, they also need to be aware of different critical on Hemingway’s type of writing in general. Students also should be highly aware to their target reader who is the audience while sitting to draft their academic paper. Yet, before the writer’s perception of the audience, students should first determine their position to the topic. This includes where the student is going to take stand on a topic (whether to be for or against) and from which perspective is he or she going to tackle the topic (from a feminist view, for example). Naturally, students are to take care of their style and tone along the critical and the analytical process of any chosen topic. The tone should be inviting to the reader with the use of concise sentences and exact terminology. Least and not last, structuring the paper should be of a paramount concern for students who beside mastering the essay structure, for instance, of introduction with a thesis statement ,main body and conclusion, they should be trained by their professors on the several structures of research papers. This may include the different models for argument such as: compare and contrast, cause and effect, and so on.

Methodology

Quantitative data for this study was collected from a group of twenty seven Master students through an online survey questionnaire. It sought to identify students ‘perspectives and attitudes to academic writing by giving

them a 10 -item questionnaire. Some of the items in the questionnaire were designed for a Likert scale response using a three-interval scale of “agree”, “disagree”, “Don’t know”. The other questions were grouped under MCQ type using three interval scale of ‘all’, ‘few’ and ‘most’.

The following figures display clearly the collected data:

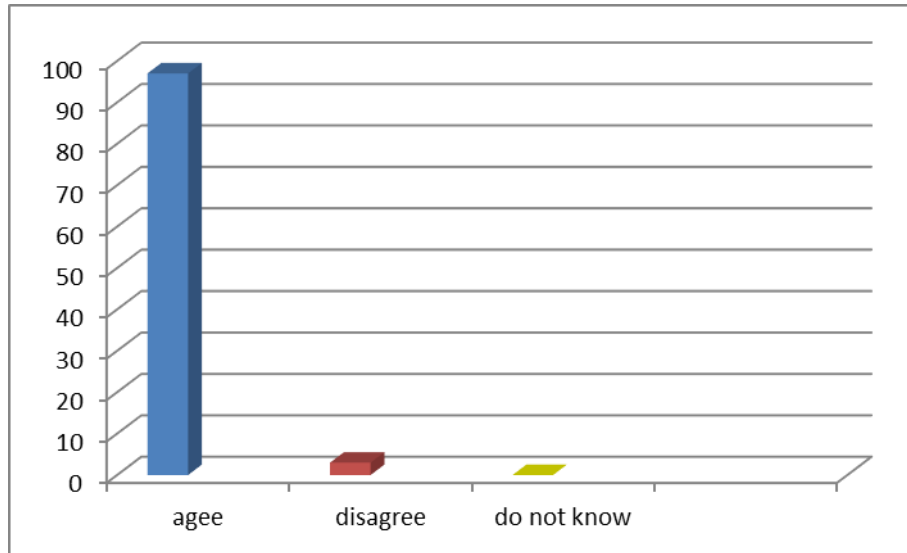


Fig 1: Students’ Difficulties with Academic Writing

As expected most students agree on the fact that the academic writing skills monitoring is becoming more and more challenging task that require serious remedial support from the part of the teachers in concern. The succeeding figures will illustrate the major academic writing problems that the student in Chlef are facing.

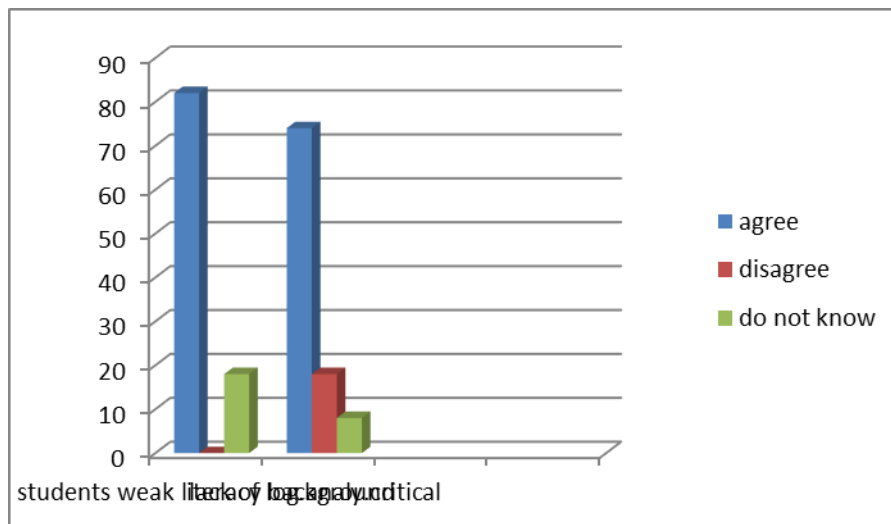


Fig 2: Students’ basic linguistic and analytical problems

Beside their poor sentence skill in the mechanics, sentence structure and spelling mistakes, two other major problems that students face while dealing with academic writing are their weakness in the literacy background and their lack of analytical and logical thinking. The weak literacy background involves their inability to manage economic language, conciseness and clarity. This is due to the fact that students have been used to write in a personal way where they rely on feeling over evidence, thus, their language appear unpacked and even redundant. Students also lack the skills of analyzing and reasoning or what is the critical thinking skill. Both problems require much care and consideration in the writing course syllabus where teachers should seek appropriate remedies to the such a fact.

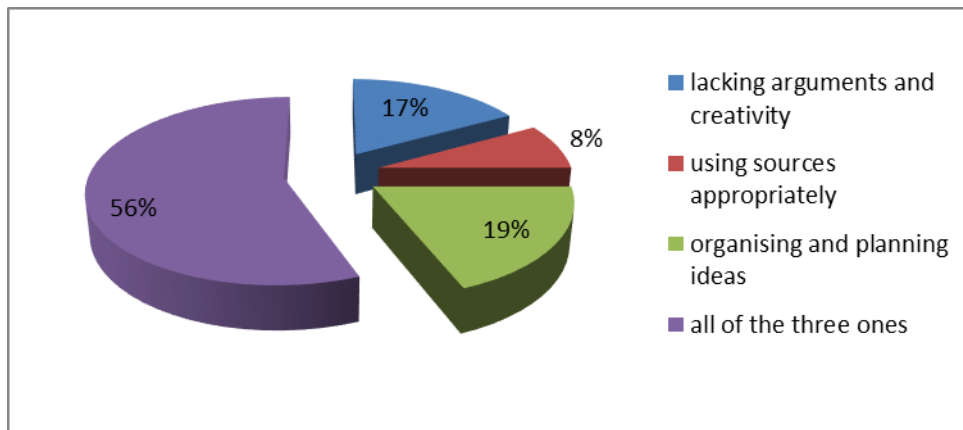


Fig 3 : Lack of advanced academic writing standards

Figure 3 shows more important part of students’ problems .More than half of the students in the study admit that they lack the basic skills of advanced academic writing. This involves mainly the lack of arguments and creativity (17%), the citation techniques (8%) and the organization and the planning of ideas (19%). As being explained in Figure 2, the past writing habits which were mainly envisaged descriptive and narrative functions did not allow the development of the students’ critical thinking. It is high time that students should not be involved in any type of personal writing and should receive instead more training on academic writing. This involves mainly learning about the different structures of the academic essays, for instance, the different sections with their main components of each essay, the style and the register. Most importantly, moving from personal response to analytical writing goes mainly through the varied stages such as learning techniques of summarizing, evaluating, analyzing and synthesizing.

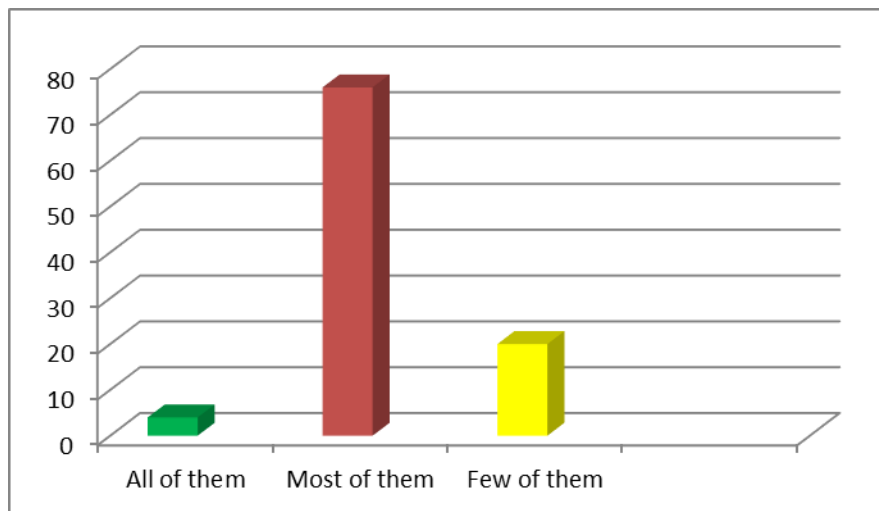


Fig 4: Students’ Lack of confidence in their judgement

Choosing an appropriate topic, contemplating the audience, considering one’s position are all important steps in the process of an academic paper drafting. Yet, students need also to back up their opinions with facts and evidence. This means that whenever students make a judgement about something in academic writing, they need to support their opinion by linking it to what a published author has written about this issue. Indeed, Citing the source that support one ‘is claim is the central issue in academic writing since it shows that the student has read the relevant literature and has succeeded to integrate it appropriately in his or her work. However, as depicted in Figure 4, students in the current study admit that they lack confidence in the value of their judgement and the strength of their evidence.

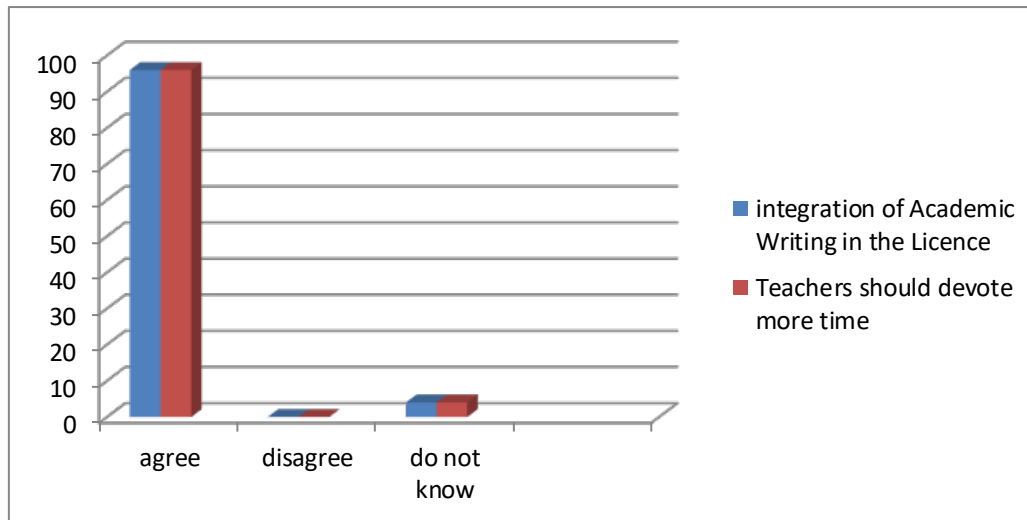


Fig 5: Need to devote more time and focus for Academic Writing

As the students' university success depends heavily on his or her monitoring to academic writing, students agree and confirm their urgent need to develop their academic writing skills. Such a need emerged unfortunately as a response to students' awareness of their weakness in the mastery of such a skill. Thus, as shown in Figure 5, students wished to see teachers devote more time to train them on the academic writing different skills and also aimed to integrate it as a course right from the undergraduate level.

To sum up, the study findings showed that the students are facing real difficulties to achieve a full mastery of the academic writing skills. Time and again, students are expecting much effort from the part of their teachers in charge of the writing course to seek appropriate strategies to help them develop their writing skill.

Conclusion

Writing academically is a difficult process that requires much training time and effort. In managing this process, students need to overcome certain challenges that are relevant to the content, the language, the structure and to the organization of the academic writing paper pattern. As Writing is the heart of academic life and because good writing makes a good student, offers professional credentials and helps in the advancement in one's career later on, students are required to do more training to develop their academic writing. This involves minding the conventional rules of grammar and mechanics, using formal language with more precise vocabulary and improving their ability in demonstrating their analytical and critical thinking. For all these reasons, teachers should assume their roles to guide their students to a real understanding of academic writing. The present study attempted to depict some of the major academic writing problems Master students in Chlef University are facing. These covers mainly the lack of arguments, the appropriate use of sources and the academic style monitoring. As there might be other writing weaknesses, teachers need to help students determine those weaknesses and work together to find appropriate remedies for the detected writing problems.

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DETERMINING THE LEVELS OF UNIVERSITY STUDENTS' CHEMISTRY KNOWLEDGE ASSOCIATING WITH THE DAILY LIFE

Şafak ULUÇINAR SAĞIR

Faculty of Education, Amasya University

E-mail: safak.ulucinar@amasya.edu.tr

ABSTRACT

The aim of this study is to find out how the university students explain the cases in their daily life by using chemistry knowledge. The method of the research is case study. The study group consists of university students who get chemistry education at an university in Middle Blacksea Region attending to Education Faculty and Vocational High School in 2016-2017 academic year. The sample of the study is 160 second grade students attending to science and elementary school teacher training departments of Education Faculty and chemistry first degree Vocational High School program. As a data collection tool, "Chemistry Knowledge Associating Daily Life Questionnaire" was used developed by researcher. In the first part of the questionnaire, the students were asked questions about demographic properties, the sources of knowledge they get in their daily life and the sources they used for solving problems. In the second section, two tailed questions about chemistry were asked. The students said that they use internet and their families to get knowledge and they benefit their experiences and traditions more than scientific knowledge to solve their problems. Most of the students chose the acceptable answers in offered cases but they were insufficient to make explanations. It was seen that the students could not give meaning to the cases they faced in their daily life with the chemistry knowledge they had. It can be suggested that the chemistry knowledge given to the university students should be related to problems they can face in the daily life and how they overcome these cases.

Keywords: *chemistry education, chemical literacy, knowledge association*

INTRODUCTION

Science education is important for an individual regarding to get logical thinking, inquiry, problem solving and participating in decision making processes. It can be determined with the problem solving practices how much they learn and understand while they are attending to the classes. The purpose of the science education all over the world is to train individuals with science literacy. Science literacy needs to read and understand related science articles and to deal with social problems about its validity. An individual with science literacy can describe the scientific problems at decision process and explain academically and technologically (Buxton, 2001).

Science education aims to train students who make inquiry, investigate, think logically, have scientific thinking skills and use it in solving problems. In science education, chemistry education is important for teachers and educators. The revised chemistry curriculum, should mention about basing chemistry concepts, the development process of scientific knowledge as well as nature of science, the importance of chemistry in daily life, the relation of it with technology and using this knowledge to explain in health, environment and life problems (Ministry of National Education [MoNE], 2018). Using the knowledge in daily life is related what a student learns at school with actual events in his environment. When a student observes the concepts learnt at school with the real events that he experiences in his surroundings, meaningful learning realizes when he uses those concepts. Hesse and Anderson (1992) stated that the students educated in schools perceive the concepts in science and technology as luxurious words. The individuals accept these concepts as a second language because they don't use them in their daily life and they lead to prejudice. It is important to relate the knowledge with the daily life (Harlen, 2002;

Andree, 2003; Campbell & Lubben, 2000; Gilbert, 2006; Pınarbaşı, Doymuş, Canpolat & Bayrakçeken, 1998). It is stated that the knowledge related with the daily life is permanent and motivates the students (Kıyıcı & Aydoğdu, 2011; Osborne, Simon & Collins, 2003). The events that the individuals encounter in their daily life can contribute to constitute relations with the concepts make them scientific literacy (Balkan-Kıyıcı, 2008; Enginar, Saka & Sesli, 2002; Yıldırım & Birinci Konur, 2014). Parnell (1996) suggested that the knowledge the students received at school about daily life should be integrated with the practice to become permanent. When science is related with the daily life, the students can explain and solve the problems through scientific realities. Reif and Larkin (1991) states that students have some problems meaning the difference between school science and everyday science. They claimed that these differences cause them to use alternative concepts and ways of thinking which are effective in everyday life, but not in science.

The studies carried on different disciplines of science showed that the students could not relate the knowledge with the daily life. Chemistry subjects generally contain abstract concepts and formulae. Learning the chemistry meaningful for a student means to understand the formulae and concepts and to use them in chemical calculations. Roberts, (2007) defines chemistry literacy as activation of information, skills, achievements and other elements suitable for educational purposes. To make the chemistry knowledge concrete, it is necessary for a student to learn the importance of learning chemistry and to connect it with the life experiences (Gilbert, 2006). Vos et al, (2010) said it is aimed to be aware of the meaning of chemistry learning instead of not teaching them what the chemistry is. The students are successful to solve chemical problems and to learn formulae and symbols at school, but they cannot carry them to their daily life (Haidar & Abraham, 1991; Ayas & Özmen, 1998). The content of chemistry should provide subjects which a student can encounter in his life. Many subjects such as matter, properties of matter, mixtures, gases, solutions, pressure, change of state, boiling, colligative properties can be used to explain the events in our daily life. Events such as foods, medication, paints, soap powders, cells, cooking, digestion should need chemistry knowledge to make them meaningful. Chemistry and chemistry laboratory activities are included into the curriculum at university level. The aim of this study is to find out how the university students attending chemistry courses explain the cases in their daily life by using chemistry knowledge and how much they benefit from scientific knowledge in their daily life.

The research questions are below:

- Which sources do university students who attend chemistry courses use to acquire knowledge in daily life?
- Which sources do students benefit from while solving problems?
- What is the level of the students using their chemistry knowledge to explain the daily life?
- How differs the usage of chemistry knowledge of the university students related to the gender, departments and high school they finished?

METHODOLOGY

Research Model

The research method was case study. Gall, Gall and Borg (2002) described the case study as follows; " *A case study is done to shed light on a phenomenon, which is the processes, events, persons or things of researcher*". Case study investigates the situation in real-life context or environment (Yin, 2009). In this research, multiple case study method was conducted to investigate the level of correlation of chemistry knowledge with daily life of students from different departments.

Research Sample

The research group consists of university students who get chemistry education at a university in Middle Blacksea Region attending to Education Faculty and Vocational High School in 2016-2017 academic year. The sample of the study is 160 second grade students attending to Science and Elementary School Teacher training departments of Education Faculty and chemistry technologies first cycle Vocational High School program. Purposeful sampling method was used in this research. The criterion includes attending to the chemistry classes or beforehand. The distribution of the sample is given Table1.

Table 1. Demographic properties of sample

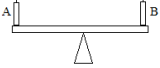
		Science Education		Elementary School Education		Chemistry First Degree Program		Total	
		n	%	n	%	n	%	n	%
Gender	Female	39	75.0	59	76.6	25	80.6	123	76.9
	Male	13	25.0	18	23.4	6	19.4	37	23.1
Type of finished high school	General	18	34.6	12	15.6	4	12.9	34	21.3
	Anatolian	26	50.0	59	76.6	8	25.8	93	58.7
	Vocational	7	13.5	1	1.3	19	61.3	27	16.9
	Others	1	1.9	5	6.5	0	12.9	6	3.8

The sample can be said not to be homogenous. As it results from that the students attending to Education Faculty are mostly female and the number of students attending to vocational school is less. In Turkey general high schools are the schools in which the students who cannot get enough grades from the national exam attend. Anatolian high schools are the ones where the students are taught with foreign language and moreover the students attending Anatolian high school get higher grades than the students attending general high school.

Data Collection Tools

The developed "Chemistry in Daily Life Questionnaire" was used. In the first part of the form, the students were asked questions about their gender, branch, the type of high school they finished, the sources of knowledge they get in their daily life and the sources they used for solving problems. At the acquiring knowledge and problem solving sources step, Balkan-Kıyıcı (2008) were used as a reference. In the second section, two tailed questions about chemistry were asked. Questionnaire form with 35 questions was prepared investigating the curriculums of science education, elementary school education and chemistry first degree. The content validity is provided by taking the opinions of three chemistry, one chemistry education and one physics education professionals. A pilot practice was given to the 40 students who are out of sample group. The misunderstood and unanswered questions were eliminated and the latest status of the form which had 25 questions were determined as summarized in Table 2.

Table 2. Distribution of the question contents

Question Content	Question number	Question Samples
Separation of the mixtures	1	We can distinguish alcohol-water/salt-water solution by evaporation method. Because....
Colligative properties	2, 3	Antifreeze is used in vehicles in snowy/sunny weather. Because....
Boiling, evaporation, condensation, expansion	4,5,8,11,25,22	Making tea takes longer/shorter on the Erciyes mountain than Samsun. Because....
Acids and acidic properties	6,13,18	I boil with carbonated / lemon water to dissolve lime in the kettle. Because...
Gases	9, 20, 21	Cologne/naphthalene is perceived faster in the same room. Because....
Greenhouse effect	10	Using chlorofluorocarbons in deodorants is prohibited due to give harm to ozone layer/increase greenhouse effect. Because....
Dissolution, solutions	12, 16, 24	Adding sugar into the tea proves that the solubility is exothermic/endothermic . Because....
Atom, mass, preservation of mass	14, 15, 17	 <p>There are two non-burning candles in the balanced system When we light A candle, A/B candle comes down. Because....</p>
Metals	7,19,23	Pickles are kept/not kept in metal containers. Because....

Students were asked to read the given statement, underline the wrong one and explain their choice. Sample questions (Question X: Q_x) are below.

Q₂. I am adding salt before/ after cooking. Because....

Q₉. Cologne / naphthalene in the same room is detected faster. Because ...

For the reliability, answered ten questionnaire form chosen randomly are coded by using two independent persons who are chemistry expert. Intercoder reliability was calculated as recommended by Miler and Huberman (1994). The coding reliability of the question form was calculated .92; it proves that the research is reliable.

Data Analysis

Analysis of data was performed by using SPSS 20.0 programme. In descriptive analysis percentage and frequency statics were used. After checking whether the data has a normal distribution or not via Kolmogorov-Smirnov test, analyses were made with parametric tests. Independent sample t-test and oneway ANOVA were used for the group comparisons. The results were determined at the $p = .05$ significance level. The point interval below was used for the scale evaluation. 5-4.2 interval "always", 4.19- 3.40 interval "often", 3.39-2.60 interval "sometimes", 2.59-1.79 interval "rarely" and 1.80-1 interval "never".

The criterion given in the table below was used for evaluation of the chemistry questions. The results were presented related to the coding as Table 3.

Table 3. Rubric for evaluating chemistry questions

Response	Explain	Code	Point
Unanswered	Untreated on the item	a	0
False	Explanation in the first or second section can be false	b	0
First section true	The marking in the first section is correct but not explanation is not given in the second section	c	1
Partially true	The marking in the first section is correct but the explanation is partially true	d	2
True	Scientific explanation is given correctly related to the first section	e	3

Examples about chemistry questions coding (Student 16: S₁₆)

Q₂:

S₈₀: I add salt before / ~~after~~ cooking. Because they mix properly. (b, 0 point)

S₁₆: I add salt ~~before~~ / after cooking. Because (c, 1 point)

S₇₈: I add salt ~~before~~ / after cooking. Because, it delays the boiling late (d, 2 point)

S₈₁: I add salt ~~before~~ / after cooking. Because, salt increases the boiling degree (e, 3 point)

Q₁₂:

S₁₀₂: When sugar is added into the tea, cooling shows solubility is exothermic/ ~~endothermic~~. Because ... (b, 0)

S₁₀₃: When sugar is added into the tea, cooling shows solubility is ~~exothermic~~/ endothermic. Because ... I don't know (c, 1)

S₉₅: When sugar is added into the tea, cooling shows solubility is exothermic/ ~~endothermic~~. Because exothermic releases heat (b, 0)

S₉₃: When sugar is added into the tea, cooling shows solubility is ~~exothermic~~/ endothermic. Because, temperature decreases as it receives heat outside (e, 3)

RESULTS

In the first part of the questionnaire, the students were asked information sources in daily life. Table 4 presents of distribution the sources of knowledge students get in their daily life.

Table 4. The sources of knowledge students get in their daily life

	Always		Often		Sometimes		Rarely		Never		Unanswered		\bar{x}
	n	%	n	%	n	%	n	%	n	%	n	%	
School	65	40.5	65	40.6	25	15.6	4	2.5	0	0	1	.6	4.17
Family	63	39.4	57	35.6	30	18.8	7	4.4	1	.6	1	.6	4.08
TV, pc progr.	5	3.1	38	23.8	87	54.4	28	17.5	0	0	2	1.3	3.09
Radio	3	1.9	9	5.6	13	8.1	70	43.8	63	39.4	2	1.3	1.83
Popular newspaper	5	3.1	19	11.9	56	35.0	58	36.3	19	11.9	3	1.9	2.53
Scientific journals	9	5.6	22	13.8	53	33.1	56	35.0	17	10.6	3	1.9	2.63
Museums	3	1.9	18	11.3	40	25.0	67	41.9	29	18.1	3	1.9	2.31
Zoos	2	1.3	13	8.1	40	25.0	50	31.3	53	33.1	2	1.3	2.09

Science centres	5	3.1	19	11.9	33	20.6	53	33.1	47	29.4	3	1.9	2.21
Technology centres	10	6.3	21	13.1	41	25.6	40	25.0	45	28.1	3	1.9	2.39
Internet	90	56.3	51	31.9	11	6.9	4	2.5	3	1.9	1	.6	4.36
Other	11	6.9	17	10.7	5	3.2	8	5.0	1	.6	81	50.6	1.34

The students mostly used internet, academic knowledge and their families to learn. When the mean investigated the internet $\bar{X}=4.36$ is in always interval between 4-5 whereas school $\bar{X}=4.17$ and family $\bar{X}=4.08$ are in often interval. The students sometimes get knowledge from television programmes and some scientific journals whereas they rarely learn something from popular magazines and newspapers, radio, zoos, science and technology centres. The ones who marked the other option could not explain what their source is.

The sources that the students use while problem solving is given Table 5.

Table 5. The sources they used for solving problems

	Always		Often		Sometimes		Rarely		Never		Unanswered		\bar{X}
	n	%	n	%	n	%	n	%	n	%	n	%	
My scientific knowledge	36	22.5	55	34.4	54	33.8	8	5.0	5	3.1	2	1.3	3.64
Past experiences	47	29.4	82	51.3	22	13.8	5	3.1	3	1.9	1	.6	4.01
Tradition, customs	35	21.9	51	31.9	48	30.0	2	13.1	4	2.5	1	.6	3.56
What I see my family	48	30.0	61	38.1	34	21.3	1	8.8	1	.6	2	1.3	3.84
Experts	27	16.9	40	25.0	53	33.1	3	18.8	9	5.6	1	.6	3.27
Managers' ideas	17	10.6	31	19.4	52	32.5	2	15.6	23	14.4	12	7.5	2.74
Others	1	.6	3	1.9	5	3.1	8	5	24	15	43	26.9	.78

The students mostly benefit from their own experiences ($\bar{X}=4.01$) and the experiences of their families ($\bar{X} = 3.84$). Scientific knowledge is at third level ($\bar{X}=3.64$). The students stated that they consider less the ideas of experts and directors to solve the problems.

The answers given by the students to the "Chemistry in Daily Life Questionnaire" were analysed and displayed in Table 6.

Table 6. Descriptive analysis of questionnaire

Question Content	N	a (n-%)	b (n-%)	c (n-%)	d (n-%)	e (n-%)	X	s
Separation of the mixtures	1	24 (15.0)	48 (30.0)	36 (22.5)	47 (29.4)	5 (3.1)	.90	.93
Colligative properties	2	7(4.4)	77(48.1)	36(22.5)	31(19.4)	9(5.6)	.78	.95
	3	20(12.5)	44(27.5)	41(25.6)	48(30.0)	7(4.4)	.98	.94
State change	4	9(5.6)	75(46.9)	50(31.3)	24(15.0)	2(2.3)	.65	.78
Effect of heat on matter	5	26(16.3)	65(40.6)	33(20.6)	31(19.4)	5(3.1)	.68	.89
	8	30(18.8)	21(13.1)	96(60.0)	8(5.0)	5(3.1)	.79	.67
	11	36(22.5)	47(29.4)	67(41.9)	9(5.6)	1(0.6)	.55	.63
	22	19(11.9)	57(35.6)	66(41.3)	15(9.4)	3(1.9)	.66	.73
	25	23(14.4)	54(33.8)	80(50.0)	3(1.9)	0	.54	.54
Acids and acidic properties	6	22(13.8)	78(48.8)	41(25.6)	12(7.5)	7(4.4)	.54	.81
	13	14(8.8)	26(16.3)	108(67.5)	7(4.4)	5(3.1)	.86	.63
	18	18(11.3)	73(45.6)	47(29.4)	14(8.8)	8(5.0)	.62	.85
Gases	9	13(8.1)	62(38.8)	55(34.4)	29(18.1)	1(0.6)	.73	.77
	20	29(18.1)	72(45.0)	56(35.0)	1(0.6)	2(1.3)	.40	.57
	21	17(10.6)	28(17.5)	109(68.1)	5(3.1)	1(0.6)	.76	.53
Greenhouse effect	10	25(15.6)	37(23.1)	87(54.4)	11(6.9)	0	.68	.60
Dissolution, solutions	12	22(13.8)	87(54.4)	39(24.4)	10(6.3)	2(1.3)	.41	.66
	16	9(5.6)	44(27.5)	80(50.0)	18(11.3)	9(5.6)	.89	.81
	24	29(18.1)	33(20.6)	95(59.4)	3(1.9)	0	.63	.52
Atom, mass, conservation of mass	14	35(21.9)	79(49.4)	40(25.0)	5(3.1)	1(0.6)	.33	.57
	15	35(21.9)	66(41.3)	37(23.1)	11(6.9)	11(6.9)	.58	.89
	17	14(8.8)	37(23.1)	63(39.4)	16(10.0)	30(18.8)	1.15	1.07
Metals	7	11(6.9)	40(25.0)	69(43.1)	26(16.3)	14(8.8)	1.01	.91
	19	23(14.4)	45(28.1)	75(46.9)	12(7.5)	5(3.1)	.71	.74
	23	28(17.5)	69(43.1)	61(38.1)	2(1.3)	0	.41	.52

No students gave fully true answer to the questions 10, 23, 24 and 25. These questions are about greenhouse effect, reaction of metals, solubility of gases and condensation. When Table 6 investigated it is seen that students answered most of the questions in wrong way. The students answered the first part of the question about dissolution and solutions, gases, greenhouse effects, effect of heat on matter correctly but they couldn't explain the reasons. The most unanswered and misunderstood questions are about boiling, evaporation, condensation, gases, mass and conservation of mass. 50% of the sample group answered the first part of 13th, 21th and 24th questions but they couldn't make explanations. These questions are about acidic properties, gases and solubility. Such a case was undesired as the students got chemistry education beforehand.

Descriptive analysis was done grading the students' answers. When the item averages investigated the highest ones were seen in 7th and 17th items. In the analyses of the total points, it is found out that maximum point 40.0, mod and median 18.0, average 17.89 standard deviation 6.76. It can be said that the average was low from the questionnaire with 25 items.

The answers are given in frequency - percentage tables related to the departments. Table 7 shows the answers of the science education students.

Table 7. The descriptive analysis of science education students' answers (n-%)

No	Unanswered	Incorrect	First part true	Partially true	True	Mean
1	7 (13.5)	15 (28.8)	16 (30.8)	10 (19.2)	4 (7.7)	.92
2	2 (3.8)	19 (36.5)	17 (32.7)	9 (17.3)	5 (9.6)	.96
3	5 (9.6)	9 (17.3)	21 (40.4)	15 (28.8)	2 (3.8)	1.09
4	3 (5.8)	25 (48.1)	17 (32.7)	6 (11.5)	1 (1.9)	.61
5	4 (7.7)	25 (48.1)	13 (25.0)	10 (19.2)	-	.63
6	2 (3.8)	35 (67.3)	10 (19.2)	5 (9.6)	-	.38
7	1 (1.9)	10 (21.2)	21 (40.4)	11 (21.2)	9 (17.3)	1.34
8	8 (15.4)	8 (15.4)	33 (63.5)	2 (3.8)	1 (1.9)	.77
9	1 (1.9)	16 (25.0)	22 (42.3)	13 (25.0)	-	.92
10	11 (21.2)	5 (9.6)	33 (63.5)	3 (5.8)	-	.75
11	11 (21.2)	15 (28.8)	24 (46.2)	2 (3.8)	-	.54
12	4 (7.7)	32 (61.5)	12 (23.1)	2 (3.8)	2 (3.8)	.42
13	3 (5.8)	9 (17.3)	37 (71.2)	1 (1.9)	2 (3.8)	.86
14	5 (9.6)	32 (61.5)	15 (28.8)	-	-	.29
15	7 (13.5)	22 (42.3)	15 (28.8)	3 (5.8)	5 (9.6)	.69
16	4 (7.7)	16 (30.8)	29 (55.8)	3 (5.8)	-	.67
17	5 (9.6)	20 (38.5)	23 (44.2)	3 (5.8)	1 (1.9)	.61
18	6 (11.5)	24 (46.2)	15 (28.8)	5 (9.6)	2 (3.8)	.60
19	6 (11.5)	15 (28.8)	26 (50.0)	5 (9.6)	-	.70
20	9 (17.3)	28 (53.8)	15 (28.8)	-	-	.29
21	3 (5.8)	7 (13.5)	41 (78.8)	-	1 (1.9)	.85
22	4 (7.7)	19 (36.5)	26 (50.0)	3 (5.8)	-	.62
23	8 (15.4)	18 (34.6)	25 (48.1)	1 (1.9)	-	.52
24	7 (13.5)	11 (21.2)	34 (65.4)	-	-	.65
25	7 (13.5)	13 (25.0)	31 (59.6)	1 (1.9)	-	.63

According to the Table 7, the science education students could not answer total 13 questions correctly; the most wrong answers were given to 4, 5, 6, 12, 14, 15, 18 and 20 questions. True answers given to the first part are 8, 10, 13, 16, 19, 21, 22, 24 and 25th questions. The most partially true answers were given to the 3rd which related with colligative properties; 7th about metals; 9th about gases. The fully true answers were given to 7th about metals; 2nd about colligative properties and 15th about conservation of the mass. 15% of the students could not answer the questions 8, 10, 11, 20 and 23. When mean item observed 3 and 7 items had the highest mean.

Examples of the questions that were answered wrongly by the science prospective teachers are given below (S39 shows 39th student, Q4 shows 4th question).

S39; Q4. The boiling point of the water in pressure cooker becomes low; because, it keeps the vapour in it.

S31; Q6. Water with carbonate is used to clean limestone in teapot; because carbonate is solved limestone.

S 38; Q16: If five teaspoon of sugar is stirred in a glass, the solution conducts electricity; because water with sugar conducts electricity.

S38; Q17: The weight of the person with eighty kg doesn't change on the Moon; because the mass increases but weight stays the same.

The analysis of the elementary school teacher education students' answers are given in Table 8.

Table 8. The descriptive analysis of elementary school department students' answers (n-%)

No	Unanswered	Incorrect	First part true	Partially true	True	Mean
1	9 (11.7)	28 (36.4)	16 (20.8)	24 (3.2)	-	.83
2	3 (3.9)	41 (53.2)	8 (10.4)	21 (27.3)	4 (5.2)	.81
3	5 (6.5)	20 (26.0)	16 (20.8)	31 (40.3)	5 (6.5)	1.21
4	4 (5.2)	36 (46.8)	23 (29.9)	13 (16.9)	1 (1.3)	.67
5	15 (19.5)	37 (48.1)	8 (10.4)	13 (16.9)	4 (5.2)	.60
6	10 (13.0)	39 (50.6)	16 (20.8)	6 (7.8)	6 (7.8)	.60
7	5 (6.5)	18 (23.4)	39 (50.6)	11 (14.3)	4 (5.2)	.95
8	12 (15.6)	8 (10.4)	50 (64.9)	3 (3.9)	4 (5.2)	.88
9	4 (5.2)	32 (41.6)	26 (33.8)	14 (18.2)	1 (1.3)	.74
10	9 (11.7)	19 (24.7)	46 (59.7)	3 (3.9)	-	.67
11	19 (24.7)	27 (35.1)	28 (36.4)	3 (3.9)	-	.44
12	11 (14.3)	43 (55.8)	17 (22.1)	6 (7.8)	-	.37
13	4 (5.2)	6 (7.8)	60 (77.9)	4 (5.2)	3 (3.9)	1.00
14	18 (23.4)	41 (53.2)	16 (20.8)	2 (2.6)	-	.26
15	19 (24.7)	35 (45.5)	13 (16.9)	4 (5.2)	6 (7.8)	.51
16	2 (2.6)	26 (33.8)	41 (53.2)	2 (2.6)	6 (7.8)	.82
17	3 (3.9)	8 (10.4)	31 (40.3)	6 (7.8)	29 (37.7)	1.68
18	5 (6.5)	39 (50.6)	21 (27.3)	7 (9.1)	5 (6.5)	.65
19	11 (14.3)	27 (35.1)	30 (39.0)	5 (6.5)	4 (5.2)	.67
20	13 (16.9)	38 (49.4)	25 (32.5)	1 (1.3)	-	.35
21	6 (7.8)	13 (16.9)	58 (75.3)	-	-	.75
22	3 (3.9)	30 (39.0)	29 (37.7)	12 (15.6)	3 (3.9)	.80
23	7 (9.1)	42 (54.5)	27 (35.1)	1 (1.3)	-	.38
24	9 (11.7)	15 (19.5)	50 (64.9)	3 (3.9)	-	.72
25	9 (11.7)	29 (37.7)	38 (49.4)	1 (1.3)	-	.52

According to the Table 8, the elementary school education department students mostly unanswered the questions 5-11 about change of manner; 14-15 atom and mass; the most wrongly answers were given to 2 about colligative properties; 4-5 about change of manner; 6-18 about acidity; 12 about solubility; 14-15 about atom-mass; 20 about gases and 23 about metals. True answers given to the first part were the questions 7-13 about acidity, 8 about change of manner; 10 about greenhouse effect; 16-24 about solubility and 21 about gases.

Partly correct answers were given to 2,3 about colligative properties and nevertheless no correct answers were given to 9th and 10th questions. The mostly answered question was 17 related to mass concept. The most partially answered was given to the question about heat exchange. 3, 13 and 17 had highest mean.

Examples of the questions that were answered wrongly by the elementary school department prospective teachers are given below.

S49; Q4. The boiling point of the water in pressure cooker rises; because the water is kept closed in it.

S49; Q14. ... when living things die, they fall into pieces in natural environment; because of decomposers.

S49; Q22...the air amount in the bicycle tires increases in winter because it expands S43; Q7.

Pickles cannot be kept in metal containers; because we have to see the inside of the container.

S22, Q16: If five teaspoon of sugar is stirred in a glass, the solution doesn't conduct electricity; because of polarity.

In Table 9, the answers given by chemistry associate degree students were given according to the categories.

Table 9. The descriptive analysis of chemistry first degree students' answers (n-%)

N	Unanswered	Incorrect	First part true	Partially true	True	Mean
1	8 (25.8)	5 (16.1)	4 (12.9)	13 (41.9)	1 (3.2)	1.06
2	2 (6.5)	17 (54.8)	11(35.5)	1 (3.2)	-	.42
3	10 (32.3)	15 (48.4)	4 (12.9)	2 (6.5)	-	.26
4	2 (6.5)	14 (45.2)	10 (32.3)	5 (16.1)	-	.64
5	7 (22.6)	3 (9.7)	12(38.7)	8 (25.8)	1 (3.2)	1.00
6	10 (32.3)	4 (12.9)	15 (48.4)	1 (3.2)	1(3.2)	.64
7	5 (16.1)	12 (38.7)	9 (29.0)	4 (12.9)	1 (3.2)	.64
8	10 (32.3)	5 (16.1)	13 (41.9)	3 (9.7)	-	.61
9	8(25.8)	14 (45.2)	7 (22.6)	2 (6.5)	-	.35
10	5 (6.1)	13 (41.9)	8 (25.8)	5 (16.1)	-	.58
11	6 (19.4)	5 (16.1)	15 (48.4)	4 (12.9)	1 (3.2)	.83
12	7 (22.6)	12 (38.7)	10 (32.3)	2 (6.5)	-	.45
13	7 (22.6)	11 (35.4)	11 (35.5)	12 (6.5)	-	.48
14	12 (38.7)	6 (19.4)	9 (29.0)	3 (9.7)	1 (3.2)	.58
15	9 (29.0)	9 (29.0)	9 (29.0)	4 (12.9)	-	.54
16	3 (9.7)	2 (6.5)	10 (32.3)	13 (41.9)	3 (9.7)	1.45
17	6 (19.4)	9 (29.0)	9 (29.0)	7 (22.6)	-	.74
18	7(22.6)	10 (32.3)	11 (35.5)	2 (6.5)	1 (3.2)	.58
19	6 (19.4)	3 (9.7)	19 (61.3)	2 (6.5)	1 (3.2)	.84
20	7 (22.6)	6 (19.4)	16 (51.6)	-	2 (6.5)	.71
21	8 (25.8)	8 (25.5)	10 (32.3)	5 (16.1)	-	.64
22	12 (38.7)	8 (25.8)	11 (35.5)	-	-	.35
23	13 (41.9)	9 (29.0)	9 (29.0)	-	-	.29
24	13 (41.9)	7 (22.6)	11 (35.5)	-	-	.35
25	7 (22.6)	12 (38.7)	11 (35.5)	1 (3.2)	-	.42

An analysis of the answers of chemistry first degree students is given in Table 8. According to table when compared with the others it is seen that the questions except 2, 4, 7, 10 and 16 were unanswered above 20%. When evaluated questions above 30%; 8-22 about change of matter, 14 about atom and mass; 23 about metals and 24 about solution were the most unanswered. The most wrongly answered questions were 2-3 about colligative properties, 4 about change of matter, 9 about gases, 10 about greenhouse effect, 12 about solubility and 25 about change of matter. Question with the highest percentage in the first section true without a comment were the questions 6 about acidity, 11 about effect of heat/ change of state, 19 about metals and 20 about gases. The Question 1 about separation of mixtures and question 16 about solubility were partially answered correctly while no one gave the correct answer total 15 questions. The question answered most wrongly was related to colligative properties; the most correct answer was the question related to electrical conductivity of solutions. When item means examined, it was seen that question 16 about solubility and question 1 about separation of mixtures were answered the highest. The examples of chemistry first degree students' answers are below.

S18, Q5: Making tea on the Erciyes Mountain takes longer than making tea in Samsun; because the boiling point increases when the altitude rises.

S18, Q2: I add salt first when cooking; because the solution of the salt takes a long time.

S30, Q2: I add salt later when cooking; because I try the taste first.

S7; Q12: When sugar added into tea, it is becoming cold proves that solubility is exothermic; because heat releases.

Finally, these tables show that science department students could not give true answers to the 13 questions out of 25. The same students answered 7th question about metals and 3rd question about colligative properties with the highest mean. Elementary school department students could not give true answers to the 10 questions out of 25; they answered 17th question about mass and 3rd question about colligative properties with the highest mean. Chemistry first cycle students could not give true answers to the 15 questions out of 25. Question 16 about solubility had the highest mean.

Total points of associating students' chemistry knowledge in daily life of all students were calculated and than they were compared regarding to the departments. Results were analyzed with ANOVA and they were given in Table 10.

Table 10.a. Descriptive statistics of total points according to departments

Department	N	Mean	s
Science E.	52	18.00	6.43
Elementary S.E.	77	18.63	6.02
Chemistry first degree	31	15.87	8.59
Total	160	17.26	6.75

Table 10.b. ANOVA Results

	Sum of Squares	df	Mean Square	F	p
Between Groups	169.89	2	84.946		
Within Groups	7083.30	157	45.117	1.883	.156
Total	7253.194	159			

There is no significant difference between the total scores of students regarding to the departments ($F_{2,159}=1.883$; $p>.05$). The mean of elementary school teaching students is higher.

Independent sample t-test was used to investigate the differences associating their knowledge with daily life related to gender. Results are given below in Table 11.

Table 11. t-test results of associating their knowledge in daily life related to gender

Gender	N	Mean	s	t	df	p
Female	123	18.60	6.73	2.455	158	.015*
Male	37	15.54	6.39			

Meaningful differences were found in favor of female students ($t_{158}=2.455$; $p < .05$). This difference may have been caused by the fact that number of female students are larger. However, in the education faculty, which constitutes most of the sample, in general, there is a large number of female students in some departments. This has influenced the structure of the sample.

When the total scores of the students according to the high school types they graduated from were analyzed, the other option which has less than 15 students was grouped and included in the general group. ANOVA was used to find out the differences related to the graduated school type. Results were given in Table 12.

Table 12.a. Descriptive statistics of total points according to high school type

School type	N	Mean	s
General high school	40	18.50	6.82
Anatolian high school	93	18.40	6.75
Vocational high school	27	15.26	6.26
Total	160	17.90	6.75

Table 11.b. ANOVA results

	Sum of Squares	df	Mean Square	F	p
Between Groups	225.73	2	112.86	2.521	.084
Within Groups	7027.46	157	44.76		
Total	7253.19	159			

According to the graduated high school types, students' level of associating chemistry knowledge with daily life did not show a significant difference ($F_{2,157}=2.521$; $p > .05$). It is remarkable that the average of the vocational high school graduates is low.

DISCUSSION AND CONCLUSIONS

In the research, the students expressed that they were mostly using internet, their families and the school as the source of their knowledge. Balkan Kıyıcı (2008) investigated the level of prospective teachers' academic knowledge with their daily life and the factors that affect it. She found out that the prospective teachers got knowledge from internet and school. Acun, Yücel and Demirhan (2018) stated that university students considered experience and authority as the source of their knowledge. Kılıç, Ünal and Ergin (2015) in their research done on the people with different ages, carriers and occupations, stated that these people get their knowledge about science from internet and television instead of scientific journals and schools. Roth (1988),

Reiss and Tunnicliffe (1999) claimed in their researches that students received their knowledge from people outside the classroom such as family and community members. It proves that our research is in accordance with the other researches. Outside school learning sources such as zoo, museum and science centers are the least sources that the students refer to. Lebak (2005), stated that student encountered limited experiences in schools, and they get limited knowledge. It is important to carry the learning outside the school walls and the curriculum should contain activities done outside school (NRC, 1996; MoNE, 2015). The students benefit more from the experiences of their families and their own experiences rather than scientific knowledge to solve problems. They benefit from the directors' ideas the least. Such a result is in accordance with the results of Balkan- Kıyıcı (2008).

In general, the answers given by the students to the test implemented are incompetent in using chemistry knowledge in explaining events in daily life. Similar results have been given for different stages of education in the literature (Ay, 2008; Hürcan & Önder, 2012; Özmen, 2003; Yıldırım & Birinci Konur, 2014). While the students do not respond to condensation, mass conservation and gases, the false rates related to colligative properties, boiling point, acids, dissolution heat and atomic structure are very high. Students are also incompetent in explaining the reasons for events related to these concepts. Question 17 about mass was the one answered truly. It may affect students to understand and answer the question about mass recognized as unchanged of matter amount starting from the elementary school. When examined related to the departments, this question was answered in a true way by elementary school department students, whereas only one student answered it from the science education department and none answered from the chemistry first degree students. Science education department students could not give full answer to 13 question; elementary school education students 10 questions and chemistry first degree students 13 questions. Students answered the first part of the questions in a true way; but they couldn't explain or felt incompetent about them. The questions about greenhouse effect, gas solubility, reaction of metals and condensation subjects weren't answered exactly. The reason why they couldn't explain the questions that they encounter in their daily life result from the lack of knowledge they get from the different sources. Memorized knowledge could not help students use it where and when it is necessary. Condensation is a concept that students have difficulty in understanding at each stage of education (Gopal, Kleinsmidt, Case & Musonge, 2004). Hürcan and Önder (2012), stated that students are incompetent in using their knowledge about change of state and material structure in daily life. Pekdağ, Azizoglu, Topal, Ağalar and Oran (2013), pointed out that the level of associating chemistry knowledge with daily life is at a moderate level in prospective science teachers, Karagölge and Ceyhun (2002) indicated that this level is inadequate in their study with undergraduate students in primary education department. Akgün, Tokur and Duruk (2016) investigated to what extent secondary school students associate "Water Chemistry and Water Treatment" with the events they encounter daily. They stated that the level of the students about the concepts of water chemistry is so low that they found that the students could not fully associate concepts with their daily lives. Yıldırım and Birinci Konur (2014) found that university students had inadequate understanding of gasses, acid-bases, change of state and chemical reactions, and low association with daily life.

Greenhouse effect, acidity, dissolution also have partially high correct answer percentages. Çelikler and Aksan (2014) stated that pre-service teachers have insufficient knowledge and have misconceptions about greenhouse effect. It was pointed out in various studies that the students are inadequate about the definition, causes and effects of the greenhouse effect (Andersson & Wallin, 2000; Boyes & Stanisstreet, 1997; Koulaidis & Christidou, 1999). Kaya (2016) determined that most of the students could not associate the relationship between the facts about their daily life and the knowledge they get from the school related to the large intestine, friction, heat and temperature in 'a certain misconception' the category. Mozeika and Bilbokaite (2011) stated that there are few

(38% sample) who use chemistry knowledge correctly in explaining daily events in a similar study conducted on Lithuanian students. Koray, Akyaz and Köksal (2007), stated that students have many misconceptions about solubility and dissolution in everyday situations. Özmen (2003) stated that prospective teachers' knowledge of chemistry related to acid and base concepts is insufficient to explain events in everyday life. Similarly, there are study results in chemistry and at different levels of learning that indicate that there is a low level of association of knowledge with daily life by the students (Ay, 2008; Gürses et al, 2004; Ayas & Coştu, 2001). Chemistry teaching process should be designed in a way to build up the knowledge with their daily life and it helps students make the knowledge meaningful (Gilbert, 2006).

Explanations of students' understanding and interpretation of knowledge about everyday events can lead to the creation of misconceptions. To teach chemistry, it is necessary to ensure that students see the sources of their misconceptions and their consequences. Herron (1996) examines misconceptions in two categories; knowledge of what is happening in the physical world, i.e. acquired from observations, which are contrary to experimental data. Other misconceptions are related to the explanations of students in the natural world. *"The students conception works it explains what happens in the natural world. However, the explanation differs from the one accepted in science. Students' alternative explanations are logical from their perspective, consistent with their understanding of the world and are resistant to change."* was expressed by Herron (1996, p.187).

In the study, there was not found significant difference in the total scores according to departments, but the average of elementary school department students and the number of correct answers were higher than others. That of chemistry first degree students is lower. In the elementary school department, there were two hours for chemistry and 2+2 science laboratory courses in the curriculum in the term the research was done. In the science department, in the first year there are 4+4 hours chemistry and 2 hours chemistry laboratory courses; there are 4+4 different chemistry courses in the second year. In the chemistry first degree department, there are 4+2 hours chemistry course, 2+2 chemistry lab course in the first year and 22+20 hours chemistry courses in the second year. When consider the hours in the departments it is expected that the chemistry first degree students' knowledge is more than the others. Nevertheless, it was seen that the mean of the elementary school department students who receive less chemistry course is higher (18.63). Such a case reminds us that there are different factors that they associate their chemistry knowledge skills with the events they encounter in their daily life. This may be due to the students' acceptance scores for the university. It can influence students' readiness and information processing functions. There may also be a reason that course content is too theoretical. It can be considered that in the classroom teaching program, prospective science teachers associate with daily life in order to provide more concreteness with the target group to be educated. In the study conducted by Balkan Kızıyıcı (2008), it was determined that candidate science teachers cannot associate their knowledge with daily life because of the reasons such as the place of the faculty, the language of education, the attitudes of the lecturers, the excessive theoretical content of course and the application, and they have partial literacy in science.

In this study, it was found that the total scores of female students were significantly different from male students. The mean of females is higher than the males. This case can depend on the skills of females that they interpret the daily life better and have higher academic success. In the study of Balkan-Kızıyıcı (2008), there was no significant according to gender of students' knowledge of chemistry associated to daily life. Anagün, Ağır and Kaynaş (2010) stated that there is no significant difference between the genders in associating science knowledge with everyday life. Kenar, Şekerci, Erdem, Geçgel and Demir (2015) stated that in the attitudes of high school students towards the chemistry in daily life, it was found that there was a significant difference in favour of female students. In the study by Bacanak (2002), male teacher candidates were more successful in

the field of Science Literacy than female students. Moreover, the literature on science education shows that male students prefer science subjects more than female (Grambo, 2004). There is no meaningful differences between explaining and using the chemistry knowledge with daily life related to high school they graduated. When means investigated vocational high school students got lower grades. It was caused from that vocational subjects are stressed more, and these schools are preferred by the students with lower academic success.

For a person to learn a concept or thought, he or she should apply it in academic and everyday life (Smith & Siegel, 2004). If scientific concepts are used in every life events and problems, the concepts may be deepened and transferred to the students. Cajas (1999) noted that teachers do not know how to combine school-taught science with out-of-school experiences. It is important that the teachers explain the contents of the courses by exploiting the out-of-school learning environments and associating the concepts with the examples. This association can be achieved with different teaching materials. Jarman and McClune (2001), in the studies with examples from newspapers, Mayoh and Knutton (1997), in the studies with examples from the press, television, and newspapers, in which they associate the science courses, pointed out that the participation of students has increased.

As a result of the research, it was found that university students are incompetent in getting information from out-of-school learning environments and rather resort to their experiences when solving problems. The students should be ensured to used academic knowledge while solving problem. In addition, they have been unable to learn the details of chemistry in depth. The levels of association of chemistry knowledge with everyday life are similar and inadequate even if they attend different departments. Even if high grades are received in courses, this information cannot be applied in daily events. The aim in chemistry teaching should indicate more than the meaning of concept but what chemistry learning means. Students should be able to use their chemistry knowledge to solve real problems in everyday life. For chemistry learning to be meaningful, it should be planned in such a way as to ensure that the teaching process establishes links with the lives of the students. The methods and techniques different from the traditional method should be applied to increase students' awareness of this issue. Content in curricula should be organized by considering the principles of up-to-date and vitality. It is suggested to conduct similar studies with different samples and measurement tools, and to investigate the reasons why science concepts cannot be associated with daily life.

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MONOLINGUAL TURKISH-SPEAKING CHILDREN'S COMPREHENSION OF RELATIVE CLAUSES

Eda KAHYALAR, PhD

Çukurova University, School of Foreign Languages Adana, Turkey

ekahyalar@gmail.com

ABSTRACT

Comprehension and production of relative clauses in L1 Turkish has been the topic of many studies. The aim of the current descriptive study is to investigate whether five and six-year old monolingual Turkish-speaking children comprehend subject relative clauses or object relative clauses more easily. The study also aims to find out if there is a significant difference between the ages of five and six in terms of children's comprehension of subject relative clauses and object relative clauses. The results indicate that children in both groups show higher accuracy in the comprehension of subject relative clauses than object relative clauses in a picture-selection task and that there is a significant development in terms of comprehension of subject relative clauses in L1 Turkish between the ages of five and six.

Key Words: L1 Turkish, subject relative clauses, object relative clauses.

1. INTRODUCTION

Although cross-linguistic study of child language development indicates that languages do not differ greatly in terms of ease of acquisition, for any particular type of language, some systems of the grammar are easier to acquire than others. In comparative psycholinguistics, a similar statement could be made: Languages do not differ greatly in terms of ease of processing, but for any particular type of language, some systems of the grammar are easier to process. These two generalizations have implications for language change: In the course of development, those parts of a language which are more stable over time should be acquired relatively early and should be relatively easy to process. Conversely, the parts of the grammar most susceptible to change should be those parts which are acquired late and relatively difficult to process (Slobin, 1986). According to Izumi (2003), language learners must *process* language forms so as to comprehend and produce them. To do so, they need to overcome various processing difficulties caused by the grammar.

Slobin (1986) compared the acquisition of Turkic and Indo-European languages. Because the only Turkic language for which there were data on acquisition was Turkish (Aksu-Koç & Slobin, 1985), the acquisition of Turkish was compared to the acquisition of all of the major languages of Europe. He concluded that the entire system of agglutinative morphology on nominals has been mastered before the age of 2 by Turkish children. However, the means for subordination and complementation are not easily acquired at all, and 5-year-olds are still sorting out the various participial and nominalized forms for clause and sentence embedding. Slobin explains the early acquisition of case markers in Turkish with the fact that there is no irregularity, and there are no confluents of meaning typical of Indo-European morphemes which combine, for instance, case number, and gender in a single surface form.

However, in clausal embedding, the situation is reversed. If we look at the relative clauses (henceforth RCs), for example, they are clearly separated surface clauses in Indo-European languages whereas in Turkish, they are condensed into deverbal particles of various sorts. Slobin (1986) gives the following examples to explain this difference. In the first example, 'man' serves as subject in the RC (SR), and is marked by a special nominal particle,

-En: gel -en adam

come SR man

'the man who came'

It can be seen that whereas English retains a finite verb (*came*) and a subject pronoun (*who*), Turkish has a non-finite verb and with a nominal particle. Slobin states that this contrast appears in non-subject relatives (NSR), which are marked by a different nominal particle in Turkish, *-dlk*. In such constructions, the subject of the embedded clause appears in the genitive, as the possessor of the nominalized verb:

Ali -nin gör -düğ -ü adam
Ali GEN see NSR POSS:3SG man
'the man whom/that Ali saw'

In the example above, English has a finite verb (*saw*) and a relative pronoun. An object relativizer is not only form of the NSR, because depending on the meaning of the verb, oblique cases can be indicated as well. For example:

Ali -nin otur -duğ -u ev
Ali GEN dwell NSR POSS:3SG house
'the house in which Ali lives'

As can be seen in the examples, Turkish adhere to one-to-one mappings in inflectional morphology but not in clausal embedding, whereas Indo-European languages present the opposite pattern. As a consequence, the full means for expressing case relations are mastered by age 2 in Turkish, which are never mastered in an Indo-European language by this age. On the other hand, acquisition of such particles as subordinating conjunctions, relative pronouns, and the like, which are used to embed clauses within larger constructions is relatively easier for Indo-European speaking children.

2. TURKISH CHILDREN'S ACQUISITION OF RELATIVE CLAUSES

Slobin (1986) compared Turkish children's acquisition of RCs with their European counterparts and he gave evidence from a previous study (Slobin, 1982) in which he recorded and tested children between 2 and 4,5 years of age. He also went through all of the transcripts of a matched group of 57 Turkish and 57 American child speech samples and extracted all of the RCs spoken by the children and by the adult experimenters who interacted with the children. Each sample represented about 45 minutes of interaction in comparable settings. His findings show a striking difference in the utterances of RCs in Turkish and English. Cagri (2005) displays Slobin's findings as can be seen in Table 1.

Table 1. Comparison in Number of Utterances of RCs Between Turkish and English Speakers

	Turkish Speakers	English Speakers
Child utterance of RCs	None before 2;4	None before 2;4
RCs uttered by children (2;4-5) in total 40 hours	42	96
RCs uttered between adults in 2.5 hours	49	118
RCs uttered by adults when speaking to children	22	40

Table 1 shows that there are no utterances of RCs before age 2;4 in either Turkish or English. There are 96 relative clauses in the English texts while there are only 42 in Turkish between the ages of 2;4 and 5. In contrast, in about two and half hours of conversation between adults, there are 49 RCs in Turkish and 118 RCs in English. It can be seen that both in child speech and in adult conversation, English-speakers use RCs more than twice as frequently as Turkish-speakers. This can also be seen in adult speech to children, where there are 40 RCs in English compared to 22 in Turkish. It is clear that these two languages differ in their use of RCs.

If we look at Table 2 and Table 3 below, which show the breakdown of utterances by age, utterance type (subject or non-subject relativisation) and by language group in Slobin's study, we can see that the distribution of RC types of the English-speaking children is close to that of the adults. However, although Turkish adults seem to prefer the subject relative, 68% to 32% directed to children, and 63% to 37% adult to adult, the 4-year-olds are using subject relatives 90% of the time and 3-year-olds even more, 94% (Cagri, 2005).

Table 2. RC Utterances by Turkish Speakers

	Child speech				Adult Speech	
	2-yr.	3-yr.	4-yr.	All children	Adult→ child	Adult→ adult
Subj. Rel.	4 67%	15 94%	19 90%	37 88%	15 68%	31 63%
NSR	2 33%	1 6%	2 10%	5 12%	7 32%	18 37%
TOTAL	6	16	20	42	22	49

Table 3. RC Utterances by English Speakers

	Child speech				Adult Speech	
	2-yr.	3-yr.	4-yr.	All children	Adult→ child	Adult→ adult
Subj. Rel.	5 45%	15 39%	22 47%	42 44%	23 57.5%	49 42%
NSR	6 55%	23 61%	25 53%	54 56%	17 42.5%	69 58%
TOTAL	11	38	47	96	40	118

Slobin (1986) concludes that Turkish children acquire RCs after the age of at least 5. Cagri (2005) also conducted a study of a Turkish child who was 3;3 years old. Using truth-value judgment tasks, he devised scenarios where the child was to identify the agent or theme theta roles of participants in an event. Although his subject had excellent language skills, and a full mastery of Turkish case and inflections, her competency in Turkish RCs was quite poor. The results of the truth-value judgments were 50% accuracy in determining agent and patient theta roles in the various RCs presented. He concluded from this study that this 3-year-old child had not yet acquired relativization.

Özcan (1997) studied the comprehension of RCs in the acquisition of Turkish with 30 monolingual Turkish-speaking children whose ages ranged between 3 and 7. There were four different clause types in the study and 5 sentences from each clause type. The clause types which were included in the data collection were RC as the subject of the sentence and the subject of the RC is relativized (henceforth SS), RC as the subject of the sentence and the object of the RC is relativized (henceforth SO), RC as the object of the sentence and subject of the RC is relativized (henceforth OS), and RC as the object of the sentence and object of the RC is relativized (henceforth OO). The subjects were presented with one group of pictures related to one of the clause type at a time. The experimenter uttered a sentence and the child was asked to point to the picture of the relevant picture. Then, she compared the results in terms of overall comprehension and in terms of the four types of relative clauses. In this study, it was concluded that although there is an increase in the correct responses with the increasing age, the RCs are not fully-comprehended at the age of 7. Özcan found out that Turkish-speaking children are aware of the existence of RCs and can distinguish referents further identified starting from the age of 3. This awareness was the highest when the NP which has a relative and the NP which is relativized are both subjects of their clauses.

Another study conducted by Ekmekçi (1990) tested performance of relativization by Turkish children at the imitation and production levels. Ekmekçi tested a total of 100 children ranging from the ages of 3 to 6. As a first task, the children were asked to repeat 15 statements consisting of five sentences containing an adjectival phrase, five sentences with subject-participle relativization (which she called Rel 1) and five with object-participle relativization (which she called Rel 2). In the second task, she attempted to elicit adjectival and RC constructions from the children. The analysis of the responses indicate that subjects perform much better at imitation level than they do at performance level. At production level, adjectival phrases have proven to be the easiest and the object participle relativization (Rel 1) to be the most difficult type to perform.

Özcan (2000) also studied the production of RCs in the acquisition of Turkish with 42 monolingual Turkish-speaking children whose ages ranged between 5 and 9. In all age groups, she found that the clause type with the highest percentage is SS clause type, in which both the subject of the sentence and the subject of the RC are relativized. This clause type was followed by the OS and SO clause types. The clause type with the lowest percentage was OO clauses except in the 7-year-old group. 7-year-olds used OO RCs 2% more than the SO type. The results of this study show that the acquisition order of Turkish RCs is SS>OS>SO>OO.

Özge, Marinis & Zeyrek (2010), found similar results and concluded that Turkish children show higher accuracy in the comprehension of subject relative clauses than object relative clauses.

Based on the results of the studies mentioned above, this study is motivated by the following research questions:

1. Do five-year-old monolingual Turkish-speaking children (mean age: 4;8) comprehend subject relative clauses (henceforth SRCs) or object relative clauses (henceforth ORCs) more easily?
2. Do six-year-old monolingual Turkish-speaking children (mean age: 5;9) comprehend SRCs or ORCs more easily?
3. Is there a significant difference between five-year-olds and six-year-olds in terms of their comprehension of SRCs and ORCs?

3. THE STUDY

3.1. Participants and Instrumentation

The participants consisted of 40 monolingual Turkish-speaking children whose ages ranged between 4;6 and 5;11. These children were divided into two groups according to their ages. Each group was composed of 20 children. The mean age of the first group was 4;8 and they were regarded as the five-year-olds. The mean age of the second group was 5;9 and they were regarded as the six-year-olds. In the first group, there were 11 girls and 9 boys and in the second group, the number of girls and boys was equal. The researcher tried to include an equal number of girls and boys in each group to eliminate the effect of gender. The participants were children in a day-care centre and they were all from middle socio-economic class.

In order to collect data, the researcher used a 20-page leaflet, which contained a total of 20 pictures and 20 questions comprising SRCs and ORCs (See Appendix for sample pictures and questions). As another set of material, the researcher used 10 pictures where the pictures of the person, animal or object in the questions appeared but no action took place. The purpose of using the second set of material was to make sure the subjects knew vocabulary items before they were asked to show the person, animal or object described in the RCs. The pictures and descriptions were adapted from Ozcelik (2006).

3.2. Design and Procedure

Data were collected in the day-care centre. During data collection, the participants were taken to a silent room one by one in order to avoid distractors. Before starting the picture-selection task with each participant, the researcher used the pictures where no action took place and checked whether each child knew the vocabulary items in the picture. It was seen that all the vocabulary items were familiar to the children and their answers would only show their comprehension of RCs.

In the picture-selection task, the children were shown two pictures on the same page and asked to show the person, animal or object described by the researcher. Two questions were asked about the same pair of pictures, one comprising an SRC and one comprising an ORC. A new page of pictures was used for each question so that the children could not predict that the answer to a question was the picture other than the one they had just shown as the answer to the previous question. Moreover, the ordering of pictures on one page was varied.

The researcher asked 20 questions to each child and marked their responses on a sheet of paper as 'correct' or 'incorrect'. If there was no response, the question was repeated for the second time.

3.3. Data Analysis and Results

The responses of each child was grouped as 'correct' or 'incorrect' and the results were first described in terms of the frequency (f) and percentage (%) of correct and incorrect responses for each group. All children responded

to all questions by pointing to a picture, so there is not a ‘no response’ category. The frequency and percentage of correct and incorrect responses of five-year-olds are shown in Table 4.

Table 4. Frequency and Percentage of Responses of Five-year-olds

SUBJECT RCs						OBJECT RCs					
Correct Response		Incorrect Response		Total		Correct Response		Incorrect Response		Total	
F	%	f	%	f	%	f	%	f	%	f	%
156	78	44	22	200	100	147	73.5	53	26.5	200	100

As can be seen in Table 4, comprehension of SRCs was easier than comprehension of ORCs for five-year-olds since the percentage of the correct responses is 78 for SRCs, whereas it is 73.5 for ORCs. We also calculated the mean values and standard deviation values for correct responses to find out whether there is homogeneity in the group. Table 5 below demonstrates the means and standard deviation values of five-year-olds’ comprehension of SRCs and ORCs.

Table 5. The Means and sd Values of Five-year-olds’ Comprehension of SRCs and ORCs

Type of Relative Clause	Number of Questions	\bar{x}	sd
SRC	10	7,80	1,58
ORC	10	7,40	1,63

According to the results in Table 4 and Table 5, we can conclude that five-year-old monolingual Turkish children can comprehend SRCs more easily than ORCs. The sd values in Table 5 prove that there is more homogeneity in this group in the comprehension of SRCs than the comprehension of ORCs. However, we should note that, in this group, there was a boy who could fully comprehend all the RCs and pointed at the correct picture. It may be due to some differences in the frequency of input he was exposed to.

When we look at the comprehension of SRCs and ORCs in the second group, which consists of six-year-of children, we can see an increase in the number of correct responses when compared to the first group. Table 6 displays the frequency and percentages of correct and incorrect responses for the second group.

Table 6. Frequency and Percentage of Responses of Six-year-olds

SUBJECT RCs						OBJECT RCs					
Correct Response		Incorrect Response		Total		Correct Response		Incorrect Response		Total	
f	%	F	%	f	%	f	%	f	%	f	%
180	90	20	10	200	100	171	85.5	29	14.5	200	100

It is apparent from Table 6 that like the children in the first group, six-year-olds comprehended SRCs more easily than ORCs. They responded 90% of the questions comprising SRCs and 85.5% of the questions comprising ORCs correctly. It is evident that there is an increase in the correct responses with the increasing age. Moreover, 9 children in this group responded to all questions correctly. Nevertheless, for the remaining 11 children, we can say that RCs are not fully-comprehended at this age.

In Table 7 below, the means and standard deviation values of six-year-olds’ comprehension of SRCs and ORCs are presented.

Table 7. The Means and sd Values of Six-year-olds' Comprehension of SRCs and ORCs

Type of Relative Clause	Number of Questions	\bar{x}	Sd
SRC	10	9,00	1,08
ORC	10	8,60	2,16

As can be clearly seen in Table 7, consistent with the first group, comprehension of SRCs is easier than comprehension of ORCs for the six-year-olds and the sd values show that this group is less homogeneous in the comprehension of ORCs.

To compare the two groups in terms of their comprehension of SRCs, t-test was computed in order to find out if the difference between them is statistically significant. Table 8 shows the t-test result for the comprehension of SRCs.

Table 8. T-Test Result for the Comprehension of SRCs

Age Group	Number of Questions	\bar{x}	sd	df	t	p
5	10	7,80	1,58	38	-2,812	.008
6	10	9,00	1,08			

The results of the t-test proved that the difference between the five-year-olds and six-year-olds' comprehension of SRCs is statistically significant ($t_{38} = -2,812$ p.008). The mean values show that six-year-olds can comprehend SRCs more easily than five-year-olds and the standard deviation being low indicates a homogeneity in both groups. We can conclude that between the ages of five and six, there is a significant development in terms of comprehension of SRCs.

Similarly, to compare the children's comprehension of ORCs in two groups, t-test was computed and Table 9 provides the t-test result for the comprehension of ORCs.

Table 9. T-Test Result for The Comprehension of ORCs

Age Group	Number of Questions	\bar{x}	sd	df	t	p
5	10	7,40	1,63	38	-1,98	.055
6	10	8,60	2,16			

As the mean values in Table 9 indicate, the children in the second group can comprehend ORCs more easily than the children in the first group, but this difference is not statistically significant. Moreover, by looking at the sd value, it can be said that the second group shows less homogeneity in the comprehension of ORCs when compared to their comprehension of SRCs, which might imply that individual differences play a more important role in the comprehension of ORCs. Since there is no statistically significant difference between the two groups, it is possible to conclude that no significant change or development takes place in terms of comprehension of ORCs between the ages of five and six.

4. DISCUSSION AND CONCLUSION

The results of this study, conducted with 40 monolingual Turkish-speaking children between the ages of 4;6 and 5;11, indicate that children show higher accuracy in the comprehension of SRCs compared to ORCs and that accuracy in comprehension of SRCs and ORCs increase with age. These findings are in line with most of the research in the acquisition of relative clauses in Turkish (Slobin,1986; Özcan, 1997; Özcan, 2000; Özge, Martini & Zeyrek, 2010). These results might be due to the relativizing particles that appear in SRCs and ORCs. SRCs

involve a subject relativizing particle –EN, which appears only in SRCs, whereas ORCs involve the object relativizing particle –DIK which appears also in other structures. Previous research has shown that structures involving one-to-one mappings of form-function are acquired earlier than structures involving one-to-many mappings between form-function (Özge, Marinis & Zeyrek, 2009). The results might also be due to differences in processing case markers. Since accusative case marker is used in SRCs, and genitive case marker is used in ORCs in Turkish, our results are in line with the results of the studies which report that accusative case morphology is acquired much earlier than genitive case (Aksu-Koç and Slobin, 1985).

Another finding of this study was that there was a significant development in terms of comprehension of SRCs, but not in ORCs, between the ages of five and six. Thus, it seems plausible to conclude that in L1 Turkish, acquisition of ORCs takes longer as compared to the acquisition of SRCs, and a significant development in terms of comprehension of ORCs takes place after the age of six.

The results of the current study also indicated that some children at the age of 5;11 still have problems in comprehending RCs, especially the ones in object position. We saw in Slobin (1986) that Turkish adults seem to use RCs less than half as much as English-speaking adults. Therefore, Turkish children receive less input and this may be a factor of the delay in the acquisition of RCs. The corpus analysis conducted by Bulut, Yazar & Wu (2019) also highlights frequency as a possible factor contributing to the processing difficulty associated with ORCs. However, the effect of input was not found to be an important factor in the acquisition order of RCs in Turkish in the study by Altınkamaş, Altan & Sofu (2013). In order to find out whether the nature of child-directed speech might explain the acquisition order of RCs in Turkish, they analysed the frequency and the types of RCs in mothers' speech directed to their children. They used video recordings of nine children ranging from the ages of 01:04 to 03:06, and observed that the mothers used ORCs more frequently than SRCs in Turkish child-directed speech. They concluded that Turkish child-directed speech does not account for the acquisition order of RCs. Thus, further research is required to understand better the reasons behind the delay in the acquisition of RCs in Turkish.

A final finding regards the impact of individual differences on the comprehension of RCs in Turkish. As mentioned earlier, although the standard deviation values indicated homogeneity in both groups, some children could not fully comprehend all the RCs in the picture-selection task and pointed at the correct pictures. Further research could also address the impact of individual factors in the acquisition of RCs in Turkish.

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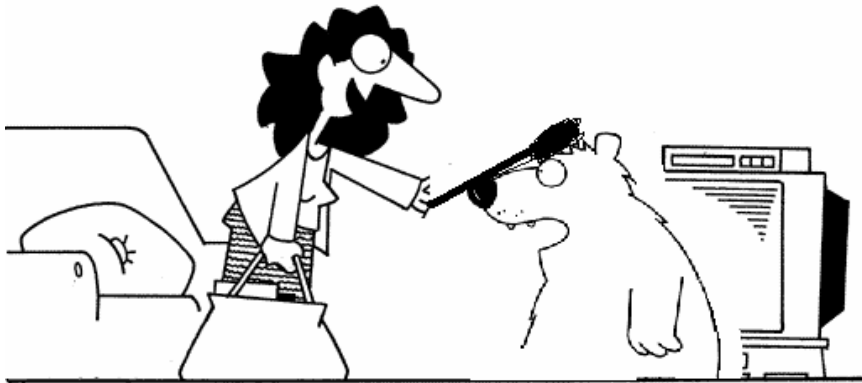
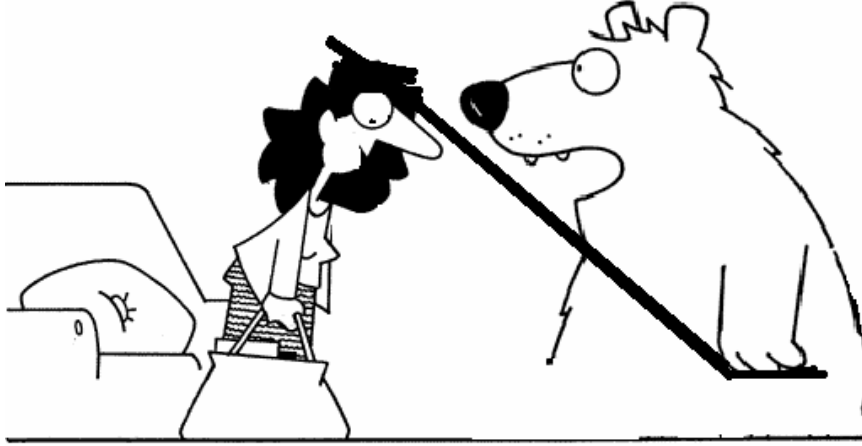
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APPENDIX (Sample Pictures and Questions from the Picture-Selection Task)

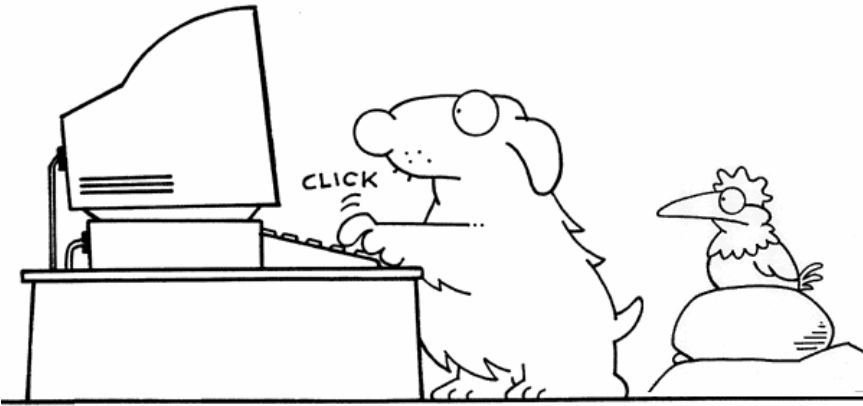
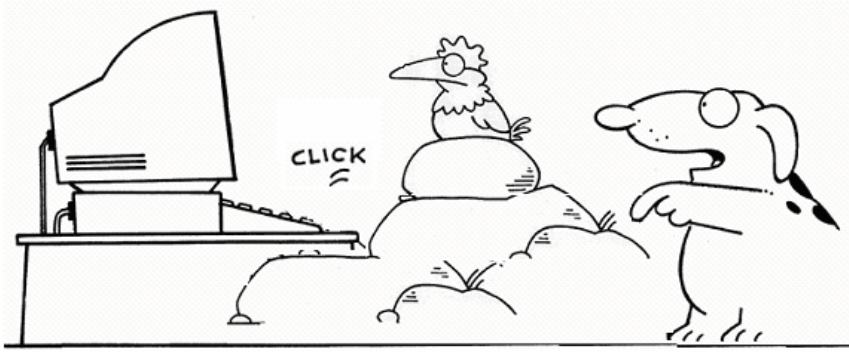
Ayıyı döven kadın hangisi?

Ayının dövdüğü kadın hangisi?



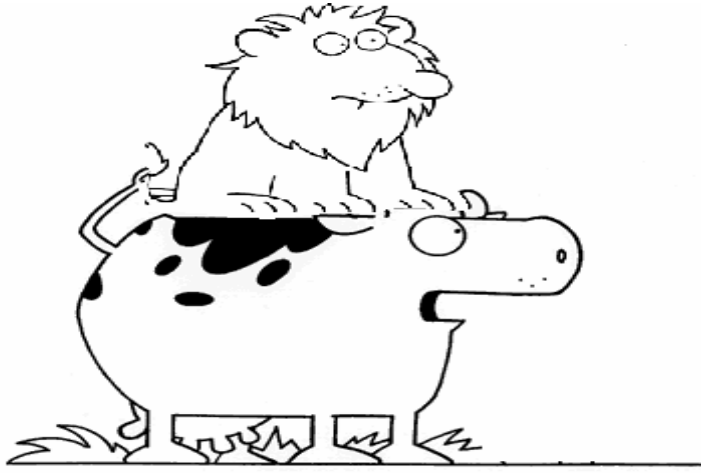
Köpeği seyreden kuş hangisi?

Köpeğin seyrettiği kuş hangisi?



Aslanı taşıyan inek hangisi?

Aslanın taşıdığı inek hangisi?



REVIEW OF PREVAILING TRENDS, BARRIERS AND FUTURE PERSPECTIVES OF LEARNING MANAGEMENT SYSTEMS (LMSS) IN HIGHER INSTITUTIONS

Mahammad Sharifov (PhD.)

Process Automation Engineering Department, Baku Higher Oil School, Baku, Azerbaijan.

mahammad.sharifov@bhos.edu.az

Abdulsalam S. Mustafa

College of Graduate Studies, UNITEN, Selangor, Malaysia.

salamsm@yahoo.com (correspondence address)

ABSTRACT

Online learning is growing in popularity as education continues to revolutionise with existing and evolving technologies. Institutions and organisations alike are utilising online learning to respond to the demands of learners for a more convenient and adaptable Technology Enhanced Learning (TEL) system to sustain a progressive pedagogy. This is shown during the novel coronavirus (Covid-19) epidemic that has impacted educational institutions worldwide. Also, an online portal provides a platform for students to effectively study various courses with self-assurance; supported by various institutions to ensure the accuracy of information available. This review aims to provide an informed overview of e-learning platforms and review different features of Learning Management Systems (LMS), while exploring its implications, general issues and challenges. Additionally, the study approaches the e-learning pedagogical perspective in Azerbaijan. Furthermore, the review adopted the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist for the standard reporting.

Keywords: Learning Management System, internet-based learning, higher education, open source and proprietary e-learning, virtual classroom.

INTRODUCTION

The use of technology in the field of education has rapidly expanded, revolutionised learning approaches and improved the quality of learning. Information and Communication Technology (ICT) has facilitated an increase in the rate of user adoption of e-learning, improved access to quality education and communication between learners and educators (Al-Fraihat et al., 2017; Holmes & Prieto-Rodriguez, 2018). Many scholars have defined e-learning in various ways in extant literature (Rosenberg 2001; Longmire et al., 2002; Riahi, 2015; Rodrigues et al., 2019). Although, this study adopts the definition of Riahi (2015) who defined e-learning as an internet-based learning method that increases efficiency in education. Notably, ICT has altered the learning process. As a result, students are afforded the opportunity of transitioning from the traditional classroom-based system to an ICT-based virtual environment by utilizing existing and novel internet technologies for effective learning. Similarly, educational platforms provide support to learning institutions to effectively develop and administer online classes while evaluating and monitoring student performances. The novel coronavirus (Covid-19) pandemic has compelled universities to re-evaluate their course delivery methods. Many universities have adopted a blended learning approach which combines conventional face-to-face teaching methods and online classes.

Online learning is at times considered similar to distance education that is applied in several institutions. Distance education involves the use of programmes or software applications to facilitate a learning process and communication between learners and instructors in various locations (Keegan, 1986). This can be remotely done in many ways. Online learning is employed in open universities to enable off-campus students to interact with educators and other learners via an asynchronous approach. Namely, an asynchronous learning approach is implemented through online channels without the need for real-time interaction whereas synchronous learning occurs in real time (Kasim & Khalid, 2016). Moreover, four major types of e-learning system are categorized into: Learning Management System (LMS), Learning Content Management System (LCMS), Learning Design System (LDS), and Learning Support System (LSS) (Adams et al., 2005). According to Pange & Pange (2011), e-learning system are based on the underlining principles of four learning theories: Active Learning, Behaviourism, Cognitivism and Constructivism. Particularly, institutions and managers require online learning strategies that consider their specific institutional or organizational requirements. In addition, the functionality of online learning systems prior to its adoption by institutions ought to be considered. Therefore, this review document will examine more carefully, Learning Management System (LMS), its significance, issues and challenges.

The rest of this paper is organised as follows: Section 2 examines LMS and various types of LMS commonly used. Section 3 examines the benefits and limitations of online learning. Section 4 discusses open source and commercial LMSs. Section 5 reviews e-learning in Azerbaijan. Section 6 concludes the article and provides

potential future research directions for online learning in Azerbaijan.

METHOD

The review was carried out in three (3) phases. First, we identified the inclusion and exclusion criteria. Next, we selected data from the sources using search strategies. Last, we then summarised the results. Additionally, the review applied the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist to report this review uniformly (Moher et al., 2009). Specifically, a total of 101 records were identified through database search while 15 additional records were from other sources. The databases include Google Scholar, Science Direct, CiteSeer, DOAJ and Web of Science. After, 53 records were screened with 30 studies identified and maintained for the review. Finally, the review included a total of 30 articles that were published from April 2005 to September 2019. The PRISMA model adopted for this study is shown in Figure 1.

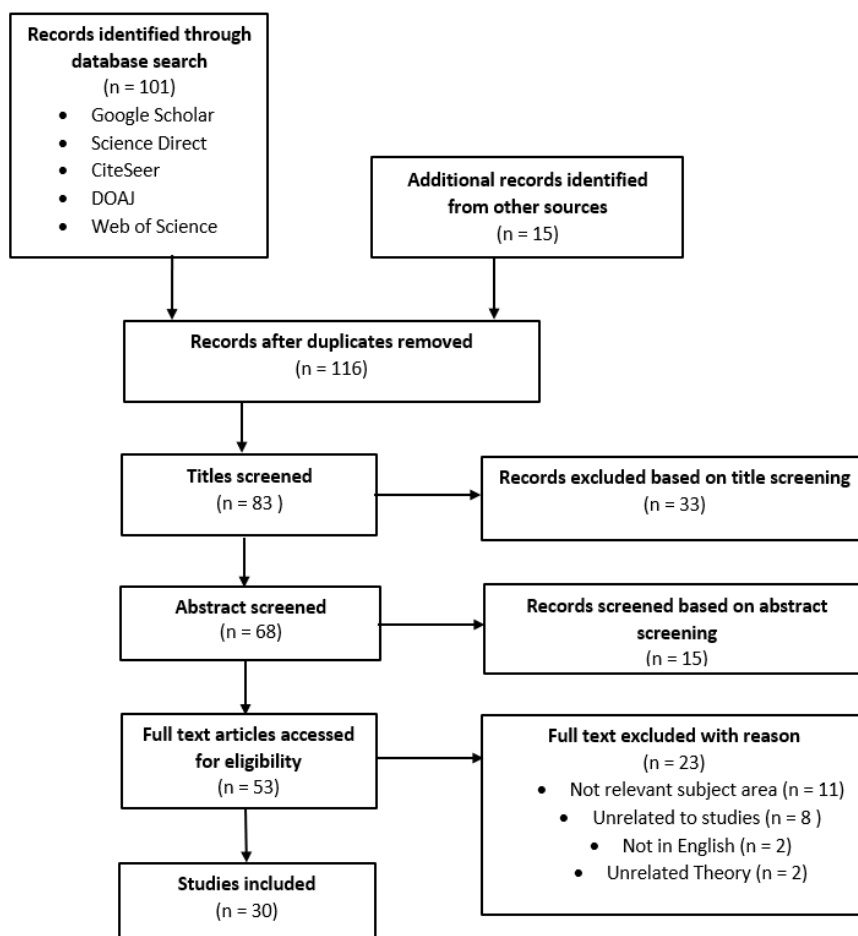


Figure 1: PRISMA flowchart employed for selection criteria (Moher et al., 2009; Barteit et al., 2020)

LEARNING MANAGEMENT SYSTEMS (LMS)

Learning Management System (LMS) is a wider concept used to characterize a variety of systems that provides online educational services to learners, educators, and administrators (Aldiab et al., 2019). The system manages and administers online learning content and resources on a diverse range of topics to learners. Moreover, LMS has gained widespread acceptance by several institutions across the world to support teaching and learning. According to Technavio (2020), organisations are considering upgrading their existing LMS with state-of-the-art systems to address the demands and challenges because of the Covid-19 pandemic. The LMS market share is projected to grow by 12.48 billion USD from 2020 to 2024 (Technavio, 2020). The literature shows that LMS is an invaluable web-based technology developed to deliver, track, report, assess and manage online training (Aldiab et al., 2019; Cavus & Alhih, 2014). Over the past years, the educator enabler has evolved and presently offers diverse forms of learning such as classroom learning; online training programs and hybrid forms like blended pedagogy and flipped classrooms.

The various LMSs draw on theories in psychology, sociology, philosophy and cognitive science (Mohammed et al., 2018). Essentially, early educational systems were based on the Behaviourist Learning Theory (Pange & Pange, 2011). According to Behaviourist Learning Theory behaviour is determined by the environment through either association or reinforcement (Pange & Pange, 2011). Incidentally, two theories employed in e-learning include Social Learning Theory (Bandura, 1977; Pinho et al., 2019), Cognitive Learning Theory (Prestine & LeGrand, 1991) in addition to other theories. Besides, these theories have enabled LMS to be enhanced and transformed into a robust classroom application to manage curriculum, provide rich-content courseware, assess and evaluate learners and collaboration due to major innovations (Mershad & Pilar, 2018). Next, several institutions have implemented different modes of LMS such as Virtual Learning Environment (VLE) or Course Management System (CMS) that exclusively grants access to users with valid login credentials (Adharuddin, 2013). Particularly, *gated* portals provide learners with online or blended learning approaches (Adams et al., 2005). The blended learning approach combines traditional face-to-face learning with an online course delivery method. Furthermore, LMS supports robust learning by enabling the storage and retrieval of training resources in structured formats.

Typical features of LMS and Common LMS Systems

LMS is regarded as a highly beneficial content distribution system that helps educators to share course content and interact with students regardless of their geographical location (Mershad & Pilar, 2018). The concept of LMS is an essential communication and interaction tool that is valuable to students and educators in an online learning environment. Thus, the system is viewed as a next-level internet-based technological system for organising, distributing and handling several educational activities in a group (Mershad & Pilar, 2018). This is achieved through virtual classrooms and instructor-led classes that assess special educational needs. Additionally, LMS is envisaged to provide continued support to educators in delivering online training resources with interactive features such as online forums, thread discussions and file sharing. Equally, it provides support to various administrative task including delivery and tracking, planning examination, live virtual classes, digital collaboration and statistical analyses (Radwan et al., 2014; Chang et al., 2017).

The majority of LMS are tailored to organization needs (bespoke), yet, they may all provide similar basic features (Adharuddin, 2013). The basic features include creating and managing existing courses, user registration, developing self-marking quizzes and tests, automated grading and scoring, students' marks allocation system, reports generation and student data records (Radwan et al., 2014). Prior to the inception of LMS, internal email systems were typically used as the primary form of communication between educators and learners in various institutions. However, the LMS integrated messaging system is rapidly replacing the existing internal emailing systems. Moreover, LMS have become more viable technologically, operationally and economically (Palvia et al., 2018). In Europe, Moodle is commonly used (65%) by institutions, while Blackboard is used by 89% of public universities in the Kingdom of Saudi Arabia (Aldiab et al., 2019; Kuran et al., 2017). Table 1 shows the most frequently adopted LMSs.

Table 1: Commonly used LMSs (October, 2019)

Learning Management System (LMS)	Number of Users (Approx.)
Moodle LMS	78,000,000
Edmodo LMS	72,000,000
Quizlet	50,000,000
Google Classroom	40,000,000
Absorb LMS	9,613,198
Instructure Canvas LMS	30,000,000
Schoology LMS	20,000,000
Blackboard Learn LMS	4,000,000

As can be seen in Table 1, Moodle has about 78 million active users followed by Edmodo 72 million, Quizlet 50 million, Google Classroom 40 million, Absorb LMS about 9.6 million, Instructure Canvas 30 million, Schoology 20 million and Blackboard Learn 4 million users.

BENEFITS AND LIMITATIONS OF ONLINE LEARNING SYSTEMS

Benefits of Online Learning Systems

In the digital era where social, educational, economic and political activities continue to depend on ICT, many institutions have started to leverage ICT to enhance teaching and learning experiences. ICT usage in education has presented greater learning experiences and perceived benefits. Some beneficial impacts of e-learning are:

- E-learning facilitates internet-based learning to promote independent and dynamic learning.
- An LMS enables several resources to be linked in different formats.
- It helps to effectively deliver course content online and offers fewer restrictions on course completion time due to its availability and adaptability to specific learning styles.
- Online learning is viewed as a more efficient and cost-effective learning approach.
- Course resources are readily available and accessible to facilitate dynamic learning for non-traditional students in full time employment.
- E-learning integrates online based discussion boards and messaging services for learners and educators to interact with each other on various subjects and topics.
- Online learning audio and video recordings can be shared and reused by both learners and educators to reinforce learning.

Limitations of Online Learning Systems

As technology is changing the educational experience, online learning offers interesting prospects to both educators and learners. Despite this, online learning is faced with a number of challenges, for instance, student's resistance to migrate from traditional classrooms to virtual online-based classrooms. Noteworthy, many institutions are still lacking efficient ICT infrastructure and effective internet access to facilitate online learning. Furthermore, other challenges of online learning are discussed in the subsequent sub-sections.

Motivation: The majority of learners with low motivation may not achieve their student learning goals as their progression is not monitored physically. The flexibility of the course delivery method may lead to learners with low levels of motivation to become lazy and exhibit indolent behaviour. Moreover, the absence of a fixed schedule and deadlines may lead to less motivated students and subsequently, high rates of online course dropouts.

Cost: To enhance and maintain security of online learning platforms, organisations may be required to purchase additional capital intensive specialised software and hardware. This additional cost may discourage some organisations from adopting online learning platforms.

Feedback and Assessment: Computer marked assessments are generally knowledge-based as compared to practical-based, and this may be insufficient to judge the depth of a student's knowledge. Occasionally, face-to-face study materials are more effective than online learning which does not always offer two-way communication. Thus, the lack of personal feedback may deter users of the system and in turn affect its usage and adherence.

Authentication: It is easier to authenticate assessments in traditional physical classrooms as compared to online-based classrooms that involve some level of digital literacy. This may affect the reliability of the assessments in online-based classrooms.

Compatibility: In some countries, issues of compatibility and restrictions is an impediment to the adoption and utilization of e-learning system which may impact acceptance by its citizens.

LMS STANDARDS

Presently, there are several LMSs available to institutions and organization for online courseware management and delivery. LMS operates on three common platforms: open source, commercial and cloud-based or Software as a Service (SaaS) platforms (Adharuddin, 2013), however, the focus here is on open source and commercial software.

Open Source LMS

Open source LMS platforms are developed under a GNU General Public License (GPL) and operate without a licensing fee that allow users to download the source code (Radwan et al., 2014). Additionally, open source platforms permit users to modify the program source code based on individual requirements and specifications. In that way, users are allowed to fully utilise and adapt the software to their specific requirements. Likewise, institutions can seamlessly switch or upgrade their services in the future. A limitation with this platform is that the installation process is time-consuming. Furthermore, the platform requires hosting services, and regular updates and maintenance for continued effectiveness. Open source platforms include Moodle, Sakai, ATutor, Claroline, MyGuru2, and MyLMS (Dobre, 2015; Cavus & Zabadi, 2014; Kaya, 2012). Bayramova & Aliyev (2019), noted that MOODLE is among the most extensively used LMSs in tertiary education institutions; employed as a teaching and learning tool.

Moodle, Sakai, ATutor, and Blackboard supports synchronous and asynchronous interactions (Kasim & Khalid, 2016). Moreover, Moodle and Sakai offer private area for writing of drafts, journaling, and management of private data (Mershad & Pilar, 2018; Cavus & Zabadi, 2014). Furthermore, both platforms allow users to view

other course participants that are online. Especially, users of Moodle, Sakai, ATutor and SuccessFactors can exchange private messages (Mershad & Pilar, 2018; Cavus & Zabadi, 2014).

Generally, all platforms share common usability features such as user-friendly, ease of use, accessibility and flexibility (concurrently), while two platforms: Sakai and SumTotal provide support for integration with other systems. Beyond that, only ATutor enables collaboration between educators and learners. In addition, it provides distributed file storage to share and store course content in various formats (Cavus & Zabadi, 2014). Then, Moodle is a commonly used open source e-learning platform that focuses on course content delivery for personalised learning environments (Kaya, 2012). As well, SuccessFactors enables system administrators' control over system user level access and privileges. Finally, SumTotal provides context learning, aptitude assessments, and diverse tools to improve workforce performance management.

Commercial LMS

These systems are known as commercial or proprietary and require license under exclusivity of the legal protection that belongs to the owner of the copyright (Dobre, 2015). In contrast with open source platforms, they are restricted from user distribution and customisation. Commercial platforms include Blackboard, SuccessFactors, SumTotal, Litmos, Angle Learning, Geo Learning, Cornerstone and Connect Edu Moodle (Dobre, 2015; Cavus & Zabadi, 2014). Table 2 shows comparisons of open source and commercial LMSs.

Subsequently, commercial LMS require an annual subscription license inclusive of maintenance fee to guarantee regular service updates (Dobre, 2015). Moreover, commercial LMS require developed infrastructure equipped with labs, networks and computers among others. Furthermore, servers and computer systems are required for installation. Incidentally, one of the main barriers to institutional adoption and usage of specific commercial platforms is that administrators are not permitted to constantly modify the system to better fit the user's requirements. Thus, this may have an effect on the adoption and usage of commercial LMS by educators, learners and organisations. However, institutions expect to continuously adapt system features based on institutional needs and user experience for effective delivery of training that is in tandem with learners targeted goals.

Table 2. Comparison of Open Source and Commercial LMS (Alsabawy et al., 2016; Ulker & Yilmaz, 2016; eLearning Chef, 2014)

Open Source LMS	Commercial LMS
The majority are free to use and distribute without any license fee.	Requires a license for its usage and distribution.
Requires advanced technical skills for installation and support.	Technical support is offered within the paid service agreement.
Data protection is the user's responsibility.	System Security guaranteed by the supplier.
Their security vulnerabilities can be detected quickly while updates for the system are distributed among the user community.	System security and updates are provided by the vendors.
Open source platforms are flexible and scalable and can be easily adapted and integrated with other systems.	System integration dependent on supplier.
Freely accessible software	Proprietary software

E-LEARNING IN AZERBAIJAN

In regard to e-learning in Azerbaijan, the Ministry of Education of Azerbaijan implemented two national programmes on e-learning in separate phases. The first, *Provision of ICT for Education* ran from 2005 to 2007 and subsequently, *Informatization of the Educational System* from 2008 to 2012 (Chang et al., 2017). Notably, the National eLearning Network supports the advancement and usage of e-Learning at higher institutions and education training centers nationwide. Alsabawy et al. (2016), maintained that e-learning represents a considerable investment in infrastructure for higher institutions. Indeed, there exists a considerable body of literature on studies on education in Azerbaijan, however, literature related to e-learning remains limited (Muradkhanli, 2011; Muradkhanli & Atabeyli, 2012; Chang et al., 2017; Ng & Tan, 2018; Bayramova & Aliyev, 2019). According to Muradkhanli & Atabeyli (2012), eResources have been successfully integrated into classrooms while eLearning centers were established in numerous higher institutions in Azerbaijan to support learners. Three higher institutions, Khazar University, Azerbaijan Tourism University and the defunct Qafqaz University launched e-learning initiatives and centers (Chang et al., 2017; Muradkhanli & Atabeyli, 2012;

Muradkhanli, 2011). To this end, they constituted e-learning teams and developed institutional frameworks to implement e-learning pilot projects (Muradkhanli & Atabeyli, 2012).

The successes of these projects facilitated the establishment of Azerbaijan eLearning Network to promote the growth and development of e-learning at educational and training institutions in Azerbaijan (Ng & Tan, 2018; Chang et al., 2017; Muradkhanli & Atabeyli, 2012). Numerous universities in Azerbaijan such as Khazar University have adopted a blended learning approach to facilitate a more effective pedagogy (Muradkhanli & Atabeyli, 2012). Other higher learning institutions that have also adopted e-learning include Azerbaijan State Pedagogical University, Azerbaijan University of Languages, Baku Slavic University, Ganja State University, Nakhchivan State University and Sumgayit State University (Bayramova & Aliyev, 2019). A recent study by Kireev et al. (2019) on two universities in Kazakhstan and Russia observed that the use of blended learning for studying various bachelor's degree technical courses had a positive impact on students' results.

A case study on the use of online education in various Azerbaijani higher institutions reveal that despite a number of positive indicators, e-learning adoption has not received due consideration in the Azerbaijan educational sector (Aliyeva & Rzayeva, 2019). This is because the mechanisms for the implementation of e-learning in institutions of higher education have not been fully developed. Additionally, their study identified the need to theoretical knowledge about the organization and management of technology (Aliyeva & Rzayeva, 2019). While Chang et al. (2017), performed a study on students' behavioural intention to use e-learning in Azerbaijan and suggested that e-learning system developers ought to make the system more user-friendly and practical. In turn, a more user-friendly and practical system will increase the usefulness of the system, its adoption and usage. Furthermore, it is essential to increase awareness on online education and create more favourable attitudes towards e-learning technology adoption and diffusion (Chang et al., 2017). By contrast, it has been found that there is a significant relationship between the degree to which technology assists students in performing their task, facilitating conditions and user intention to adopt LMS (Sharif et al., 2019).

In conclusion, Chang et al. (2017), suggested that government initiatives have an enormous role to play in increasing awareness on the perceived benefits of e-learning in higher institutions for both learners and educators. Accordingly, improving internet penetration will further increase student awareness of novel and disruptive technologies while increasing acceptance and usage of e-learning in Azerbaijan higher educational institutions.

CONCLUSIONS

In recent years, the adoption of e-learning systems has become more prevalent, however, there is still a lack of awareness and understanding about the multitudinous features of LMS and its positive impact on professional and personal career development. Online learning systems have experienced continuous improvement as compared to previous systems and are envisaged to continue evolving going forward (Palvia et al., 2018; Ozkan & Koseler, 2009; Curran, 2011). E-Learning is a major technological and pedagogical advancement that enhances knowledge through a variety of easily accessible and adaptable learning resources. There has been an increase in the number of people currently utilizing distance education from non-profit e-learning institutions or e-learning organisations for self-development. This study presents a review of e-learning management systems and platforms including LMS. Next, the study discusses the various criteria for consideration in the adoption and usage of LMS. Furthermore, it presents literature on e-learning adoption and usage in Azerbaijan.

The concept of open source vs commercial systems has provoked debates among IT professionals and system managers in online discussion platforms and blogs. Likewise, in considering commercial or open-source LMS platforms based on design and support features, it is vital to consider incorporating new innovative and existing technologies such as wearable devices, Internet of Things (IoT), Machine Learning (Machine to Machine Communication) and Cloud Services.

The study also highlights some barriers affecting the effective implementation and acceptance of e-learning in tertiary institutions in Azerbaijan. In addition, the study explores opportunities for the adoption and continued growth of online education systems in Azerbaijan. In particular, the high rate of student-teacher ratio in Azerbaijan presents a huge potential for an effective e-learning implementation (Aliyeva & Rzayeva, 2019). This has become crucial throughout the covid19 pandemic. Therefore, future research is needed to investigate the impact of the existing e-learning system on effective learning in various higher institutions in Azerbaijan during the Covid-19 pandemic from the users' perspective. Notably, learning theories such as the Active Learning Theory (Pardjono, 2016; Dewey, 1933), provide a framework for such research to be undertaken. Furthermore, it is essential for Azerbaijani Institutions planning to adopt LMS to evaluate their project scope and objectives to

determine the most suitable system for adoption.

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SOCIAL PROGRAM POLICY OF BANK INDONESIA AND WELFARE OF SOCIETY

Desty Prabandari
Ahmad Dardiri Hasyim
Hafid Zakariya

Law Faculty of Batik Islamic University (UNIBA) Surakarta-Indonesia

E-mail : destyprabandari@yahoo.co.id & hafidzakariya@gmail.com

ABSTRACT

Bank Indonesia Social Program (PSBI) is a form of social concern that Bank Indonesia has implemented in the community to help solve the economic problems faced by the community so that they can provide value for countries and institutions. Bank Indonesia's social assistance is packaged in the form of PSBI activities managed by the Public Relations Bureau and in the representative office conducted by the Communication Unit and policy coordination. The purpose of this research is to know the implementation of PSBI's representative office of Solo area in the effort to improve people's welfare in Surakarta. Based on the results of research and discussion that has been done, it is concluded that the PSBI KPw Bank Indonesia Solo Program is a manifestation of Good Corporate Governance. PSBI is based on the realization that central bank policies focused on economic stability efforts are not yet well understood by the public. Supporting the effectiveness of Bank Indonesia's duties in monetary stability and financial system. Bank Indonesia requires interaction communication with stakeholders that are well managed through PSBI.

Keywords: PSBI, Bank Indonesia, Community Welfare

A. Introduction

1. Background Problems

The country of Indonesia is a law country, meaning that everyone in Indonesia is assured of protection of the law and welfare of the community. According to Setiono, legal protection is an action or attempt to protect the public from arbitrary conduct by the ruler who does not comply with the rules of law, to realize order and tranquility so as to allow man to Enjoy his dignity as a human.¹ Pursuant to article 27 paragraph (2) of the Constitution of the Republic of Indonesia 1945, said that "every citizen is entitled to employment and livelihood that is worthy of humanity".

The company's participation in the environment that is created in the form of corporate social responsibility or Bank Indonesia itself is named after the social Program of Bank Indonesia (PSBI)². Nowadays, social responsibility in many industries is no longer only used as marketing gimmick (unusual promotion to be quickly known), but has become the need of the company concerned to be closer to the community and the environment Surrounding.

Legislation that has set about corporate social responsibility to its environment:

1. Government regulation number 32 year 1998 on construction and development of small business.
2. Law number 20 year 2008 on micro, small, and medium enterprises.
3. Law No. 13 year 2011 on poor Facir handling.
4. Regulation of the Minister of Social Republic of Indonesia No. 13 year 2012 on Forum responsibility of business in the implementation of social welfare.

Chapter 74 of law number 40 year 2007 concerning limited Liability company (UUPT), institutions also carry out the development process is known as the concept of Corporate Social Responsibility (CSR). The definition of CSR itself is an organization that exists in a company that has responsibility to stakeholders for its interests³. The institutions are required not only to consider the financial benefit only, but also to pay attention to the social aspects and environmental aspects. So in the annual report CSR is not only based on the single bottom line which is the value of the company but also based on the triple bottom lines including the finance, social, and the environment or that we often call the concept of development Sustainable (sustainable).

Corporate Social Responsibility (CSR) is a business that must be done by the company as a form of corporate responsibility to empower and improve its social environment.⁴ So the commitment of the company to

¹ Setiono, *Rule of Law(Supremasi Hukum)*, (Surakarta: Magister Ilmu Hukum Program Pascasarjana Universitas Sebelas Maret, 2004), hal. 14.

² <https://www.bi.go.id/id/tentang-bi/bi-dan-publik/bi-peduli/program/Contents/Default.aspx>

³ Aminu Ahmadu Hamidu, at all, Corporate Social Responsibility: A Review on Definitions, Core Characteristics and Theoretical Perspectives, Mediterranean Journal of Social Sciences. Vol.4 No.6 Juli 2015

⁴ Deasy Wulandari. *Peranan Corporate Social Responsibility Sebagai Upaya Pemberdayaan Masyarakat Untuk Mengurangi Kemiskinan*. 2012. Artikel dalam "Jurnal Ekonomi Manajemen". No.2. Vol.XI, hal.1.

contribute in economic development by building a cooperation between stakeholders facilitated by the company by arranging various community development programs surrounding it by emphasize Economic, social, and environmental aspects so that the communities and stakeholders associated with the Corporate Social Responsibility fore refer to the concept of sustainable development. One of the institutions in Indonesia that also carried out the CSR concept is Bank Indonesia.

Corporate social responsibility in Indonesia, referring to the Constitution of the Republic of Indonesia year 1945 the fourth paragraph of the Constitution of the Republic of Indonesia year 1945, stating the purpose of the Republic of Indonesia is " Protecting all Indonesians and all the Indonesian blood and to promote the general welfare, educate the life of the nation, and follow the world order.

Building the economy of Indonesia can not be removed from the role of government, institutions in the financial sector and business actors. The government as a maker and regulator policy is expected to provide a conducive climate for the business world, so that financial institutions both banking and non-banking and business actors in the field are able to utilize policies and implement Its business activities smoothly, which in the end can encourage economic development acceleration.

One of the business actors who have an important existence but sometimes considered "forgotten" in the policy, the country is micro, small and medium enterprises (UMKM). Though if we know further and deeper, the role of UMKM is not merely a supporter of national economic contributions. Micro, small and medium enterprises (UMKM) have an important and strategic role in the Indonesian economy. There are at least three indicators that indicate it. First, the number of industries is large and in every sector of the economy. According to data from the Department of Cooperatives and SMES, the number of SMES in 2007 reached 49.82 million units, increased to 51.26 million units in 2008 or increased by 2.88%.

By category, the greatest portion is the Micro enterprise segment that reaches approximately 99% of the total number of UMKM. Such large numbers demonstrate that UMKM have a major role in supporting the national economy. Therefore, the development of UMKM should have a great attention. Secondly, UMKM have great potential in absorbing labor. Each investment unit in the UMKM sector is apparently able to create employment opportunities when compared with the same investment in large businesses, according to the data of the Department of Cooperatives and UKM, the number of workers in UMKM in 2007 reached 88.73 million power Work, increased to 90.89 million in labor in 2008 from a total workforce that worked or increased by 2.43%. Thirdly, UMKM contribute significantly to the national income, in 2008 UMKM even accounted for 55.56% of total gross domestic product (PDB) in Indonesia.

General welfare is the responsibility of the State. The realization of such a goal requires the effort of all the people to achieve it. It does not mean that the country bestows its obligations or responsibilities to the community or the company, but the role of the company is also important in the economic development of the country. Such potential can be utilized to accelerate the realization of state objectives.

Article 33 of the Constitution of the unitary State of the Republic of Indonesia year 1945, is the basis of Indonesia's economic system. Pursuant to the provisions of article 33 paragraph (1) of the Constitution of the Republic of Indonesia year 1945 states, "The national economy is held based on the principle of economic democracy with togetherness, equitable efficiency, Environmental, self-reliance, and maintaining a balance of national economic progress and unity. "

The problems related to the implementation of the Bank Indonesia social Program in Surakarta is that many people who do not know the social Program of Bank Indonesia (PSBI) in Bank Indonesia. These findings are known based on the internal knowledge of BI, where many people can not explain the social Program of Bank Indonesia (PSBI). However, when asked for the response to the social Program of Bank Indonesia (PSBI), most of the public agreed with the social Program of Bank Indonesia (PSBI) held by Bank Indonesia. Based on the above, researchers are interested to raise this theme for further study by title, "SOCIAL PROGRAM POLICY of BANK INDONESIA (PSBI) AND WELFARE of SOCIETY".

The formula that we will discuss is how to analyze the implementation of social Program policy of Bank Indonesia (PSBI) in Bank Indonesia Solo?

2. Method

a. Research Location

The research location is conducted in Bank Indonesia's representative office Solo. The author takes this location because the company holds a social program called PSBI which differs from other banks. So many programs that have not been known by the community.

b. Types and Approaches to Research

The research method used is a type of empirical research. Methods have the meaning of working to understand the objects that are subject to the knowledge concerned. Empirical research is research conducted by looking at the reality of the field practice. This approach is also known as sociological approaches that are carried out directly to the field. In this research, researchers develop knowledge based on the reality that is in

Bank Indonesia, representative office Solo so that researchers can describe and review the implementation of social responsibility.

B. Discussion

Bank Indonesia is the central bank that aims to achieve and maintain the stability of the rupiah and to implement the monetary policy in a sustainable, consistent and transparent manner⁵. This purpose is contained in article 7 of UU No. 3 year 2004 concerning Bank Indonesia. In achieving its objectives as a central bank, Bank Indonesia carries out good corporate governance principles. As a manifestation of the implementation of Good Corporate Governance (GCG), Bank Indonesia conducts CSR which is named social Program of Bank Indonesia (PSBI) and includes social responsibility to the environment and society.

The PSBI policy is governed by the BI Board of Governors Regulation No. 14/14/PDG/2012 concerning PSBI. The policy is a policy carried out beyond the duties and responsibilities of Bank Indonesia. This Program is based on the realization that central bank policies focused on economic stability efforts are often not well understood by the community. Then consider that to support the effectiveness of the implementation of Bank Indonesia's duties in the field of monetary stability and the required financial system of communication and interaction with well-managed stakeholders.⁶

The implementation of PSBI pursuant to circular letter No. 14/44/Intern Year 2012 can be in the form of partnership or giving/distribution of aid in the form of goods or funds.⁷

The policy is governed by BI Board of Governor No. 14/14/PDG/2012. Now apply the new rules that are regulation of the Council of BI Governor No. 21/17/PADGintern/2019.

Bank Indonesia Management report (2014), this Program is based on the realization that central bank policies focused on economic stability efforts are often not well understood by the public. Then consider that to support the effectiveness of the implementation of Bank Indonesia's duties in the field of monetary stability and the necessary financial system of communication and interaction with well-managed stakeholders.

Article 7 of Law No. 3 of 2004 concerning objectives of Bank Indonesia:

- a. The objective of Bank Indonesia is to achieve and maintain stability of rupiah value
- b. In order to achieve the objectives referred to in paragraph (1), Bank Indonesia conducts the monetary policy in a continuation, consistent, transparent, and should consider the general policy of the order in the economic field.⁸

The social policy Program of Bank Indonesia (PSBI) at Bank Indonesia Solo as a provision of technical assistance by the Office of Bank Indonesia Solo, an increase in economic capacity, increased HUMAN capacity, and caring Social. According to Utari Indriani as the Staff of the assistant manager of coordination function and policy communication (FK3) in Bank Indonesia Solo explained that there are 3 things that make social policy at Bank Indonesia Solo.

Bank Indonesia social Program is a form of social concern or empathy of Bank Indonesia to contribute in helping to solve the socio-economic problems facing the community. Through its social program, Bank Indonesia also seeks to raise public awareness and understanding of the performance of tasks and achievements of the objectives of Bank Indonesia.

The implementation of PSBI is part of PR activities. The Public relations Bureau has a duty and responsibility to realize the social Program of Bank Indonesia (PSBI). At the representative office level, PSBI is implemented by the communication Unit and Coordination Policy (UK3). According to Utari Indriani as Staff of the assistant manager of coordination function and communication policy (FK3) Bank Indonesia Solo As the result of interviews on Friday, 8 November 2019 at 09.00 WIB.

"How is the implementation of social Program of Bank Indonesia (PSBI) in Solo to handle the empowerment and welfare of the community in the Regional Representative area of Solo? Every year, we have different themes. Kalo in this year 2019 our theme is "Strengthening the role of PSBI through programs that contribute to the national economy".⁹

⁵ Safari Kasiyanto, central bank transparency in indonesia: a law and economic perspective, Indonesia Law Review (2017) 2: 178 - 207

⁶ UU Nomor. 3 tahun 2004

⁷ Surat Edaran No.14/44/intern tahun 2012

⁸ Pasal 7 Undang-Undang Nomor 3 Tahun 2004

⁹ (Wawancara 1 dengan Utari Indriani Selaku Staff Bank Indonesia Solo) Jumat tanggal 8 November 2019 Jam 09.00 WIB

TEMA DAN RUANG LINGKUP PSBI 2019

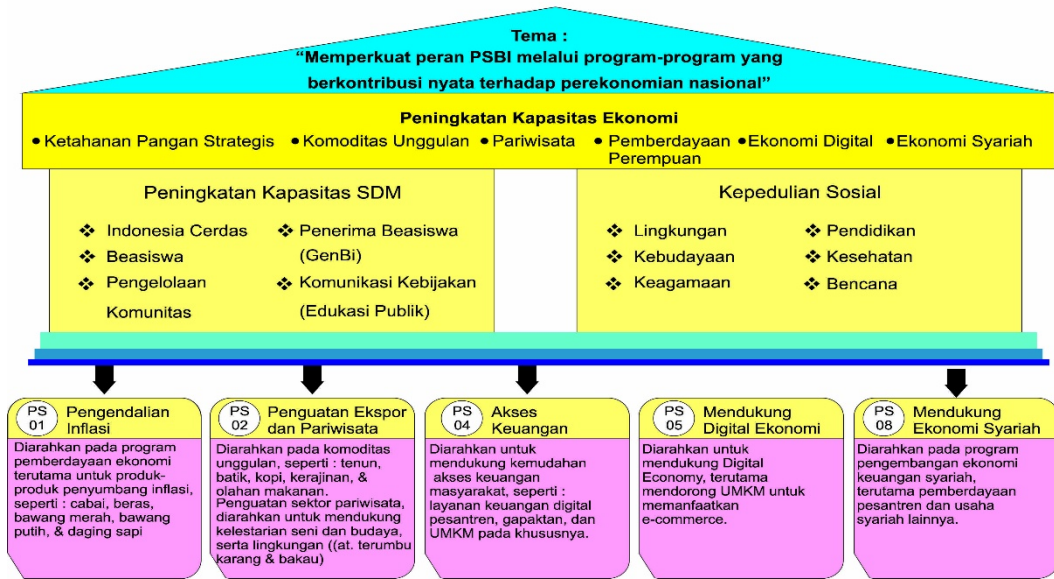


Figure B. 1. Images of PSBI theme and scope 2019

The explanation of the picture above is explained that Bank Indonesia has 3 demands, namely¹⁰:

1. Increased economic capacity
2. Increased HR capacity
3. Social concern

The explanation on the three programs explained by Utari Indriani as Staff of assistant manager that social Bank Indonesia (PSBI) is a form of social concern or empathy of Bank Indonesia. As the interview results on Friday, 8 November 2019 at 09.00 WIB.¹¹

a. Economic Capacity Improvement

Consisting of 6 kinds in increasing economic capacity:

- 1) Strategic food security
- 2) Featured Commodities
- 3) Tourism
- 4) Women Empowerment
- 5) Digital Economy
- 6) Sharia Economics

(1) Strategic Food Security

Bank Indonesia Solo has clusters of shallots, garlic, especially strategic food security that is a community that influences against inflation. In Solo Raya area there are shallots, garlic, chicken meat, chicken egg, and chilli. But currently, Bank Indonesia is still focusing on shallots, garlic, and chili. While the chicken eggs and chicken meat for this year the classic has already passed out, because the cluster has a facenya. The first three years were really in development. This year the Bank Indonesia Solo is really built namely shallots, garlic, and chili.

(2) Featured Commodities

The excellent commodity is something in every area superior or famous. For example in the most excellent Boyolali area it is his cattle. Continue to reply in Surakarta as we build batik too, but it is from the side of the cluster.

(3) Tourism

The tourism sector is still a part of its division into regional economic growth. The priority of PSBI 2019 program has two development sectors:

- (a) UMKM development programs and creative industries that support tourism program, among others support in the development of tourism village.

¹⁰ Ruang Lingkup PSBI 2019, Bank Indonesia Perwakilan Solo

¹¹ (Wawancara 2 dengan Utari Indriani Selaku Staff Bank Indonesia Solo) Jumat tanggal 8 November 2019 Jam 09.00 WIB

- (b) Environmental improvements that support the tourism sector, such as the cultivation of coral reefs and mangroves.

Bank Indonesia Solo has not been giving for the tourism sector this year. In fact, Bank Indonesia Solo had been in the Sangiran, but the new vasilator was not from PSBI itself.

- (4) Women Empowerment

- (5) Digital economy

The digital economy can improve the play of money. Even the faster the economic growth is getting higher. The priority of PSBI 2019 program has four economic digital development, namely through:

- (a) Digital Preneur Program
- (b) UMKM Start up
- (c) Encouraging UMKM to utilize e-commerce
- (d) Digital financial services of Pesantren

This year that will Bank Indonesia Solo is in the area of Umbul Ponggok. So, Bank Indonesai will give E-gate to its part.

- (6) Sharia economics

The Priporitas of the PSBI 2019 program has five sharia economic developments, through:

- (a) Drinking water treatment and garbage in Pesantren
- (b) Cultivation of horticultural pesantren
- (c) Biogas processing Pesantren
- (d) processing of coconut flour
- (e) All-round business School

- b. Increased HR capacity

Consists of 4 types of human resources improvement:

- 1) Smart Indonesia
- 2) Scholarship
- 3) Community Management
- 4) Policy communication (public education)

- (1) Indonesia Smart

Bank Indonesia has BI Corner and PDB.

BI Corner is a kind of library. Bank Indonesia provide facilities such as books, a set of computers, desks, sofas, and all sorts, as well as a collection of books around 100 books. The location of BI Corner which Bank Indonesia Solo just give in Unisri, UNS, UMS, and PerpusDa.

PDB is almost similar to libraries but for children (Paud). Bank Indonesia gives the book a number of 350 books, tables, the walls we also give wallpapers, as well as props like dolls that they can use it all and certainly comfortable.

Bank Indonesia aims to establish BI Corner and PDB so that people know Bank Indonesia since childhood and can improve the literacy for youths to love reading.

- (2) Scholarships

Bank Indonesia Solo has a scholarship program that aims to support students ' fluency when study. The university requirement to get a scholarship that is accreditation of PTS at minimum C, preferably B to expand opportunities for PTS. Scholarship budget in Indonesia 2019 increased 30% which will be allocated to:

- (a) Scholarship: 105 Higher Education (PT) existing, 30 PT (10 PTN) & 20 PTS), as well as 5 pilots of the vocational College of Vokasi Project.
- (b) Scholarship beneficiaries development Program (GenBI).

Year 2019 Bank Indonesia Solo gave scholarships in 2 PTN namely UNS and IAIN and 1 PTS namely Unisri.

- (3) Community management

Bank Indonesia has a community management program that aims to communicate as a means of Bank Indonesia Solo policy communication. The program is still related to the scholarship program or we would call GenBI (new Generation Indonesia). So many GenBI activities are sometimes in love about PSBI and also often involved in PSBI's education. The GenBI community seems to cultivate PSBI in relation to the environment each year, its name is Bersih Indonesia.

- (4) Scholarship recipients (GenBI)

The new generation of Indonesia (GenBI) is a community of scholarship recipients of Bank Indonesia (BI), which is found in several students from various universities in selected regions. There are several common criteria for BI scholarship recipients:

- (a) has completed at least 40 units of credit semester (SKS) or 3 (three) semesters.
- (b) Maximum 23 years old or not yet 24 years old when assigned as a scholarship recipient.
- (c) Not being accepted as a scholarship and/or being in the status of service bonds of other Lemaga/isntance.
- (d) have a in of conducting social activities that have a beneficial effect on the community.
- (e) Willing to play a role, manage, develop the GenBI community & the activities held by Bank Indonesia.

(5) Policy communications (public education)

The purpose of communication of this policy is Bank Indonesia Solo but also with what is the concept of Bank Indonesia itself.

c. Social care

Regarding the context of sustainability, CSR is implemented in three aspects, namely economic, social and environmental. Economic aspects are concerned with efforts to increase economic growth and empowerment of community life including increased education. The social aspect relates to public education and other social care activities.

Environmental aspects relate to efforts undertaken to support the preservation of the environment. PSBI as a form of CSR by KPw Bank Indonesia Solo focuses on economic, educational, public and social education.

Consists of 6 kinds of social care:

- 1) Environment
- 2) Culture
- 3) Religious
- 4) Education
- 5) Disasters
- 6) Health

(1) Environment

Bank Indonesia Solo's environmental Program aims to support environmental sustainability. The environment is still in line, so Bank Indonesia Solo gives PSBI an environment but that is Ngelola GenBI. So we can control the both. For example in this year, Bank Indonesia gave in the area Mojosongo named "Clean Indonesia 2019 BI Solo".

(2) Culture

Bank Indonesia Solo's cultural Program aims to support cultural sustainability. Bank Indonesia Solo has given gamelan at Mangkunegaran Palace, Kraton Culture House.

(3) Religious

Bank Indonesia Solo's religious Program aims to support the facilities of religious infrastructures. Bank Indonesia Solo always help to build mosques, join events such as Chinese New Year (Imlek), etc.

(4) Education

The education Program of Bank Indonesia Solo aims to support the infrastructure of education. Bank Indonesia Solo helped build the school from renovation to its finishingnya.

(5) Disasters

Bank Indonesia Solo Disaster Program aims to help victims of disaster. But until now Bank Indonesia Solo rarely give because in Solo area itself until now includes areas that are still safe. But there is a disaster, the usual that gives the party (IPB) is not from the BI institution that gives but from its own officers.

(6) Health

Bank Indonesia Solo's health Program aims to supervise and assist people's health.

Determination of the type of activity of the program depends on each representative office (KPw). Bank Indonesia's representative office can choose what it will do for its region, so not all should be run. In the event of its execution, the place and the allocation of funds refer to the general rules set forth in circular letter No. 14/44/Intern in 2012. Can be in the form of partnership or granting/distribution of aid in the form of goods or funds. Each of the objectives, beneficiaries and allocation of funds based on the needs of the

recipient are approved by the respective chairman of KPw. As the interview results on Friday, 8 November 2019 at 09.00 WIB.

"What is the motive in the development and empowerment of social Bank Indonesia (PSBI) in the representative of Solo territory? The purpose of this year's BI is based on the theme "Strengthening the role of PSBI through programs that contribute to the national economy". So now this BI maintains stability but do not have a steady reply but its economic growth is not the way. Kalo about the capacity of human resources in line, because according to the theme of Mr., "SDM excellence", indeed who wants to be lifted 5 years ahead of his HR. For our provision in the form of funds and goods. But if the goods like Ribet in us when we manage many of the nominables. But we always love in the form of funds let it be safe, but we still monitor/watch until the end. We also ask for Notes report, vote that final result whether according to the future filed at the beginning or not."¹²

What are the programs given to the community in the development and empowerment of social Bank Indonesia (PSBI) in the regional representative of Solo? Every year, we have different themes. Kalo in this year 2019 our theme is "Strengthening the role of PSBI through programs that contribute to the national economy."¹³

Conclusion that is in the explanation of the above programs then the program is very strengthened as the statement to the 3rd as the result of interviews on Friday 8 November 2019 hours 09.00 WIB.

"What are the legal regulations on the Bank Indonesia social Program Policy (PSBI) in the Solo area representative? The Rules are procedure only. Instructions for implementing the Bank Indonesia Social Program (PSBI) based on circular letter No. 14/44/INTERN year 2012. The PSBI policy is governed by the BI board of Governor No. 21/17/PADGintern/2019."¹⁴

A paradigm change, the focus of Bank Indonesia's policy in supporting the development of UMKM was formulated into the four pillars of UMKM development Strategy, namely (1) the implementation of the crediting policy (2) implementation of institutional development; (3) Provision of technical assistance and (4) cooperation with the Government and other related institutions. One of the pillars of Bank Indonesia's policy is encouraging the development of UMKM through the provision of technical assistance. In the provision of technical assistance, Kanor Bank Indonesia (KBI) Solo conducts training and provision of information that also includes research.

The main problem of UMKM that lead to the development of SMES is the problem of capitalization. Therefore, most of the efforts of the Office of Bank Indonesia (KBI) Solo in order to develop UMKM in Solo Raya is to solve the capital problems. Like the role of KBI Solo through the provision of technical assistance also aims to solve capital problems by encouraging UMKM to access capital to banking and encourage banking to distribute credit to the UMKM sector. Therefore, the role of KBI Solo in the development of UMKM in Solo Raya through the provision of technical assistance is very important and vital. As the results of interviews 5 and 6 on Friday, 8 November 2019 at 09.00 WIB.

"How is the implementation of Bank Indonesia social Program (PSBI) policy in Solo area representative? We are more into the increasing economic capacity of strategic food security, the digital economy, then the capacity of human resources.¹⁵ "Some have been di jelasin above"¹⁶

Building the economy of Indonesia can not be removed from the role of government, institutions in the financial sector and business actors. The government as a maker and regulator policy is expected to provide a conducive climate for the business world, so that financial institutions both banking and non-

¹² (Wawancara 3 dengan Utari Indriani Selaku Staff bagian asisten manajer FK3 Bank Indonesia Solo) Jumat tanggal 8 November 2019 Jam 09.00 WIB

¹³ (Wawancara 4 dengan Utari Indriani Selaku Staff bagian asisten manajer FK3 Bank Indonesia Solo) Jumat tanggal 8 November 2019 Jam 09.00 WIB

¹⁴ (Wawancara 5 dengan Utari Indriani Selaku Staff bagian asisten manajer FK3 Bank Indonesia Solo) Jumat tanggal 8 November 2019 Jam 09.00 WIB.

¹⁵ (Wawancara 6 dengan Utari Indriani Selaku Staff bagian asisten manajer FK3 Bank Indonesia Solo) Jumat tanggal 8 November 2019 Jam 09.00 WIB

¹⁶ (Wawancara 7 dengan Utari Indriani Selaku Staff bagian asisten manajer FK3 Bank Indonesia Solo) Jumat tanggal 8 November 2019 Jam 09.00 WIB

banking and business actors in the field are able to utilize policies and implement Its business activities smoothly, which in the end can encourage economic development acceleration.

One of the business actors who have an important existence but sometimes considered "forgotten" in the policy, the country is micro, small and medium enterprises (UMKM). Though if we know further and deeper, the role of UMKM is not merely a supporter of national economic contributions.

The crisis that struck in Indonesia both the economic crisis of 1998 and the current global crisis, UMKM showed that there was a strong success in the face due to the advantages of UMKM. UMKM circles are broken to grow lost, always able to survive, because indeed in this level there is no option but in any way must be able to survive. If they fail to endure, they will die in the true sense. That triggers the emergence of small innovations in their business, so that UMKM can still exist. As the result of interviews 8 on Friday, 8 November 2019 at 09.00 WIB.

"Where is the source of fund social Program Bank Indonesia (PSBI) in Bank Indonesia representative of Solo territory? Our source is from Bank Indonesia headquarters in each year. So each year the representative office at drop how many we asked for. For example in the beginning of the year we propose, we want to ask the same to the fore about what aja we help. So at the head office of VI to the representative office, then the self-representation who self-harvesting what we love."¹⁷

Accelerate the recovery process of economic activity for which has been sought development and improvement in various economic sectors, where one of the strategic sector of concern is UMKM sector.

Seeing this above, the Bank Indonesia (BI) effort in UMKM development is a long story that is full of love and grief. From 1960-year to 1999, Bank Indonesia has assisted UMKM in the form of granting Bank Indonesia liquidity Credit (KLBI) which is a credit subsidy to assist various sectors to support the development in this regard also to SMES. However, since the enactment of LAW No. 23/1999 which was amended by LAW No. 3 of 2004 on Bank Indonesia, Bank Indonesia's policy in assisting UMKM Development has a very basic change. Bank Indonesia can no longer provide financial assistance or Bank Indonesia liquidity Credits (KLBI), so that the role of Bank Indonesia in the development of SMES becomes indirect, because the assistance (PSBI) the system or process in the delivery of the UMKM development intangibles the business beneficiary account to make transactions safer. As the interview results 9 on Friday on 8 November 2019 hours 09.00 WIB.

"How are grants/expenses (PSBI) in providing Community policies and welfare? Solo representatives provide in the form of money and goods. But we often love money through transfers to be safe and can be used as needed. But the office also needs to know by asking for notes and all sorts for what purposes AJA money was used. And we continue to monitor until the end result and whether the outcome is the original plan or not."¹⁸

Bank Indonesia's duties, one of which is in the field of monetary economy in real sector Empowerment Group and UMKM (KPSRU), are to develop and implement real sector empowerment programs (corporations, BUMN, and UMKM) based on identification results. In addition to being required to perform the task, BI is also asked to communicate the program that has been assigned to the stakeholders in order to encourage banking in SMES financing.

Behind the toughness of tens of millions of UMKM, UMKM development efforts still encounter various constraints such as traditional business management, inadequate human resources, scale and low production techniques and still limited access to financial institutions, especially banking. As the interview results 10 on Friday on 8 November 2019 hours 09.00 WIB.

"How much funds should be prepared or estimated for social implementation? That depends on the same, the petition will ask how. But usually the office does not love all, because the office would want to ask for contributions from them let them also there is responsi to Kesitu. So there is no patokannya. Yes Kalo requester very-desperately need, we love."¹⁹

¹⁷ (Wawancara 8 dengan Utari Indriani Selaku Staff bagian asisten manajer FK3 Bank Indonesia Solo) Jumat tanggal 8 November 2019 Jam 09.00 WIB.

¹⁸ (Wawancara 9 dengan Utari Indriani Selaku Staff bagian asisten amanjer FK3 Bank Indonesia Solo) Jumat tanggal 8 November 2019 Jam 09.00 WIB

¹⁹ (Wawancara 10 dengan Utari Indriana Selaku Staff bagian asisten manajer FK3 Bank Indonesia Solo) Jumat tanggal 8 November 2019 Jam 09.00 WIB

Aiming in order to support the empowerment and development of UMKM, especially in facilitating UMKM access to banking credit services, Bank Indonesia made several efforts known as the four pillars of Bank Indonesia in the development of SMES, namely (1) the implementation of the crediting policy (2) Implementation of institutional development (3) provision of technical assistance and (4) cooperation with the Government and other related institutions. One of the pillars of Bank Indonesia's policy is encouraging the development of UMKM through the provision of technical assistance. Training activities and the provision of information that also includes research is an activity conducted by Bank Indonesia in the framework of providing technical assistance, so hopefully will be able to provide benefits to UMKM of course and also stakeholders, whether to local governments, banking, private and public people who are interested in UMKM empowerment efforts.

The training and the provision of information provide benefits to UMKM in the empowerment of UMKM, then in receiving the program must have procedures in Pemohonan. The following Bank Indonesia in receiving assistance programs by applicants as beneficiaries can be described as follows:

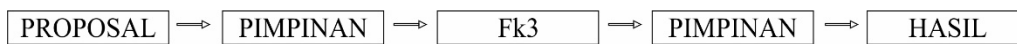


Figure B.2. Recipient Process Help

Bank Indonesia Social Program process (PSBI) in conducting assistance in the way the applicant makes the proposal first then enclosed to the representative office of Bank Indonesia Solo. Then the proposal goes to the lead to discuss whether it is necessary to be surveyed location by FK3. If the principal asks to be surveyed FK3 survey the location whether the applicant needs and correct according to the theme held by Bank Indonesia Solo. After that FK3 create a report notes for the leadership of the survey results that have been conducted. Then the leader reopens to be approved or not. If the applicant's proposal is approved the FK3 will notify the applicant but must complete the requirements especially documents such as the double-receipt, the news of the handover ceremony, and so forth. As the interview results 11 on Friday on 8 November 2019 hours 09.00 WIB.

"Manasaja location ever given by Bank Indonesia representative Solo in giving social policy? Location in Solo Raya area (Solo, Boyolali, Sukoharjo, Karanganyar, Wonogiri, Sragen, Klaten)"²⁰

Based on the conclusion above, in the presence of community layer PSBI is very easy by knowing the process (PSBI) in carrying out the assistance in the way the applicant makes the proposal first then enclosed to the representative office of Bank Indonesia Solo. Then the proposal went to the leadership to discuss whether it is necessary to be surveyed by FK3 with the purpose of the training activities and the provision of information to provide benefits to SMES in msme empowerment efforts.

C. Closing

The PSBI KPw Bank Indonesia Solo Program is a manifestation of Good Corporate Governance. PSBI is based on the realization that central bank policies focused on economic stability efforts are often not well understood by the public. To support the effectiveness of Bank Indonesia's duties in monetary stability and financial system, Bank Indonesia needs communication and interactions with stakeholders that are well managed through PSBI.

1. Analysis of implementation of Bank Indonesia social Program Policy (PSBI) at Bank Indonesia Solo

- a. The implementation of PSBI pursuant to circular letter No. 14/44/Intern Year 2012 can be in the form of partnership or giving/distribution of aid in the form of goods or funds.
- b. The policy is governed by BI Council of Governor No. 14/14/PDG/2012. Now apply the new rules that are regulation of the Council of BI Governor No. 21/17/PADGintern/2019.

In the management report of Bank Indonesia (2014), the Program is based on the realization that central bank policies focused on economic stability efforts are often not well understood by the public. It then considers that to support the effectiveness of Bank Indonesia's duties in monetary stability and the required financial system of communication and interaction with well-managed stakeholders.

- c. Article 7 Act No. 3 year 2004 concerning the objectives of Bank Indonesia:
 - 1) Bank Indonesia aims to achieve and maintain stability in the rupiah
 - 2) to achieve the objectives as referred to in paragraph (1), Bank Indonesia executes the monetary policy in a continuation, consistent, transparent, and should consider the general policy of orders in the field of economy

²⁰ (Wawancara 11 dengan Utari Indriani Selaku Staff bagian asisten amanjer FK3 Bank Indonesia Solo) Jumat tanggal 8 November 2019 Jam 09.00 WIB.

2. Barriers analysis in the implementation of Bank Indonesia social Program Policy (PSBI) at Bank Indonesia Solo

His resistance is not a balance of program giving. So the applicant most of it asks in the social program. The fear is wrong to give, the applicant is good to ask from us identifying ourselves. Awareness of the policy of the bank is centered on economic stability efforts are not well understood. So we often ngasih to the clusters so we ngasih know also the true prices of the Community fathers also including those that we look at and they keep the economic stability so we also Ngasih tau to them, their goal also tau Kalo BI role. Related monetary policy to support the sole purpose.

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SPORTS AND HEALTH EDUCATION POLICY DEVELOPMENT FOR CITIZENSHIP EDUCATION IN NIGERIA: APPRAISAL OF THE FORE-RUNNERS OF PHYSICAL EDUCATION

Dr. Owajaiye, Sunday Oni

Department Of Physical And Health Education, Faculty Of Education, University Of Jos, Jos Nigeria

Dr. Kayit, Simon Bobai

Department Of Physical And Health Education, Faculty Of Education, University Of Jos, Jos Nigeria

michogun63@gmail.com

ABSTRACT

The paper titled “Sports and Health Education Policy Development for Citizenship Education in Nigeria as an Appraisal of the Fore-Runners of Physical Education” was written. Issues galvanized to irk out the variables appreciative of citizenship education are: (i) Greek physical education and values, (ii) Physical education philosophers (iii) Physical education in Nigeria (iv) Reason for underdevelopment of sports in Nigeria (v) Concept of sports as courage, love and peace medium (vi) Behaviour as the aftermath of behaviour learning (vii) A movement model of behaviour (viii) Compendium of behavioural machine (ix) Motor learning and behaviour. It was observed that: (A) Sport was developed to foster national unity and promote peace. And its promotion was for detection of sports talents. (B) For creation of awareness in sports among citizens in the country regardless of age, class or position. (C) Create innate tendency to endure. (D) Combat the stressful and embarrassing situations. It was however concluded that, the sport and health policy essential for effective citizenship development, the following recommendations were made: (1) Due to the fact that sports possess cognitive control, which is retention of conceptualized ideas, issues and knowledge and utility of these variables of human’s capabilities, it necessary to make life easy, through instilling quality leadership directions, learning, planning and feedbacks.

Keywords: Sport, Health Education policy development, citizenship education, & fore_runner

INTRODUCTION

Physical education in ancient Greece will always be looked upon with pride by members of the profession. The high ideals that motivate various gymnastic events will always be objectives that all should emulate. Such great men of history as (i) Socrates (ii) Plato (iii) Aristotle (iv) Hippocrates and (v) Galen proclaimed their value for all. The large expanse of ruins excavated at: Olympia and the relics, sculptures and statutes especially the one of Herman by Praxiteles, are evidence of the emphasis on physical perfection and pride in Hellenic culture that exalted Greek civilization (Ajayi, (2003).

The Greeks held another aim of physical education. In addition to serving as a recreational pursuit and as an aid to aesthetic development, physical education was also utilized as therapy for the infirmed and for the diseased. The growth of this phase of physical education was stimulated as a result of a social trend in later Greek history. Many individuals, because of wealth and idleness obtained inadequate exercise and indulged in luxurious living at the expense of their health. Adapted physical exercise proved to have therapeutic value on many such cases. By paying attention to diet and exercise, evil consequences to health could be avoided.

The use of physical education as an aid to medicine can be identified as early as Herodotus period and about the middle of the 5th century B.C. its worth was emphasized by year in to four (4) seasons and recommended suitable diet and exercise for each season for example, in winter, one should eat lightly and exercise should be procured by engaging in many kinds of activities. He listed running wrestling and brisk walks as possible sources of activity (African, 2012).

STATEMENT OF THE PROBLEM

Nigerians do not recognize the values of sports and healthy state of the body, except illness catches up with them and they have to attend the hospital; and are advised to exercises. Sport is not only for therapy against illness alone. It is also for development of personality traits, resilience, endurance, love, patience and humane character. All these are lacking in Nigerians. Exemplary physiological characteristic of past leaders of sports (physical education) have not been imbibed by the elders and indeed leaders in Nigeria.

PURPOSE OF THE PAPER

This write-up is undertaken to:

- i. Expose the values of sports to human body; with the intention to irk out their beneficial characteristics.
- ii. Elucidate on the lives and times of philosophers of sports (physical education) as they relate to behaviour modification and formation.
- iii. Encourage youths to study physical education, so that the youths can imbibe the ideal characters that would make them good citizens; that are found worthy to organize human behaviour for good governance.

LITERATURE REVIEW

Socrates' perception of Physical Education

Socrates viewed the physical education as a essential aspect which is important for health towards achieving life's purposes. The philosopher pointed out that it essential for the upright thinking and body building is used very little; bad health can contribute to graves mistakes.(owojaiye (2015)

Plato's perception of Physical Education

Plato recognized that physical education is good for both men and women; he recognized that both physical education and music were important phases of education. Physical education for total body development and music for the soul for spiritual development. To be spiritually developed is to train the mind for the total body functions.

Aristotle's View on Physical Education

According to Jimba(2015), Aristotle held that body and soul are closely interrelated and that boldly movement and conditions of the body health affect mental faculties. He thought that one should engage in lighter exercises such as dancing, running, jumping and throwing until 14 or 18 years of age. Heavier exercises could be engaged in later and they would not impair the body. Excessive or deficient exercise is similar to excessive or deficient food and drink, both result in harm to the body. Physical education should help one to have a virtuous life and not one of conquest, xylophone, a temporary of Plato thought of physical education as important for building up of a strong army. He felt that soundness of body and mind was essential to success in life. However, Plato main thought were war and his thinking in regard to physical education was mainly in terms of military.

Decathlon (Men's Event)

1st day: 100 metres; long jumping; short put; high jump.

2nd day: 110 metres hurdles; discuss; pole vault; javelin and 1500 metres.

Pentathlon is mainly for women, although young men complete in the event as a build up to the greater demands of decathlon.

N.B: i. Sport was recommended as enhancing health.

ii. Drugs were detected; it was view as destroyer of health.

iii. Diet was said to be valuable but should be diligently selected for consumption.

iv. Physical exercise (sport) are subordinate to medicine.

v. Dietary recommended are supposed to be recognized each season; in winter, athletes should eat highly lie running, walking and wresting are activities recommended during winter period,

vi. Exercises recommended for adolescent 14-18 year old are:

(a) Dancing (b) Running (c) Jumping and (d) Throwing.

vii. Soundness of mind in sound body was view to enhance life.

viii. The soundness of mind in sound body was view to enhance life.p.23

PHYSICAL EDUCATION IN NIGERIA

After the 1st world War, the English people sat down to think and realized that if they had not been aided by French and American's, Russians and other Nationales, they could not have won the battle against Germany. They therefore considered the cause why the other soldiers of other countries were stronger. They observed that these soldiers were in some ranks were sent abroad to hold positions and were in some ranks were sent abroad to hold positions in and taught how to behave. It was this same year 1932 that soldiers in England complied with a complied syllabus in P.E which was released in 1933. This was what brought the 1933 syllabus in all schools in the British colonial territories and Nigeria in particular.

This syllabus was first sent to America for review and was condemned without any reservation by the Americans because it was military in Nature. But since much money had been spent on it, they were sent to other colonies in 1938. When the ex-service men returned from Britain, they started teaching children in sports and Games in school. This syllabus entailed a lot of Gymnastic. The objective of physical Education is development for

physical fitness. Therefore people that were made to participate in these activities have military notion of physical education.

Apart from physical fitness, our people development alertness and reaction time to some extent that the end results was mobility and agility. From this time people started with marching and during empire days, people (pupils) came out to partake in track and field events and marching. These activities continued up to a time when they thought that people that are good in the physical activities will also be good in sports. Therefore all school were made to participate in physical training to produce sportsmen and women from 1938-1940.

Some men and women who performed creditably in some events were made coaches. However, some of the coaches had no sound educational background for many of them to progress. Some of the people who have made impact in the promotion of physical education in Nigeria are: (1) Lord Baden Powel; (2) H.J. Ekperin; and (3) Isaac Akiyoe.

These were the worthy men in Physical Education in Nigeria. By 1933, nothing was done in Nigerian schools concerning physical education because the expatriates then knew nothing about the subject; their major game was soccer. There were no warming up and no conditioning exercise, which resulted to many injuries and hazards. Also, in 1933 sports were not given its rightful place in few school curriculum. Those who decided to take up this discipline (P.E) were regarded as people that cannot do well and people of low mentality.

Some worked for several years without promotion. It was thought that the highest one can get in Physical Education (P.E) is a diploma. No university offered Physical Education except university of Nsukka in 1960 where this subject was studied up to First Degree Level (FDL). Contemporarily, all the 1st generation Universities and the majority of second Universities generation university offer. Degree, Master and Ph.D (Doctor in philosophy) in Physical Education. From all indications we should realize that the colonial master deliberately refused to introduced the sports skills to our schools to and this is why Nigeria is lagging behind in producing World reknown Athletes for a long time.

From the X-ray of the syllabus of Physical Education in our school, we will observe that when pupils were taken out for 35 minutes, they gained nothing. There was no external competition for those who were interest, and there was no found. From 1960, the independence, the 1st Republic took over from the colonial masters but not encouraging sports and that was why Nigeria suffered humiliation from Ghana. Thanks to the military regimes who have done everything possible to produce adequate fund, scholarship, manpower, building stadia, clinics, technical knowledge for sports. From the foregoing explanation, and factors, we would realized that Physical Education suffered a great set back in Nigeria. However, from 1968, the sports gain recognition with the establishment of National Sports Commission with the objectives as follows.

ORGANISATION OF THE NATIONAL SPORTS COMMISSION

The national sports commission has complete control over the sports festival and appoints committee for the sports festival. The committee comprising the members of the sports commission is:-

- i. A chairman
- ii. The state's sports council
- iii. Any other member that the committee may deem fit to co-opt.
- iv. The directors of sports may be invited without voting right. The festival is conducted by the rules laid down by the organizing committee.

Objectives of the National Sports Commission

1. To encourage the organization of amateur sports competition throughout the country in order to raise the standard of sports participation in the country.
2. To foster national unity and promote peace and sports enhance the promotion in order to detect talents.
3. To broaden the base of sports development and promotion in order to detect talents.
4. To create an awareness in sports among the citizens of the country regardless of age, class or position.
5. To stimulate interest in competitive sports, PHE and recreation and to emphasize the desirability of a well rounded personality development.
6. To promote and strengthen friendship among participants throughout the country.

Despite the laudable programmes of the National Sports Commission however, the objectives of the Commission was not totally achieved due to some bottlenecks. Adesoye (2016) highlighted some reasons for underdeveloped sports in Nigeria and also spelt out trainings for National development that sports development proffered; to include the followings:

REASONS FOR POOR DEVELOPMENT OF SPORTS IN NIGERIA

Sports activities was poorly developed in Nigeria because of the following reasons:

1. Lack of encouragement from the parents and the government
2. Poor technological knowledge
3. Lack of competition
4. Non recognition of the professionals
5. Ethnic chauvinism; where sports men and woman from coaches home town, State or local governments are favoured rather than qualified athletes.
6. Embezzlement of sports funds; non-purchase of quality sports implements
7. Sycophancy from poor sports men and woman/athletes; in securing position; And placement in sports; to later disgrace the L.G.A, State and the Nation.

Concept of Sports as Courage, Love and Peace Medium

Nigerians do not significantly conceive the intrinsic values of sports. Since it is regarded as simply running and jumping. However, Obiyemi (2016) posited that sports possess the propensity to evolve in human being the excellent human nature characterized by the following values as presented in table 1 as follows.

Table 1: Human Nature Characteristics

S/N	Human Attributes	Description	Remarks
1.	Courage	<ol style="list-style-type: none"> i. Conjuring the inner tendency to endure; ii. Undertaking risk; to accomplish task; iii. Targeting a goal with the intent to excel and win; iv. Combating stressful and embarrassing situations. 	Qualities for war for the defence of national and international boundaries.
2.	Love	<ol style="list-style-type: none"> i. Creating avenues for pleasure; ii. Giving a lasting medium of relaxation; iii. Enabling avenue for friendship; iv. Galvanizing the activities that enhances marriage within the inter-tribal ethical understanding; v. Annexing people of different nationals; as in zeal for cultural and economic understanding. 	Qualities of humans to foster inter-personal relations.
3.	Peace	<ol style="list-style-type: none"> i. Creating avenue for peaceful co-existence. ii. Terminating the notion of racism. iii. Ceasing warring countries through sports festivals. iv. Ensuring job opportunities to sports stars; to resolve unemployment, poverty and youths exuberance. v. Curbing youths indulgence in cultism, rape, prostitution, laziness, ideal talks, voyeurism, armed robbery etc. 	Qualities for galvanizing activities for governance.

LEARNING MOTOR BEHAVIOUR

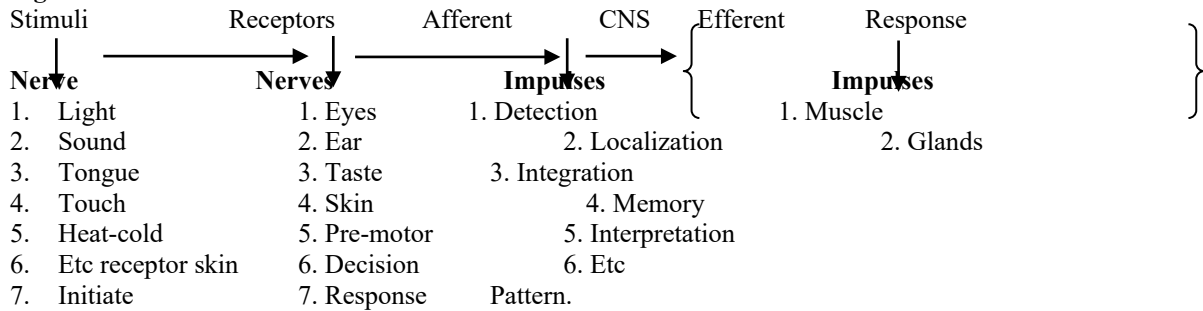
Motor behaviour refers to observable movement of the skeletal muscle. It is also referred to often as movements behaviour. Motor behaviour is a general term and can refer to movements that may be termed “skilled performance” and others that seem purposeless and random. Reflex actions, movements that are elicited in reaction to some stimuli without conscious volition on the part of the individual, can also be considered a facet of movement behaviour. Physical educators are especially interested in motor behaviour, which occur while the individual is engaged in a physical activity such as in a sport, game, exercise and also dance. This means that, they are concerned mostly with such reasonably complex movements referred to as “motor skills”. skills mean that some amount of learning has taken place and at least some behaviours have been Integrated into life abilities to produce a complete man.

Motor behaviour takes place in setting in which a person responds to stimuli. A stimulus which impinges on an individual is in the form of energy, and any energy that influences an individual’s behaviour is called a stimulus. Heat is a type of energy. If heat impinges on an individual and causes him to behave or move in one way or the

other, we call the heat a stimulus. A wide variety of stimuli will produce different kinds of behaviour. The scientific type of behaviour resulting from a given stimulus is called a response. If an individual place a finger on a hot plate, the muscles controlling the finger will contract to remove the finger. Here, the heat of the hot plate is the stimulus and the contraction of the finger muscles is a kind of behaviour called a response.

When a stimulus impinges on any part of an individual’s body. It activates or excites a specific type of nerve organ called a receptor. The skin is an example of a receptor, and when a finger is close to hot plate, the heat, as a stimulus, excites the skin which is receptor. When a receptor is activated, a nerves impulse is transmitted along a nerve fibred (afferent nerves fibre) towards the Central Nervous System (CNS). The CNS is made up of the brain and spinal cord. Many different nerve impulses are being conducted simultaneously from the receptors into the central nervous system. When nerve impulse arrives in the CNS a complex integration and interpretation process, which can be referred to as “data processing” takes place. Then appropriate neurons in the CNS are activated. These neurons transmit efferent impulses. The effectors could be muscles or glands. If a muscle is the efferent activated, it contracts. If gland is activated, it secretes its products called hormones – the thyroid gland secretes thyroxin, the sweat gland sweat; the salivary gland secretes ptyalin etc. Response occurs when an effector is activated. Thus, muscular contraction is a form of response to a stimulus see the following table 1.1 any motor activity, therefore is a form of behaviour.

Figure 1: “A Movement Model of Behaviour”.



Source: Kent,J. (2015). Adapted from Introduction to Motor Learning A Neuropsychological Approach. Reading, Massachusetts Addison – Wesley Pub. Page 8.

Table 2: A Compendium of Behavioural Machine

S/N	Human Attributes	Description	Remarks
1.	The Central Nervous System	The physical education teacher and or a coached attitude should have some understanding of the structures and basic functional activity of the nervous system control and directed the voluntary and reflexive human movements. The centre; nervous system (CNS) is composed of a spinal cord, the brain and the stem, which are located in the skull and the vertebrate (see figure 1:1 above) CNS serves two major purposes: (1) To carry information from the external environment and from the body to the brain for storage and integration with previous knowledge; and (2) to relay information from the brain to glands and muscles that produce movements and bodily adaptation to cope with inputs from the environment.	Anatomy of a healthy person for coaching, teaching, modelling or /and governable.
2.	Cerebrum	The cerebrum is the largest portion of the brain and is composed of millions of cell bodies (grey matter). It is divided into right and left hemisphere. In general, the body functions on the right side are controlled by the hemisphere, while functions on the left side are controlled by the right hemisphere. The cerebrum also controls human thought and consciousness.	Organ of human thinking.
3.	Cerebral Cortex	The cerebral cortex, or outer layer of the cerebrum, is about 1A inch thick and contains about nine (9) million neurons. Each sensory system of the human body relays messages to a specific region of the cortex; it exerts the	Organ for adequate coordination.

		<p>highest level of motor control. This consists of:</p> <ol style="list-style-type: none"> i. The motor cortex – The area of integration and control of motor message. Together with the promoter are which lies in front, the motor cortex co-ordinates the outgoing message which have originated from the parts of the CNS to initiate highly complex skilled movements. ii. The prefrontal area is responsible for crucial regulatory directions to the muscles for accurate movements in response to stimuli. iii. The somato sensory cortex – Receives sensory stimuli from the different nerves of the skin and muscles. This area controls the sensations of touch, heat and cold. It also detects changes in spatial relationship of the body and “pint movements”. This area controls reflex movements resulting from visual as well as auditory stimulations. It controls the tonic contraction of muscles. 	
4.	Cerebellum	Otherwise referred to as “little brain”, is mainly responsible for coordinating movements of the skeletal system and movements that originate from other sectors of the CNS. It however, cannot initiate movements, it is involved in the reflex control of bodily balance or equilibrium as detected by the inner ear.	Organ for bodily balance to maintain the equilibrium.
5.	The Brain Stem	Connects the cerebellum and cerebral cortex, which send out motor fibers, and spinal cord, which ascends in to the brain stem. It plays an important role in controlling hand, neck and reflex movement. It also regulates certain vital processes such as artery flow, blood pressure and respiration.	Organ for controlling hand, neck and reflex movement.
6.	The Spinal Cord	The spinal cord also contributes to the control of muscular movement, it is primarily a transmission pathway via which all sensory messages from the organs of the body and receptor and transmitted to the brain and all motor commands are sent from the brain to the muscles and glands. It is center for reflex actions.	
7.	The Peripheral Nervous System	Consists of the spinal cardinal nerves. This system control body functions not directly concerned with skeletal movements, such as the heart, blood vessels, glandular secretions, and smooth muscles.	Cardiac bundle organs of life.

Motor Learning and Behaviour

Because of the complexity of the term “learning” many definition of the term exist, Hilgard and Bower (2006) define learning as “a process by which an activity originated or is changed through reacting to an encountered situation, provided that characteristics of change in activity can be explained on the basis of native organism is mechanism (for example, fatigue, drugs and other terms).

Onifade (2004) also noted that, Motor learning falls within the scope of definition for motor the definition of learning, refers especially to behavior involving observable, goal-centered, purposefully, voluntary bodily movement such as that found in sport, play or game situation. Thus the term “motor learning” is contained in the broader term, “learning”.

According to Dratty (2007), motor learning is “that which includes the rather permanent change in motor performance brought about though practice and excludes change due to maturation, drugs or nutrients”. Emphasis is on state change as opposed to temporary change in behaviour, and the necessity for practice and repetition to bring about the change. Afolabi (2000) believe that motor learning skill (fine or gross motor skill) in attempting to accomplish a partial or set of goals with precision and accuracy. The learning process consists of a verity of motor and perceptual responses acquired through practice and repetition. Eventually, through this practice and repetition, the learner develops a set of motor responses into an integrated and organized movement pattern.

A movement thus becomes a skilled movement when some learning has taken place and a smoothing or an integration of behaviour has resulted. Extraneous movements have been omitted, and the performance is executed with increasing speed, and accuracy, and a decrease in errors. A skilled motor activity has to be learnt. It is not an act that can be called instinctive or reflexive or one in which successful performance is achieved in a single trial. According to kayit (2020), the physical education teacher or each is often preoccupied forth the thought of how his students or athletes can improve and become more skillful in the specific motor activity they are engaged in. In other words, kayit reiterated further that the physical education teacher is concerned with how he can make his players learn. For their performance of a specific skill to become automatic all internalized. These skills as a matter of conclusions and recommendations are organized and put into table as thus

Table 3: Skills of Physical Education for Citizenship Knowledge

S/N	Variables of Skills	Description	Remarks
i.	Cognitive control	Retention of conceptualized ideas, issues and knowledge and utilities of these variables of human capabilities to make life easy.	Leadership quality for direction.
ii.	Over learning	Near perfection skills that endear sports men and women into capability of target goals. The efficiency and effective target.	Youths quality for learning.
iii.	Well organized	Precision mobilization strategy. The adequate planning outfit to mobilize issues, events co-ordination.	Leadership quality for planning.
iv.	More frequently performed	Near perfection indices to instill discipline and orderliness.	Youths quality for learning.
v.	More intensive practice	Perfection strategy to induce precision and adequate target.	Youths quality for learning.
vi.	Adequate motivation	Induced willingness to arouse zeal for performance of tasks.	Leadership quality for directing.
vii.	Positive feedback	Goal getting and winning euphoria.	Leadership expectations.
viii.	Good psychological state of the athlete/ sport participants	Coolness of minds, precise response to issues, problems, tasks for amiable responses.	Youth and leaders quality for positive feedback.

CONCLUSION

Based on the discussion on the text , it could be concluded that the sport and health policy making have significant influence on the citizenship Education program in Nigeria.

RECOMMENDATIONS

it could be recommended as follows:

Due to the fact that sports possess cognitive control, which is retention of conceptualized ideas, issues and knowledge and utility of these variables of human’s capabilities to make life easy, it is leadership quality for direction, learning, planning and feedback.

Educational policy makers should integrate compulsory sports into the school curriculum

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UTILIZATION OF OPEN EDUCATIONAL RESOURCES FOR LEARNING IN UNIVERSITIES IN KWARA STATE

Ahmed Idris ISSA

Faculty of Education, University of Ilorin, Nigeria
issaahmed4212@yahoo.com

Mukhtar Adeola IBRAHIM
mukhtaradex@gmail.com

Amos Ochayi ONOJAH
haymoresonjah@yahoo.com

Adenike Aderogba ONOJAH***
temiladeadenike2015@gmail.com***

Corresponding Author: haymoresonjah@yahoo.com

ABSTRACT

Open Educational Resources (OER) give users the benefit to; retain, reuse, revise, remix and redistribute. Despite the increasing awareness of these OERs among institutions and faculties, there is a low utilization among undergraduates. Hence, this study investigated the level of utilization of OER for learning among undergraduates. The study adopted a descriptive method of the quantitative research. 398 respondents were randomly sampled from 3 purposively selected area of specializations. Hypotheses 1 was tested using independent t-test while hypotheses 2 was tested using ANOVA. The findings of the study were: (i) A percentage of undergraduates do not make use of many of the listed OER; and There was a significance difference among undergraduates based on Gender and Area of Specialization in their Utilization of OER for learning. The study concluded that there is low adoption of many of the identified OER sites and the others being used has an average level of utilization. Thus, more awareness and utilization of OER among undergraduates would improve their learning process and also the quality of conducted studies. The research recommends that lecturers should encourage students to make use of OER to assist their learning process and improve their research.

Keywords: Undergraduates, Utilization, Open Educational Resources, Learning

INTRODUCTION

Information and Communication Technologies connected to the internet gives its user a wide range of information to pick from. In addition, Oye, Iahad, and Ab. Rahim (2012), noted that ICTs can also be used to enhance and support distance learning and that it is considered to be the digital application equipment to all aspects of education. The internet has become an essential tool in the global educational dispensation and has eliminated distance as the barrier to access of information. The use of the internet connects millions of users of hundreds of nationalities through the interconnectivity of thousands of networks. The ocean of information on the internet in a variety of formats with relative ease of access are among the reasons that brought the technology academic patronage, especially on Open Educational Resources (OER) sites.

OER reflects those resources that attract no fees, subscriptions, tuitions, registrations, obligations, and so on, to the consumer or user of the said resources. OER is not the same as open courseware but a mix of three components: content, tools, and capacity; all of which are aimed at ensuring resource usability, durability, accessibility, and effectiveness. Thus, OER should be measured against the four quality factors of usability, accessibility, durability, and effectiveness (Stephen, 2009). OER contents can be retained, reused, revised, remixed and repurposed without restrictions which signifies the 5Rs of OER. (Grodecka & Sliwowski, 2014).

Akomolafe and Olajire (2014) noted that there is a moderate use of OER among undergraduates as a large number of students make use of the internet to access learning resources in various forms such as video, audio and texts to support learning activities. However, there is seems to be a low percent of level of usage of Open Educational Resources as revealed in Komineas & Tassopoulou, (2016). Similarly, Nwana, Egbe, and Ugwuda, (2017) revealed that even though there seems to be high awareness of educational resources among undergraduates, there is a very low utilization of these resources for learning. They further that it may have occurred due to students' attitude toward e-resources.

However, it was revealed by Ljubojevic, Vaskovic, Stankovic, and Vaskovic, (2014) that students are more motivated to learn when they enrolled in a course that makes use of technology where its course content is systematically delivered using technology. Similarly, Afolabi, (2017) revealed that students who are exposed to the use of Open educational resources have a positive attitude toward its use and this showed in their academic performance as there was a significant difference in performance between their pre-test and post-test scores. Similarly, Venegas-Muggli and Westerman, (2019) revealed an improved academic performance from students that are exposed to the use of Open Educational Resources than those who relied on traditional textbooks alone.

Bassi and Camble (2011), reported that there exists a statistical difference between males and females using electronic resources as females have more difficulty in finding information online than males. However, in another research, it was revealed that females use the internet more than males in a study on gender differences in computer literacy among medical students in selected Southern Nigerian Universities (Ikolo & Okiyi, 2012). Sivathaasan, Murugathas, and Chandrasekar, (2014) revealed an even utilization of educational resources between male and female users. This shows a 50/50 utilization of educational resources from both gender.

Undergraduates' area of specialization has a lot to do with their adoption of e-resources for learning. For example: undergraduates who are studying courses that make use of ICTs more may be more used to using e-resources than those who rarely uses ICT for their activities. Tunkun, Nordin, and Bello, (2013) revealed that area of specialization has a significant influence on both perceived and objective knowledge in favor of ICT related courses than others. This means students who are engaged in courses like computer studies, computer engineering, educational technology and many more are more likely to have a better good perception and knowledge on the use of ICT resources as they make use of these resources more than others who are engaged in courses that make use of ICT less compared to the previous mentioned students.

Statement of the Problem

The free and open sharing of educational resources is essential for promoting the building of global learning networks as well as reducing the knowledge divide that separates and partitions societies. Educators worldwide continue to face significant challenges related to providing increased access to high-quality learning while containing or reducing costs. New developments in information and communication technology highlighted the shortcomings and challenges of the traditional education community, as well as those of more flexible providers such as open universities. Such developments, including accessible repositories, Internet access, wireless networks, and mobile devices, have the potential to increase access and flexibility in education by rendering it ubiquitous.

Researches on students' use of OER have been minimal. This is in line with Akomolafe and Olajire, (2014) where it was observed that despite all the uprising in the understanding of OER among developed nations, its use among developing nation such as Nigeria have recorded low utilization among students. It is also in line with findings from Hu, Li, Li, & Huang, (2015) which revealed that not much have been researched on students' use of open educational resources. As most literature on OER have been focused on general benefits, faculty adoption and teachers' perception towards it. Al Abri & Dabbragh, (2018) also revealed a minimal adoption of Open Educational resources among students. This may be due to the area of study as it was conducted in Virginia in the United State of America. Overall, from the studies that are available to the researcher on the use of Open Educational Resources, conclusions can be drawn that OER in Africa is new and not common as most of the reviewed literatures are foreign authors. The ones that are available have focused more on faculty and educators' adoption of OER for teaching. This study therefore, examined the Undergraduate utilization of Open Educational Resources for learning in Universities in Kwara State.

Purpose of the Study

The main purpose of this study was to examine Undergraduates' Utilization of Open Educational Resources for Learning in Universities in Kwara State. Precisely, this study:

- i. investigated the available OER sites commonly used for learning by undergraduates
- ii. determined undergraduates' level of utilization of OER for learning
- iii. examined the differences in gender of undergraduates on the utilization OER for learning
- iv. examined the influence of undergraduates' area of specialization on the utilization of OER for learning.

Research Questions

The following research questions were formulated and answered in this study:

- i. What are the available OER sites commonly for learning used by undergraduates?
- ii. What is the level of utilization of OER for learning among undergraduates in Universities in Kwara State?
- iii. What are the differences in undergraduates' utilization of OER for learning in Universities in Kwara State based on gender?
- iv. What is the influence of undergraduates' area of specialization on the utilization of OER for learning in Universities in Kwara State?

Research Hypotheses

The following null hypotheses were tested at 0.05 level of significance.

H₀₁: there is no significant difference between male and female undergraduates' utilization of OER for Learning in Universities in Kwara State

H₀₂: there are no significance differences among undergraduates based on area of specialization in their utilization of OER for learning in Universities in Kwara State

METHODOLOGY

Research Design

This research was a descriptive method of the quantitative research. Descriptive method would best suit this study as a large sample can be selected from the total population to describe a characteristic of that population. Questionnaire was used to gather information on utilization of OER in universities in Kwara State which is the focus of this study.

The population for this study covered all the undergraduates in Kwara state. There are six (6) Universities in the State and from the six universities, three were randomly selected. The target population was made of all undergraduate students from the three selected universities. Three faculties namely faculty of Natural Science, faculty of Management Sciences and faculty of Human and Social Sciences was selected purposively as these are the three common faculties among the three universities. Distribution of samples per university were done using proportionate sampling technique using Isreal model. 398 Samples were randomly drawn across the selected faculties.

Research Instrument

Data was collected using a researcher designed questionnaire titled "Undergraduates Utilization of Open Educational Resources for Learning in Universities in Kwara State (UOERL). It is divided into three parts, part A elicited for demographic information from the respondents, part B contained a list of commonly used Open Educational Resources (OER) where respondents picked which ones they have had an encounter with using a two scale of used and not used. Part C checked the utilization of OER for learning with four option scale of Always- A, Occasionally – O, Rarely- R and Never – N to answer questions on utilization.

Validation of the Research Instrument

The questionnaire was subjected to both face and content validity to check the arrangement of items and also questionnaire items if they are in-line with the major purposes of the research by three lecturers from the Department of Educational Technology after the they deemed it fit to be validated. Their advice and suggestions which includes; merging of some items together, reconstruction of some items, removal of few items that are not in line with the purpose and a few more others were all used to modify the questionnaire to produce a final draft.

The questionnaire was tested for reliability on forty (40) randomly selected students from Department of Educational Technology in the University of Ilorin, Ilorin using independent sampling technique as it allows for selection of sample from the same population to be used for the study for pilot testing. Educational technology department from the faculty of education was selected as it is not one of targeted faculties. The data gathered from the pilot study was analyzed to check for internal consistency of reliability and the Cronbach alpha value was 0.77 on Availability and 0.69 on Utilization of OERs. This indicated that the research instrument was highly reliable.

Procedure for Data Collection

The researchers drafted a letter of Introduction from the Head of Department of Educational Technology, University of Ilorin, Ilorin. The letter was taken to the selected universities. The researchers visited the faculties chosen for the study to administer copies of the questionnaire to the students having sought for permission from the various authorities involved. Once the questionnaires have been distributed and they have been filled, they were collected back immediately and further analysed. The researchers ensured strict confidentiality and anonymity with the information retrieved from the respondents, also the respondents was made fully aware of what the research is all about and was not be forced to fill the questionnaire. Information gathered was used for the purpose of this research only.

Data Analysis Techniques

The data gathered from the sampled population was analyzed using descriptive statistics (frequency counts, percentage and mean) to provide answers to research questions 1, 2 and 3. Hypotheses 1 was tested using the inferential statistics (independent t-test) while hypotheses 2 was tested using ANOVA with the aid of Statistical Product for Service Solution at 0.05 level of significance. Hypothesis 3 was further analyzed using Duncan Multiple Range test.

Results and Findings

Table 1:

Distribution of Respondents Based on Return rate

Estimated Sample	Authentic Sample	Return Rate
398	385	97%

Table 1 shows that 398 respondents were sampled but 385 responses were adequately filled and returned with a return rate of 97%. This was thus used for the analysis.

Table 2:

Distribution of Respondents according to Gender

Gender	Frequency	Percentage
Male	183	47.53
Female	202	52.47
Total	385	100

Table 2 shows that (47.53%) of the respondent were male and (52.47%) were female. This simply indicates that more female participated in the study than male.

Table 3:

Distribution of Respondents based on Area of Specialization

Area of Specialization	Frequency	Percentage
Natural Science	125	32.5
Management Science	133	34.5
Humanities and Social Science	127	33.0
Total	385	100

Results from table 3 indicates an almost even distribution of questionnaire based on area of specialization. Management science has the highest percentage of 34.5 and it is closely followed by Humanities and Social Science with 33.0% and Natural Sciences is not far behind with percentage of 32.5.

Research Question One: *What are the available OER sites for learning commonly used by undergraduates?*

Table 4:

Commonly Used OER sites for Learning among Undergraduates

S/N	OER Sites	Used freq	%	Not used freq	%
1.	National Open University Open Education Resource (NOUNOER)	242	62.9	143	37.1
2.	African Virtual University	231	60.0	154	40.0
3.	Covenant university open educational resource	145	37.7	240	62.3

S/N	OER Sites	Used freq	%	Not used freq	%
4.	MIT Open courseware	116	30.1	269	69.9
5.	Learningpod	166	43.1	219	56.9
6.	Teacher Education in Sub-Saharan Africa (TESSA)	187	48.6	198	51.4
7.	EbscoHost	183	47.5	202	52.5
8.	Harvard Open source	169	43.9	216	56.1
9.	OER commons	201	52.2	184	47.8
10.	Google Scholar	260	67.5	125	32.5
11.	Slideshare	265	68.8	120	31.2
12.	Wikipedia	323	83.9	62	16.1
13.	Virtual Library	193	50.1	192	49.9
14.	Nnamdi Azikwe University Open Educational Resource	148	38.4	237	61.6
15.	Wikimedia Commons	183	47.5	202	52.5
16.	Open2study	155	40.3	230	59.7
17.	Coursera	196	50.9	189	49.1
18.	Academic Earth	189	49.1	196	50.9
19.	Edx Courses	150	39.0	235	61.0
20.	Lumen learning	133	34.5	252	65.5
21.	MERLOT II	115	29.9	270	70.1
22.	Open Course library	129	33.5	256	66.5
23.	OpenStax CNX	115	29.9	270	70.1
24.	Education Resources Information Center (ERIC)	203	52.7	182	47.3
25.	OER KnowledgeCloud	170	44.2	215	55.8
26.	Cuny Academy	129	33.5	256	66.5
Total		4696	46.9	5314	53.1

Table 4, shows the frequency count and percentage distribution of commonly used OER sites for learning by undergraduates. The table revealed that the majority of the respondent have used Wikipedia as it has the highest used frequency of 323 and percentage of 83.9. Others with highly used frequency and percentage distribution are Slideshare (265 and 68.8%), Google Scholar (260 and 67.5%), National Open University Open Education Resource (242 and 62.9%) and African Virtual University (231 and 60.0%). The likes of OER Commons (201 and 52.2% used), Education Resources Information Center (ERIC) (203 and 52.7% used), Coursera (196 and 50.9% used) and Virtual library (193 and 50.1% used) falls in the average.

However, MERLOT II (115 and 29.9% used) and OpenStax CNX (115 and 29.9% used) both records the lowest frequency and percentage used. Others with very low frequency and percentage used are, MIT Open Courseware (116 and 30.1% used), Open Course Library (129 and 33.5% used), Cuny Academy (129 and 33.5% used), Lumen learning (133 and 34.5% used) and Covenant University (145 and 37.7% used). From the survey instrument other OER sites students claimed to have used includes, Academia, Quora, Science Direct, Investopedia, Google, Pdf drive, Manchester University e-library, Management study guide, Alison online courses and Lexisnexis. In summary, it can be concluded from the table that high percentage of the respondents

do not make use of many of the listed OER sites as it has a higher cumulative frequency count of 5314 and percentage of 53.1 while frequency of used is 4696 with percentage of 46.9.

Research Question Two: *What is the level of utilization of OER sites for learning among Undergraduates*

Table 5:
Mean and Rank Order analysis of Undergraduates based on the level of Utilization of OER for learning

S/N	Questionnaire Items	Mean (\bar{x})	Rank Order
1.	I download OER materials for learning and research purposes	3.00	2 nd
2.	I make use OERs to supplement my learning	3.06	1 st
3.	I use Slideshare for learning purposes	2.86	5 th
4.	I make use of National Open University Open Educational Resource to supplement my learning process	2.74	8 th
5.	Google scholar resources helps to enrich my research reports	2.90	3 rd
6.	OER helps to complete my assignments	2.70	9 th
7.	OER enable me to prepare for my tests and exams	2.85	6 th
8.	The use of OER help me to learn from other learned scholars	2.89	4 th
9.	OER enables me to get access to quality materials	2.82	7 th
10	I make use of OER for other purposes	2.30	10 th
Grand Mean (\bar{x})		2.81	

Table 5 indicates that the mean of Undergraduates based on the level of utilization of OER for learning. Using a modified Likert 4-point Likert scale of a 2.50 benchmark, the table revealed that all the items were above the benchmark except for item 10 which sought to check if undergraduate make use of OER for other purposes with a mean score of 2.30. Item 2 which sought to know if undergraduates make use of OERs to supplement their learning process has the highest mean of 3.06 with a rank order of 1st and it is followed by item 1 which asked undergraduates if they download OER materials for learning and research purposes has a mean score of 3.00 with a rank order of 2nd. The grand mean score for undergraduates' use of OER for learning is 2.81. Using a decision rule of: low (1-2), average (2-3) and high (3-4), hence it can be concluded that grand mean score of 2.81 which falls between 2 – 3 for level of utilization of OERs for learning by undergraduates is average.

Hypothesis 1:

H₀₁: *there is no significance differences between male and female undergraduates' utilization of OER for learning*

Table 6:
t-test Analysis of Male and Female Undergraduates' Utilization of OER for learning

Gender	N	\bar{x}	SD	Df	t	Sig(2-tailed)	Remark
Male	183	2.92	.79	383	2.34	.02	Rejected
Female	202	2.72	.85				

Table 6 revealed that there was a significance difference between male and female in their use of OER for learning. This is seen in the analysis of the hypothesis tested df (383), t = 2.34, p = 0.02. Thus, the null hypothesis which states that “there is no significance differences between male and female undergraduates' use of OER for learning in universities in Kwara State” was rejected. It was revealed that male undergraduates with a mean score of 2.92 make use of Open Educational Resources more than the female undergraduates that has a mean score of 2.72.

Hypothesis 2:

H₀₂: *there are no significance differences among undergraduates based on area of specialization in their use of OER for learning*

Table 7:

Analysis of Variance of Undergraduates' Utilization of OER for Learning based on Area of Specialization

Groups	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.30	2	3.65	5.52	.004
Within Groups	252.67	382	.66		
Total	259.97	384			

Table 7 showed a significance differences in undergraduates' use of OER based on area of specialization. Thus, $F(2, 382) = 5.52$ $p = 0.004$). This means that the null hypothesis was rejected because the significance value of 0.004 is less than the alpha value 0.05. From the table, it can be deduced that there is variation in use of OER based on area of specialization and to further examine the differences, a Duncan' Multiple Range Test was used.

Table 8:

Duncan Multiple Range Test showing the Magnitude of Differences in Undergraduates' Utilization of OER for Learning based on Area of Specialization

Area of Specialization	Mean (\bar{x})	Number of samples	Group	Duncan's Grouping
Natural Science	2.74	125	1	A
Management Science	3.00	133	2	B
Humanities and Social Science	2.69	127	3	A

Table 8 indicated that the magnitude of differences in undergraduates' use of OER for learning based on area of specialization. Making inference from table 8, it is revealed that Management Sciences have a slightly higher mean than Natural Sciences and Humanities and Social Sciences. This means that undergraduates from Management sciences make use of OERs more than the other two Area of specialization sampled.

Discussions

This study investigated undergraduates' utilization of Open Educational Resources for learning in universities in Kwara State. The commonly used Open Educational Resources sites for learning among undergraduates were investigated, some of the commonly used OERs were listed and from the data gathered and analyzed, it was revealed that majority of undergraduates have not used many of the sites. This is in line with findings from (Akomolafe & Olajire, 2014; Nwana, Egbe, & Ugwuda, 2017). Akomolafe & Olajire, (2014), revealed that OER have not really been utilized by students especially in the developing Nations. Also, Nwana, Egbe, and Ugwuda, (2017) revealed a low utilization of OER among students despite their high level of its awareness. However, from the analyzed data, it can be deduced that many of the undergraduates have made use of Wikipedia as it has the highest percentage of use. Others OERs sites commonly used with high percentages are Google Scholar, Slideshare, National Open University Open Educational Resources and African Virtual University.

The level of utilization of OER among undergraduates was determined, from the data gathered and analyzed it was revealed that the level of utilization of OER among undergraduate is average. It was gathered that undergraduates make use of OERs mostly for learning and research purposes. Also, some agreed to the use of OER to enhance their preparation for exams and to learn from other learned scholars. This conforms with Cooney, (2017). Cooney, (2017) revealed that students expressed their satisfaction in the use of OER compared to traditional textbooks as it allows for portability and easy access anytime and anywhere. This has led to more frequent use of OER for learning.

The influence of undergraduates' gender on the utilization of OER was determined. From the analyzed data, it was deduced that there was a significance difference between male and female in their use of OER for learning. It showed that male undergraduates utilize OERs more than female undergraduates. This conforms with (Yusuf & Balogun, 2011; Bassi and Camble, 2011; Achampong, 2012; Akinlade, 2014). Finding from these studies revealed a gender bias in the use of OER as male children enjoy the luxury of attending schools more than the

female children who are expected to stay at home and help the mother. Thus, male children may have been more exposed to OER use due to this advantage.

Influence of area of specialization on the utilization of OER by undergraduates was also investigated. From the analyzed data, it was revealed that there was a significance differences among undergraduates based on area of specialization. Further analysis showed that Management sciences undergraduates make use of OERs more than the other area of specializations (Natural sciences & Humanities and Social Sciences). This conforms with Tunkun Ahmad, Nordin, and Bello, (2013), who stated that area of specialization have a significant influence on undergraduates adoption and use of e-resources. Students who are enrolled in courses that requires high ICT skills would tend to be familiar with the use of e-resources more than those that are enrolled in courses that does not require same level of skills.

Conclusion

This finding revealed a low awareness of majority of highlighted commonly used open educational resources among undergraduates which has led to the average use of these open educational resources. Thus, comparing the percentage of use and not used, it can be concluded that that the rate of use of OERs is still minimal and this can be improved on. This problem may have been down to low awareness of the sites as some of the respondents have claimed. Others listed some of the OER site they have used and these include: Quora, Academia, Investopedia, PDF drive, Alison online course and so on. Male children may have been more exposed to OER use due to this advantage. In addition, it was also revealed in the study that there was significance difference between male and female undergraduates based on their utilization of Open Educational Resources for learning. E-resources have become indispensable in learning due to its availability and ease of use. Through the use of ICTs such as mobile phones, tablets and laptops, learners have the opportunity to explore ocean of information and this help to improve the quality of knowledge acquired and also quality of conducted studies.

Limitation of Findings

The following limitations were observed during the course carrying out the study: the study is limited to only three Universities in Kwara State and should not be used to generalize utilization of students from other universities not used. The study focuses only on utilization and attitude. The findings of this study should not be used to make conclusions on other area of specialization not used. The study was only conducted on 398 respondents across the three universities. Some of the respondents had to be persuaded to fill the survey instrument. Thus, the findings from this study may not be generalized to other undergraduates in other states in Nigeria, Africa and around the globe.

Recommendations

Based on the findings of this study, the following recommendations were made: Undergraduates should be encouraged by their lecturers to use Open Educational Resources because of the numerous benefits it possesses towards learning and research purposes; Institutions should endeavor to expose their students to paid Open Resources Sites through faculties or departments to improve its level of Utilization; and institutions could also create their own repository where conducted researches within the institution can be uploaded by various departments. Students and another user would benefit from it.

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