The Development of and the Effect of Electronic Speaking Portfolios on Learners' Academic Performance in English as a Foreign Language Classes in Primary School

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Abstract

Technologies enhance interactivity amongst students and educators. It can be utilized as a tool for offering feedback or following learners' progress. Another benefit of implementing educational technologies may comprise group or peer work. While dealing with implementing different technologies educators are supposed to take into consideration user-friendliness, user interface, speed, support and training. Although software programs and technology devices are not always easy to use. While applying educational technologies, teacher is supposed to make sure that it is assessable for students in the class. However, the issue of security and privacy should be taken into consideration while using technology in the class. Portfolios can be utilized for different purposes but the most important reasons are to demonstrate knowledge, present and reflect upon learners' works.

Key words: Portfolio assessment, electronic portfolio, formative assessment, speaking portfolio, educational technology, digital applications

Introduction

Existing technologies permit to store and capture information in different forms, such as graphics, texts, sound and video. Students are able to collect and save their artifacts successfully. Nowadays, together with the development of information and communication technologies, the use of digital applications, portfolios and mainly electronic portfolios have become widespread and received significant attention (Barret, 2000). An umbrella term for all kinds of portfolios which utilize technology in order to collect student's work is a technology-based portfolio. However, we can distinguish video portfolios, audio portfolios and electronic portfolios. Educators all over the world started to implement electronic portfolios in their practice (Chou and Chen, 2009). E-portfolios comprise the same sorts of information as paper portfolios, but the major difference is that electronic portfolios utilize technologies. Learners use the internet to upload their artifacts and pieces of work on different skills. Electronic portfolios propose several benefits such as store, collect, manage the information electronically according to traditional portfolios. This tool aids its users and creators to reflect and identify the learning outcomes. Electronic portfolio can be used as learning tool, an assessment tool and a record of achievements simultaneously.

Mullin (1998) states that portfolios open new perspectives to the teachers in education. Portfolios can help in identifying learners' needs, their main concerns, which activities are more or less effective and how efficient is the process of teaching. Via realistic and meaningful activities high level skills can be measured as an alternative to measuring low level skills in limited time. Electronic portfolios make the assessment process continuous by implementing multiple assessment methods. This tool identifies the learners' strength and weaknesses and encourages them to take part in the process of assessment that develops them into more autonomous learners.

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Portfolio development and assessment are in arrangement with contemporary learning theories in respect to differences in pace, cognitive development of students and learning styles (Yurdabakan, 2011). Electronic Portfolio has become a powerful tool in modern education due to above mentioned factors and characteristics. E-Portfolios provide multiple ways of assessing students learning over time. Portfolios provide realistic evaluation of academic content. E-portfolios are less time consuming, easily to arranged, easily approachable for different stakeholders easily portable, and permanently stored online.

Strategies to Choose Digital Application for Implementing Electronic Portfolios

Nowadays, there is a great headway in the field of technologies, we familiarize ourselves with the latest digital tools and technologies on everyday bases. These can be websites, smartphones, mobile devices, different software programs or applications. Nowadays, educators face a great challenge when they decide which ET resources are most suitable for their classes. Educators are supposed to assess technology for educational purposes. Cennamo, Ross, and Ertmer (2010) propose strategies for educators to contemplate while selecting technologies for their classes. Electronic portfolios are one of the tools for formative assessment. Portfolios are used to show students' skills and knowledge to stakeholders. Portfolio is a significant tool in modern education. It is crucial to take into consideration instructional goals and find technologies which will aid educator to attain those goals.

Technologies which are selected in agreement with learning goals can be highly advantageous. Occasionally educators try various methods to utilize educational technology. Technologies enhance interactivity amongst students and educators. It can utilize as a tool for offering feedback or following learners' progress. Another benefit of implementing educational technologies may comprise group or peer work. While dealing with implementing different technologies educators are supposed to take into consideration user-friendliness, user interface, speed, support and training. Although software programs and technology devices are not always easy to use. While applying educational technologies, teacher is supposed to make sure that it is assessable for students in the class. However, the issue of security and privacy should be taken into consideration while using technology in the class. Using technology is not supposed to encroach upon students' privacy. Leaners' works are not supposed to be accessible for the people who are not stakeholders. Educators are supposed to think through whether the educational technology is well matched with classroom devices. Portfolio is "an organized collection of artifacts that are compiled for specific purposes" (Cennamo et al, 2010, p.36). Portfolios can be utilized for different purposes but the most important reasons are to demonstrate knowledge, present and reflect upon learners' works. Learners can present their artifacts through portfolio and reflect on their own learning. Despite the fact that portfolio is very helpful, it is quite challenging to develop electronic portfolio for both learners and educators. However, the process of portfolio development can be exciting, interesting and engaging. Progresses in ET makes it easy for educators and students to develop e-portfolios. There are various online technologies and different forms of portfolio development software such as presentation software, spreadsheet software, multimedia software, Weblog software, commercial portfolio development products, proprietary portfolio products, content management system. The above-mentioned software is suitable for different kinds of portfolios. A wide variety of common tools and software applications can be used to develop electronic portfolios. Tools should be selected carefully in order to assess and utilize your portfolio over time

Electronic Portfolio Development

Portfolios as mentioned above are utilized to show learners' skills and knowledge to stakeholders. Learners demonstrate their knowledge through portfolios, present their artifacts to stakeholders and also reflect upon their own learning. Portfolios can be very supportive; however it is challenging to develop electronic portfolio not only for learners' but also for educators.

Assessment portfolio offers an alternative authentic way to assess learners' progress and achievements. In order to prepare assessment portfolio, teachers need to "assemble a collection or documents and artifacts that demonstrate the achievement of specific standards or objectives." (Cennamo et al., 2010, p.39) As mentioned above portfolio development can be challenging, but at the same time engaging and interesting process. Modern equipment and advances in educational technologies make it easy for learners and educators to develop e-portfolios. There exist different forms of portfolio development software. Therefore, there is no need for specialized software. Both learners and teachers can use any software application which is able to link pages or artifacts. There is no necessity to create complicated pages. Pages can be simple, similar to series of word processed documents which link to other artifacts. In the following table there will be presented the tools that can be utilized in order to develop portfolios, some examples of these software programs and their features. A wide variety of common tools and software applications can be used to develop electronic portfolios. Such as, Spreadsheet software, which is an interactive computer application which analyses, organizes and stores information in tabular form, Multimedia software, a software which gives opportunity to utilize a mixture of pictures, sound, film and writing. It allows digital audio, image and graphics editing. Commercial portfolio development products, which develops a product portfolio is the collection of all the products or services offered by a company, etc... (Cennamo et al., 2010).

Tools should be selected carefully in order to assess and utilize your portfolio over time. According to Cennamo et al. (2010), while selecting amongst potential development tools, following factors should be taken into consideration. The selected software should not be very complicated and difficult to use. Links amongst the items are supposed to be edited and created in an easy way, in order to provide for easy navigation to all areas within the portfolio. Another important factor is the ability of the tool to integrate data from a variety of formats. Different artifacts such as video, audio, images are supposed to be displayed easily. Stakeholders need to assess the tool throughout the academic year or longer, it is also significant to consider how artifacts can be represented in an alternative method, for instance on a web page or in linked documents. The tool chosen by the learner or the educator needs to have capability to display contents of portfolio so that it will be useful for multiple purposes and audiences. Portfolios need to be easily updated and dynamic. The tool is supposed to update pages quickly without complications. One important factor is demand for confidentiality. If materials need to be kept private a program that offers password protection of chosen content is necessary. Particularly if portfolio is posted on the web (Cennamo et al., 2010).

Cennamo et al. (2010) distinguish four major steps of portfolio development: the first is to define the purpose, distribution, medium, audience, and development tool. On the initial phase the purpose and the audience (stakeholders) for the portfolio are defined, these factors affect the content and the appearance of the completed product. The portfolio can be created using word processor, presentation software, web development software, or a database program.

The second step is to design the portfolio organization and layout. The audience applicable artifacts which shows the attainments of particulate standards and aims are chosen. This step includes designing the overall organization of the portfolio. Learner or educator chooses what and why he/she wants to include in the portfolio. When appropriate items are identified, the space can be designated for items yet to be developed. Users of portfolio usually think about the best way to organize materials. The portfolio users have to locate, retrieve and update different items in the portfolio therefore proper organization of items is vital.

In terms of sequencing and grouping, purpose and audience should be taken into consideration. In case of assessment portfolio, when the main purpose is to demonstrate the growth over time, a chronological ordering of materials is the best way. If teacher or learner wants to demonstrate that certain standards have been met, artifacts in the portfolios can be organized based on checklists or rubrics. The proper arrangement of portfolio is also vital. Directories are needed to make updating and retrieval easy. Within the portfolio navigation bars and links can be used to help stakeholders to navigate to various sections. It is more convenient to create multiple pages with fewer topics on them rather than to create few pages with great amount of information. This approach is less confusing for the stakeholders. The creators of portfolio can include table of contents as well as menus in order to simplify for the users to locate the artifacts. It is also significant to draw interested stakeholders' attention towards significant items. Formatting features can be used for that reason.

The third step is to develop the portfolio. Creators of portfolio sometimes need to format artifacts included in portfolio to specific format. In case of electronic or digital portfolio, non-digital artifacts are supposed to be rehabilitated to a digital format. Throughout my experiment I imported audio and video clips to my computer, they were uploaded and digitized. It sounds relatively time consuming to develop portfolio, however it is rewarding to collect all the work in one place. While preparing an assessment or showcase portfolio, learners consider, how each artifact demonstrates their achievements of the necessary standards or objectives.

And the final step is to deliver it to its intended audience. When portfolio is defined, designed and developed it is important to distribute it to anticipated audience. Portfolios are supposed to be presented to its intended stakeholders. E-portfolios can be dispersed via web, CD, DVD, or other storage media (Cennamo et al., 2010).

Electronic portfolios are easily controlled since various artifacts are handily located in the same digital space. It is also easy to link items. Content can be easily repurposed to meet alternative goals. And finally, it is convenient to distribute to stakeholders who are interested to observe the collected work.

Speaking Portfolios in Formative Assessment

In oral communication classes, traditional assessment is not very accurate since speaking is viewed as one of the most challenging skills in terms of assessment (Luoma, 2004). In the process of evaluating speaking the success of speaker depends on various factors, learner is supposed to have decent command of linguistic features, the awareness of subject matter, and appropriate accent. One significant hurdle which speaker faces during speaking performance is anxiety (Luoma, 2004). Speaking assessment is also affected by listening skills of the speaker. These different factors make difficult to ensure validity and reliability of the speaking assessment. Brown (2004) proposes that in order to deal with common problems in assessing speaking, teachers might take the subsequent steps, they might find a way to apply an eclectic approach to meet students' needs and promote communicative language teaching as well as raise their students' awareness of meaningful and correct features of their language and to record students speaking presentation to mark and check reliability. Another wide-spread problem with assessing speaking is the lack of regular assessment of oral language and lack of assessment, which evaluates not only final products but also the process to them (Yoshida, 2001). To take into consideration all above mentioned suggestions, and deal with the potential problems of speaking assessment oral portfolios with technology might be an effective way in EFL classes. Nowadays, technologies have radically altered routines and practices in language teaching. Lately, incorporating technology in alternative assessment methods such as portfolio use has been of interest in ELT classrooms.

In EFL classes, portfolios could focus on all four macro skills of a learner as a whole or could be developed in to improved one particular skill, for instance speaking, reading or writing. These types of portfolios are called specific skill-based portfolios. Oral portfolios are one of them. Skill based particularly speaking portfolios are designed to improve learner's oral skills that help them to communicate more effectively. Oral portfolios are valuable tools to observe and monitor student's improvement in speaking. In order to assess speaking effectively Brown (2004) suggests teachers to concentrate on meaning, to focus on the essential link between speaking and listening, to give students chances to initiate verbal communication and encourage the improvement of speaking strategies, to deliver intrinsically motivating methods, and inspire the use of authentic language. Brown also emphasizes the importance of providing students with timely and proper feedback.

Oral portfolios are meant to deal with the problems of portability, practicality and time restrictions. The types of the most widespread technology based oral portfolios are, audio, visual and electronic portfolios. While using electronic speaking portfolios learners prepare their speeches in the classroom with a pair or within small groups. Teachers have the role of facilitators and provide some help if necessary. Learners perform tasks orally teachers' audio record or video records learners' performance. Later the speech can be uploaded on internet or any software.

Danny Huang and Alan Hung (2010) conducted a study to find out whether e-portfolios enhance FL learners' oral performance in particular, lexical richness, language quantity, and syntactic difficulty. The study was also aimed to investigate learner's attitudes towards the engagement of electronic speaking portfolios as a means of assessment. The results of the research showed that students who used electronic portfolios had better performance in regard of using higher level vocabulary and more complex grammatical constructions. Within the research framework, e-speaking portfolios enabled learners to revise and re-upload their artifacts in an unlimited number of times. Consequently, learners were able to monitor their headway over time.

Wang and Chang (2010) in their study investigated whether the utilization of electronic speaking portfolio could reduce the level of anxiety among learners and improve their oral skills. The results were satisfactory and revealed that although this approach cannot eliminate anxiety absolutely but it can decrease its level. The results showed that the oral portfolio permitted learners to learn not only from their teachers but also from their peers. Students can monitor and change their learning process accordingly.

Based on above mentioned studies I can conclude that there is a connection between implementing electronic speaking portfolios and improving EFL student's speaking skills. The learners who participated in the studies showed positive attitudes towards learner autonomy, self-reflection, practicality, motivation, peer–feedback, reduction of anxiety, and development of oral skills while using electronic speaking portfolios. The majority of the learners believed that speaking portfolio had reinforced their proficiency level in English. Particularly in terms of peer-feedback, self-reflection, and enhancement of speaking skill. However in Georgia there are not many studies concerning electronic speaking portfolios. Research conducted by me was aimed to investigate whether the application of electronic speaking portfolios for formative assessment could improve students' academic performance in EFL classes.

Speaking Portfolios vs. Portfolios for Development of Writing, Reading and Listening Skills

Portfolio assessment has been broadly used all over the world during the last few decades. Portfolios has been used for two main purpose, as an assessment instrument and as a tool that helped to enhance learners' learning skills. Types of portfolios are different according to their purposes and items collected in it. Portfolios are widely used to assess learners reading or writing skills. Nevertheless studies which deal with analyzing the effects of portfolio assessment on students speaking skills are limited (Yrdabakan, Erdogan, 2009). According to different studies (Valencia and Place, 1994; Stark, 1999; Shorb, 1995) portfolio

assessment has a great effect on learners' progress as readers and writers. Due to this the utilization of portfolios to assess reading, writing and language arts skills is widespread. Students more actively to writing activities due to portfolio assessment, it also improves learners study-habits and self-evaluation on their writing skills. A writing portfolio is a collection of learner's texts that shows learner's progress, effort and achievement in writing.

A portfolio approach to reading assessment encourages teachers to use various ways to evaluate learning. Reading portfolios include self-selected representative samples of the learner's work taken from real reading and responses to reading. The main purpose of a reading portfolio is to create an environment where students increasingly assess reflect on and take control of their own progress in reading according to learning objectives. Reading portfolios encourage students to be involved in activities like, confirming, judging and questioning what they read. It helps students to develop into critical readers (Yrdabakan, Erdogan, 2009). Reading portfolios like writing portfolio rises student's degree of autonomy at the end of portfolio implementation.

Listening portfolio is similar to any other kind of portfolio. Listening portfolio includes assignments and pieces of work that shows learners' capability. Listening is quite challenging language skill to pinpoint, however utilizing listening portfolio helps to highlight learners' headway in this specific skill. Listening portfolio is wonderful tool for self-reflection and improving listening skills.

All above mentioned types of portfolios are more common that speaking portfolios. It is very challenging to assess speaking and to implement speaking portfolio. If we compare speaking portfolio for assessment to writing and reading assessment portfolios, we will encounter some differences. Speaking portfolio is more communicative, if it is carried out in a group individual contribution is more visible, the cheating and guessing is reduced, however it is time consuming and rather subjective. On the other hand reading and writing portfolios for assessment takes less time to hold, especially in large groups. It is considered to be more objective. However it is less communicative especially close ended variants. To implement electronic speaking portfolios requires high teacher qualification. However, nowadays the application of speaking portfolios have increased.

Electronic Portfolios in Primary School

Portfolios are effective and rather popular way of motivating young learners. Portfolios provide an enjoying and fun way to review language knowledge. Portfolios help young learners to reflect on their own objectives, and highlight learners' success. In Europe and United States electronic portfolios are widely used among primary school students. learners enjoy the process of working with portfolio. The primary school children are lively, inquisitive and enthusiastic in all their activities. Portfolios encourage them to be independent and organized. All activities which teachers use are centered around achieving the main objectives . the main purpose of implementing digital portfolios in primary school is to enable children to work independently and to record the process of developing. As mentioned above portfolios develop educational skills in children. It demonstrates children's achievements to parents and other stakeholders. Mostly educators receive positive feedback from parents who show considerable interest in portfolio implementation.

The digital portfolio, implemented in primary schools, would be an effective knowledge instrument for children and families as well as valuable tool for teachers. It is believed that electronic portfolios work best with learners who acquire the technological abilities to develop and maintain their own portfolio. However, learners in about fourth or fifth grade and even younger are able to use web based tools to construct digital portfolios. While using electronic portfolios children would be able to check their own

capabilities and to promote self-guidance. This could be a way to help child to modify their behavior in relation to the goals they want to accomplish. Every child is contributor and responsible for their own learning (Spinsanti & Bertini, 2008).

Children develop many useful skills for web comprehension, multimedia and digital artifacts. Moreover children identified the needed elements for an accurate self-assessment of their skills. Young learners discover how to show their learning in a variety of ways due to electronic portfolio.

Experimental Study: Implementation of Electronic Speaking Portfolios for Formative Assessment in Primary School

Research Goals and Methods

The aim of the experiment was to define learners' headway during the implementation of electronic speaking portfolios. The test results of the control and the experimental group were compared in order to disclose the difference (if any) of the efficiency of the traditional (without a speaking portfolio application) and the suggested (with a speaking portfolio application) methods of teaching speaking.

A significant aim of conducting the experiment was to answer the research questions: whether the application of electronic speaking portfolio for formative assessment was an effective means of assessment and whether this method affected the students' academic performance and gave a more precise measure of learners' headway.

The main objectives of the experiment were the following:

- To improve learners' academic performance through application of electronic speaking portfolio;

- To help students develop into more autonomous learners and encourage them to work and study independently;

- To encourage self and peer-assessment;

- To encourage co-operative teaching and learning and teacher-student conferencing.

In order to answer the above-mentioned research questions quantitative research methods were applied. The quantitative method was used to collect, evaluate and compare the data. The experiment's duration, to increase the results' reliability, was two semesters or seven months.

Setting and Participants

The research was conducted at British-Georgian Academy, in Tbilisi, Georgia, during 2017-2018 academic year. British-Georgian Academy is a private school authorized by Georgian Ministry of Education and Science. It was established in 2006. Fourth-grade learners, who participated in the experiment, had six English lessons a week, forty-five minutes each. Speaking lesson was held once a week for 45 minutes. The academic calendar started on October 11 and continued up to June 22. When learners enrolled to the school, some of them had a basic knowledge of English language. At the beginning of the first semester placement tests were held. The number of "strong", "average", and "weak" students in both classes was approximately the same. However, the level ranged for all students from A1 to A2, as mentioned above.

Based on convenience sampling, two fourth-grade classes were selected. One of the groups was at random selected as a control group and the other as an experimental group. There was the same number of students (12) in the control and experimental group. The oral approval for conducting the experiment was obtained from the administration and principal of British-Georgian Academy. The oral permission was also obtained from the parents of experimental group's students. The learners were aware that they participated in an experiment and they showed their positive attitude and enthusiasm towards it, however, for objectivity purposes, they were not informed about the objectives of the study.

Table 1. Statistical data of experimental and control groups

	Experimental group	**Control group**
Total number of students	12	12
Nationality	All participants are from Georgia	All participants are from Georgia
Age	8-9	8-9
Language Level	A1-A2 (2 students)	A1-A2- (1 student)
Social Condition	High	High
Sex	7 males, 5 females	6 males, 6 females

At the beginning of the academic year, both classes had approximately at the same level of speaking skills, they had the same learning environment.

Due to the ethical aspects of conducting the experiment in the field of education, the names of the participants are not accessible in the research.

Procedure of the experiment

The experiment lasted for 7 months, 28 weeks. 24 speaking lessons were delivered and 4 homework tasks were presented by the students. The experimental group was taught with the application of speaking portfolio, while the control group was taught without the application of speaking portfolio. In the experimental group, two types of portfolios, working portfolio and show-case portfolio were used. Otherwise teaching in both groups were identical. The pre-test was held on September 12th in both groups. The while-test 1 was held on December 18th 2017, after 13 weeks of experiment. The while-test 2 was held on February 21th 2018, after 22 weeks of experiment. The post-test was held on March 29th, 2018, in the 27th week, which was the final week of the experiment. The delayed test was held on April 30th. After one month since the experiment was finished.

Both groups utilized the same textbooks and supplementary materials. The similar method of material presentation, the same activities were used, however, the groups experienced different methods of assessment. The textbook as well as supplementary textbook contained speaking tasks and activities at the end of every unit. The activities in the experimental group were slightly modified to be suitable for portfolio assessment. Students in the experimental group had an opportunity to peer-assess and self-assess their performance based on rubrics.

A speaking pre-test, 2 while-tests, a post test and a delayed test were used to measure and compare the scores of the students.

The activities used in both experimental and focus groups during the experiment were individual, pair, group and whole class work with emphasis on both teacher feedback and student's feedback. The activities were specially selected to promote learner's communicative skills, to improve learner's knowledge of vocabulary, grammar and pronunciation. The speaking skills' assessment in the control group was more teacher-centered while in the experimental group it was more student-centered, due to the application of the speaking portfolios.

Once a week students in both experimental and focus groups had speaking lessons. In experimental group, speaking tasks performed by the students were audio recorded or videotaped by the teacher. Later they were uploaded on the computer. Learners had opportunity to listen to their recording. Teacher provided students with oral feedback, students on the other hand peer assessed and self-assessed. The assessment was provided based on the rubric, created beforehand. Besides, learners presented four homework tasks within the framework of the experiment. While preparing the homework, students prepared the task and held presentation. During the presentation, classmates were able to ask questions concerning their portfolio. Students made their own recordings and uploaded them on "Schoolbook" software, which is a modern school managing system. Assessment was done by the teacher, based on the criteria which was established cooperatively by students and teacher beforehand. Finally, all recordings were uploaded to "Schoolbook" software, in order to create showcase portfolio for individual students. It that available to all stakeholders.

The pre-test was carried out in order to identify the participants' initial (for the research) level of speaking in EFL skills. To make the test results more reliable and valid, Cambridge Young Learners' English Tests were selected, particularly the official examination papers from University of Cambridge ESOL examination, Movers 7 and Movers 8. In the speaking test, the student speaks with one examiner approximately from 5 to 6 minutes. During the tests, another teacher was also attending the speaking test, observing the process and taking notes. The format of the test was explained beforehand to the student by the teacher. The speaking skills were assessed according to various criteria, comprising comprehension, the capability to produce an appropriate response and pronunciation. The speaking exam consisted of four parts. The first part dealt with describing two pictures by using short responses. The second part dealt with understanding the beginning of the story and then continuing it, based on a series of pictures. The third part of the exam dealt with suggesting a picture which is different and explaining why. At the end of the exam, the teacher asked general questions. Learner are assessed for understanding and responding to personal questions.

All other tests were the same by format, to make the obtained results comparable. Totally 4 tests were applied to compare not only the initial and final levels (which may be not too reliable, due to the impact of various external factors like the student's state of health during the test, the level of anxiety, tiredness, etc.), but the dynamics of the speaking skills' development.

Experiment Results

The assessment was done in a ten-point system. The results of the five tests for the experimental and control groups are presented in the table 2 and 3 below.

Table 2. Pre-test, while-test 1, while-test 2, post-test and delayed test results for the experimental group

Student	Pre-test	While-test 1	While-test 2	Post-test	Delayed-test	Added value
Student 1	4	5	7	8	8	+4

Student 2	5	5	6	8	7	+3
Student 3	9	9	10	10	10	+1
Student 4	7	7	8	9	8	+2
Student 5	6	7	8	8	8	+2
Student 6	5	7	8	9	9	+4
Student 7	8	9	10	10	9	+2
Student 8	4	4	5	6	6	+2
Student 9	3	5	6	8	8	+5
Student 10	6	8	8	10	10	+4
Student 11	6	8	8	10	9	+4
Student 12	7	7	9	10	10	+3
Mean	**5.83**	**6.75**	**7.75**	**8.83**	**8.55**	**2.72**
Median	**6**	**7**	**8**	**9**	**8.5**	**2.5**
Standard deviation	**1.74**	**1.65**	**1.54**	**1.26**	**1.24**	

Table 3. Pre-test, while-test 1, while-test 2, post-test and delayed test results for the control group

Student	Pre-test	While-test 1	While-test 2	Post-test	Delayed-test	Added value
Student 1	3	3	5	4	4	+1
Student 2	8	7	7	8	8	0
Student 3	7	8	8	9	8	+1
Student 4	5	6	6	6	5	0
Student 5	6	6	6	6	7	+1
Student 6	6	7	6	7	7	+1
Student 7	10	9	10	9	9	-1
Student 8	7	4	5	4	4	-3
Student 9	8	7	8	7	7	-1
Student 10	6	6	7	6	6	0
Student 11	8	7	8	8	8	0
Student 12	4	5	6	6	5	+1
Mean	**6.5**	**6.25**	**6.75**	**6.67**	**6.3**	**-0.2**
Median	**6.5**	**6.5**	**6.6.**	**6.7**	**6.6**	**+0.1**
Standard deviation	**1.93**	**1.65**	**1.42**	**1.66**	**1.72**	

The mean results of the pre-test showed that the level of the speaking skills in the experimental group (5.83) was to a certain degree lower than in the control group (6.5). However, already after the while-test 1 the situation changed. Not only did the experimental group get a higher mean result (6.75) than the control group (6.25), but also it increased the result while the control group's result decreased.

According to the while-test 2 statistics the students of the experimental group again increased their language competences more than students of the control group. The average language competence and skills' level of the experimental group rose up to 7.75 points (or by 1 point) in the experimental group. As for the control group, the average language competence and skills' level rose less (to 6.75 or by 0.5 points). Accordingly, after a six-month period, there was more improvement in the experimental group than in the control group. The standard deviation in the experimental group was 1.54 and in control group it was 1.42. This level of standard deviation demonstrates that dissemination of "weak" and "strong" students was approximately the same. In both groups the level of standard deviation was decreasing, which means that the groups were becoming more homogeneous, so the teaching method had an equal impact on all students.

According to the post-test statistics, the students of the experimental group again increased their language competences more than students of the control group. The average language competence and skills' level of the experimental group rose up to 8.83 points in the experimental group. As for the control group, average language competence and skills' level rose only to 6.7. Accordingly, there was more improvement in the experimental group than in the control group. Standard deviation in experimental group was 1.26 in experimental group and in control group it was 1.66. This level of standard deviation demonstrates that the experimental class was becoming more homogenous, and more students got higher results.

We can see that the learners of the experimental group were progressively improving their results (see the added value results, which are all positive), while in the control group not all students improved their results (some maintained the same level, while some students' grades decreased by one to three points.

The delayed test showed a certain decrease of skills' level, for the experimental group, from 8.83 to 8.55, which is normal, as during that period no special treatment was offered, and for the control

To be sure of the obtained results, not only means, but also medians were calculated. They show the same tendency: eventual improvement by 2.5 points for the experimental group (the median increased at each step) and by 0.1 for the control group.

The results demonstrate that the grades in this experimental group were persistently improving. Not only the mean, but also the mode (most often received grade) was growing. Median demonstrated growth as well. The standard deviation is decreasing from time to time, which shows that the level of skills in the group not simply increase, but become more even from student to student, which means that the development of the average is not obtained because of the effort of a few students, but due to the development of skill level of majority of students.

As the significance of comparing post-tests in control and experimental groups is 0.02, which is smaller than $P < 0.05$, it can be determined that there is a significant difference between the two groups' test results.

		t-Test for Equality of means		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Pre-test	Equal variances assumed	0.860	0.364	3.581	22	0.002	0.67	0.60	-0.911	3.421
	Equal variances not assumed			3.581	20.516	0.002	0.67	0.60	-0.906	3.426

It is obvious that the students of the experimental group have shown more progress in total performance. The results designate that the difference is substantial.

Discussion

The obtained results are in agreement with the results received by other researchers. Huang and Hung (2010) held a quantitative and qualitative research with 30 students in Taiwan, which showed that the application of speaking e -portfolio improved students' fluency and increased their vocabulary. Besides, Safari and Koosha (2016) held a study with 72 students studying at Kowsar Language Institute in Esfahan, Iran, which showed that intermediate and advanced level students' speaking skills improved as result of application of speaking portfolios. Cepik and Yastibas (2013) studied the application of e-portfolios in order to increase 17 preparatory class university students' speaking skills in Turkey and came to positive conclusions. In another, qualitative, study (Yastibas & Cepik, 2014) the same authors found that language teachers also support the application of portfolios for teaching speaking in a foreign language. However, it is necessary to note that the role of portfolios has been more studied for the development of writing, reading and listening skills, besides, most of publications deal with university students, so more investigating on the issue dealing with school children should be held.

Conclusion

The main objective of the current research was to determine learners' headway during the implementation of electronic speaking portfolios via educational technologies. Consequently, outcomes in this study indicated that learners benefit from the use of

electronic portfolios as a means of assessment of their speaking skills during their studies. Thus, the application of e-portfolios for the enhancement of speaking skills

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