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FORMATIVE ASSESSMENT IN HIGHER EDUCATION: USE OF ONLINE APPS AND LEARNING PLATFORM

Abstract. The paper contains research based on the course of English as a foreign language with 1st year students. It studies the formative assessment through written tasks, oral presentations and performance of students in the classroom as it is given in the curriculum of 1st semester. However, the curriculum for 2 semester involved major changes – switch to the formative assessment using digital technologies, including UIB EngApp, Kahoot and Moodle as an indispensable part of learning process. The aim of the paper was to study performance of the students in In 1st semester and in 2nd semester, find the differences in teaching process and define the efficiency of formative assessment with use of digital technologies.

The researcher questions if formative assessment which applies digital technologies shows more positive influence to the result/ performance of a student. Digital technologies assessment involves online apps such as UIB EngApp, Kahoot, and learning platform Moodle. The researcher investigates how indirect feedback through digital technologies affects student's performance; how delayed and instant feedback influences to overall refection of a student.

The author held an experiment involving 1st year students students to collect data. Quantitative and qualitative methods were used to analyze the collected information to provide data on the results of formative assessment and performance of students. The findings provide results of students on final exams as well as results of formative assessment, which includes 4 major midterm tests and weekly tests on online apps and learning platforms. The study contains the results of 50 students, who during the experiment had formative assessment through digital technologies as well as traditional one. As we see formative assessment through online learning platforms and apps is very efficient for students performance. The ability to integrate digital technologies in and outside the classroom benefits students and learning process.

Key words: formative assessment; higher education; digital education; online applications; learning platform.

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Жоғары оқу орнындағы қалыптастырушы бағалау: онлайн қолданбалы бағдарламалар және оқыту платформалары

Аңдатпа. Мақалада Халықаралық бизнес университетінің1 курс студенттеріне ағылшын тілін шетел тілі ретінде оқытуды зерттеу нәтижелері көрсетіледі. Жұмыста жазбаша тапсырмалар, ауызша сөз алу және оқушылардың аудиториядағы үлгерімін қалыптастырушы бағалау 1 семестрдің оқу бағдарламасына сәйкес қарастырылады. Сол сияқты 2 семестрдегі оқу бағдарламасында маңызды өзгерістер-UIB EngApp, Kahoot және Moodle цифрлық технологияларын қолдана отырып қалыптастырушы бағалауға көшу мазмұндалады. Жұмыстың мақсаты оқушылардың 1 семестрдегі және 2 семестрдегі оқу үлгерімін айқындау, цифрлық технологияларды қолдана отырып оқу үдерісіндегі айырмашылықтарды анықтау және қалыптастырушы бағалаудың тиімділігін талдау болып табылады.

Зерттеу сұрақтары: цифрлық технологияларды пайдалануда қалыптастырушы бағалаудың және білім беру үдерісінің тиімділігі арта ма? Бұл студенттің үлгерімінің нәтижесіне ықпал ете ме? Цифрлық оқыту технологияларына UIB EngApp, Kahoot сияқты онлайн-қосымшаларды және Moodle оқыту платформасы кіреді. Жанама кері байланыс цифрлық технологиялар арқылы студенттің үлгеріміне әсер ете ме?

Автор 1 курс студенттерінің қатысуымен эксперименттік жұмыс жүргізген. Студенттердің үлгерімі және қалыптастырушы бағалаудың нәтижелерін талдау үшін жинақталған ақпараттарда сандық және сапалық әдістер қолданылған. Студенттердің нәтижесі – бұл оқушылардың емтихандағы, сонымен қатар 4 негізгі аралық тестер мен апта сайынғы онлайн-қосымшадағы және оқу платформасындағы қалыптастырушы бағалаудың нәтижесі. Талдау эксперимент

барысында қалыптастырушы бағалаудан цифрлық технологиялардың, сол сияқты бағалаудың дәстүрлі әдістерінің көмегімен өткен 50 студенттің нәтижесі негізінде жүргізілді.

Біздің байқағанымыздай, онлайн-платформа және қосымшалар көмегімен қалыптастырушы бағалау студенттердің үлгерімінің тиімділігінің артқанын көрсетті. Цифрлық технологияларды аудиторияда және оның сыртында интеграциялау мүмкіндігі оқушылар үшін де, оқыту үдерісі үшін де жағымды нәтижелер әкеледі.

Түйін сөздер: қалыптастырушы бағалау, жоғарғы білім, цифрлық білім, онлайн қолданбалы бағдарламалар, жаттығу платформалары.

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Форматтивное оценивание в вузах: онлайн-приложения и учебные платформы

Аннотация. Статья отражает результаты исследования по обучению английскому языку как иностранному для студентов 1 курса Университета международного бизнеса. В работе изучено форматтивное оценивание посредством письменных заданий, устных выступлений и успеваемости учащихся в аудитории, согласно учебной программе 1 семестра. В то же время учебная программа на 2 семестр содержала серьезные изменения – переход на форматтивное оценивание с использованием цифровых технологий, включая UIB EngApp, Kahoot и Moodle, как важную часть процесса обучения. Целью работы было на основе изучения успеваемости учащихся в 1 и 2 семестрах, выявление различий в учебном процессе и анализ эффективности использования форматтивного оценивания с применением цифровых технологий.

Вопросы исследования: повышается ли эффективность образовательного процесса и форматтивного оценивания с применением цифровых технологий? Влияет ли это на результат / успеваемость студента? Цифровые обучающие технологий включают онлайн-приложения, такие как UIB EngApp, Kahoot и обучающую платформу Moodle. Влияет ли косвенная обратная связь через цифровые технологии на успеваемость студента? Как отсроченная и мгновенная обратная связь влияет на общее развитие студента?

Автор провел экспериментальную работу, в которой приняли участие студенты 1 курса. Для анализа собранной информации о результатах форматтивного оценивания и успеваемости студентов были использованы количественные и качественные методы. Результаты студентов – это результаты успеваемости учащихся на экзаменах, а также результаты форматтивной оценки, которая включает 4 основных промежуточных теста и еженедельные тесты на базе онлайн-приложений и учебных платформ. Анализ проводился на основе результатов 50 студентов, которые в ходе эксперимента прошли форматтивное оценивание как с помощью цифровых технологий, так и традиционных методов оценивания. Как мы видим, форматтивное оценивание с помощью онлайн-платформ и приложений показало повышение эффективности успеваемости студентов. Возможность интегрировать цифровые технологии в аудитории и за его пределами приносит позитивные результаты для учащихся и для процесса обучения.

Ключевые слова: форматтивное оценивание, высшее образование, цифровое образование, онлайн приложения, учебные платформы.

1. Introduction

According to Yorke (2003) assessment is a crucial part of education on every level. Assessment keeps track on students' achievements, diagnoses his/her issues and helps to adjust educational system according to the needs and problems of students. Assessment in higher education is necessary in order to define the level of proficiency and readiness of student to take courses and to study at university. It defines the level of acquisition of knowledge, skills and competencies which are necessary to complete the course and graduate. Assessment is also used to help educators to find the weak points in educational process, advance curriculum to the needs of students.

According to assessment reform group (1999) assessment of the student can be formal and informal. Formal assessment directly influences to the final grade and evaluation of a student, whereas informal assessment is used to know the weaknesses of a student and to upgrade the educational process to meet the needs of the audience.

According to the needs of institution of higher education assessment is divided into different types. In our work we would like to divide them in major three groups of assessment due to their role. Diagnostic assessment is usually taken in the beginning of the course, it goes in the form of placement test, interview and is used to define the level of proficiency of student and to place the

student in appropriate class. According to Carnegie Mellon University (2019) Formative assessment is ongoing, it means that this assessment is used while and through educational process and follows every step of curriculum. It aims to monitor the effectiveness of program and define the success of students through the educational process. Formative assessment identifies the strengths and weaknesses of students and syllabi and allows to make adjustments to meet the needs of a group.

Summative assessment is used at the end of the learning process. It is final assessment and its role is to make the final judgement about student's performance and evaluate his proficiency and achievements in a certain level. Summative assessment is usually highly stressful and important because it is usually graduation grades from school/ college or it is a proficiency test.

Nowadays educational process undergoes major changes. It is more student-centered, student-friendly, the whole educational process is centered around student, his needs, focuses on his strengths and desires, provides low-stress level environment. With the changes in educational process there are changes in assessment, especially formative assessment. Formative assessment matches to the modern needs of students more than any other types of assessment, because it gives students feedback, it helps him to keep track of his results and allows him to adapt and improve during the educational process.

2. Role of formative assessment

The formative assessment in educational process is defined not by the structure or type of the test that is used but rather by its role – to find the strong and weak points of students and adjust the curriculum to their needs, to get detained information from every student in order to modify teaching and learning techniques and methods. The main difference of formative assessment from other assessments is that it goes while, together with educational process and it serves as an indicator of effective, modern, student-oriented teaching. There are different types of formative assessment but what unites them is the presence of feedback.

Feedback is the most important instrument of an assessment which actually differs formative assessment and makes it effective. Feedback is both sided: from student to teacher and from teacher to student, it includes the evaluation of effectiveness and quality of learning and teaching methods (Hattie, J., & Timperley, H. 2007).

Feedback can be delayed and immediate. An immediate feedback supposes an immediate response to the answer of the student, showing the errors and correct answers, while delayed feedback supposes that feedback is given after some period of time. Many researches on immediate and delayed feedback have shown positive results on immediate feedback showing that instant response to probable errors lets students memorize them better and improve their performance. In the research on impact of immediate and delayed feedback on students' performance Bertram Opitz, Nicola K. Ferdinand and Axel Mecklinger (2019) have found that the timing of feedback plays crucial role in student's performance and lets them extract necessary information from feedback and use it to improve their performance. The experiment held by above mentioned authors proved that instant feedback helped students to improve and group with instant feedback were superior in their performance in comparison to the second group with delayed feedback.

Formative assessment can be characterized as progressive and responsive, it provides on going feedback for teachers and students during the educational process and allows them to improve and adjust. It is helpful to teacher to find and fight with group or individual weaknesses and adjust the curriculum to address these weaknesses. Formative assessment is focused on learning process rather than grades and final results, it increases motivation of students and their independence and autonomy in learning process.

3. Types of formative assessment

There are wide variety of formative assessment techniques, methods or types depending on teacher's needs and goals. Generally formative assessment can be divided into individual and group assessment; self-assessment, peer-assessment or teacher-assessment. There are variety of tools and techniques used to evaluate the performance of a student: interviews, written tasks to assess productive skills of students; listening/ reading tasks to assess perceptive skills.

Both homework and classwork can be perceived as a part of formative assessment (Brown H. 2004). The participation of a student in class work, discussions, active involvement in a topic discussed serves as an indicator of understanding and interest of a student; while homework shows the level of acquiring the knowledge and skills discussed in the classroom as much as the autonomy and ability of a student to work independently and single-handedly find, analyze and work with information.

Individual assessment of students usually includes interviews, tests, quizzes, portfolios.

They allow teacher to observe the weaknesses and troubles of every single student in the classroom adapting their teaching methods, however this type of assessment requires a lot of work of a teacher. Group assessment including discussions, debates, jigsaw puzzle, peer-assessment are good to observe the dynamic and learning environment of the students and also helpful to students playing the role of observer – to reflect on mistakes of groupmates, reflect on his own mistakes (Jönsson, A., & Eriksson, U.2019).

According to Gregory K. (2000) self-assessment of a student means their own independent evaluation of the work, it helps them to find their own errors, better their skills, focus their attention on studies and become more autonomous learner. Self-assessment helps student to keep in track their own progress, set and actualize their goals. It develops student's maturity and self-evaluation and makes them more responsible (Babo, L., Azevedo, J., Torres, C., & Lopes, A. P. 2017).

According to Andrade H. (2009) peer assessment involves the work of several students: where one is being observed and the other playing the role of observer. Student-observer evaluates the work of fellow mate, giving them feedback and advising the ways to improve. Peer assessment is beneficial for both the observant and the observer, because being the observer means certain level of experience and readiness and supposes the preparation of student to the class and the ability to find the errors and help the observed student to fix them(Schunk, 2003).

4. Methodology

The paper contains research based on the course of English as a foreign language with 1 year students. It studies the formative assessment through written tasks, oral presentations and performance of students in the classroom as it is given in the curriculum of 1 semester. However, the curriculum for 2 semester involved major changes – switch to the formative assessment using digital technologies, including UIB EngApp, Kahoot and Moodle as an indispensable part of learning process. The aim of the paper was to study performance of the students in 1 semester and in 2 semester, find the differences in teaching process and define the efficiency of formative assessment with use of digital technologies.

The researcher questions if formative assessment which applies digital technologies shows more positive influence to the result/ performance of a student. Digital technologies assessment involves online apps such as UIB EngApp, Kahoot, and learning platform Moodle. The researcher investigates how indirect feedback through digital technologies affects student's performance; how delayed and instant feedback influences to overall refection of a student.

The findings provide results of students on final exams as well as results of formative assessment, which includes 4 major midterm tests and weekly tests on online apps and learning platforms. The study contains the results of 50 students, who during the experiment had formative assessment through digital technologies as well as traditional one.

5. Apps to use

Moodle is a learning platform designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalised learning environments (Cooch M.2019).

Moodle is user-friendly resource that allows teachers and students to communicate through digital technologies, acquire knowledge not only in class but also at home. It is an excellent tool to assess student's performance, give them feedback on-time or delayed, make the feedback depersonalized (Cole J. 2008).

In the experiment Moodle was used to apply "blended-learning" technology. All the necessary information was given to students beforehand at home. At the class students discussed information they have covered at home. For formative assessment used every week grammar tests and essays. Also Moodle was used to give the feedback for homework and displayed every class grades for students.

UIB EngApp is unique application developed by specialists in the University of International Business (2018). It serves as an online learning platform to study English skills like listening, reading and learn vocabulary and grammar. The application is used as a part of homework which is available for students anywhere they have an access to internet. The app is flexible and provides instant feedback showing students their progress through whole semester. The application makes a statistics showing the results of students by week, by class and by semester. In the experiment the app is used for every lesson assessment to monitor the progress of students throughout whole semester, and define the efficiency of online learning platforms in language acquiring.

According to Bawa (2019) learning platform Kahoot! is a game-based platform that makes learning awesome for millions of people all over the world. In the experiment Kahoot was used for every lesson formative assessment. It evaluated the

everyday progress of students in grammar tasks and also served as a tool for evaluation of acquiring of in-class information. Kahoot was chosen for our experiment because it allows to create test quickly, it is user-friendly and understandable for all the students, it is flexible and meets the needs of teachers and it serves as an instrument of competition between students. The benefits of Kahoot for our class is that it gives an instant feedback defining the correct answer and it provokes competitive atmosphere that positively affects to learning process. Kahoot also provides a good statistics showing all the necessary information for teachers in order to improve their teaching techniques and adapt the curriculum to the needs of the class.

6. Results of experiment

The experiment described in this article was conducted in 2018-2019 academic year in University of International Business. It involved 50 first year students of intermediate level (B1). The aim of the experiment was to observe English learning skills of students and influence of formative assessment and digital technologies to the process of learning language. The data of the article is taken from 3 online learning platforms as Moodle, UIB EngApp and Kahoot.

Kahoot was used as every lesson tool to assess the progress of students in English grammar. It contains 15 tests for 15 weeks of studies.

UIB EngApp was used as an instrument to assess the progress of students in English vocabulary. It contains 45 vocabulary tasks for 15 weeks of studies.

Moodle was used as a tool to assess the efficiency of learning English grammar through online platforms. It contains 10 tests.

As well as there was a digital assessment there were tests every 7 weeks and exam tests. The results of exam and midterm tests were used in the article to analyze the efficiency of online platforms in formative assessment and the need of university to turn from traditional assessment to the digital, depersonalized formative assessment.

6.1 First semester

First semester did not suppose the use of any online learning platforms mentioned above. Formative assessment was traditional – in oral or written form at class or homework. The results of first formative assessment is depicted in the figure below:
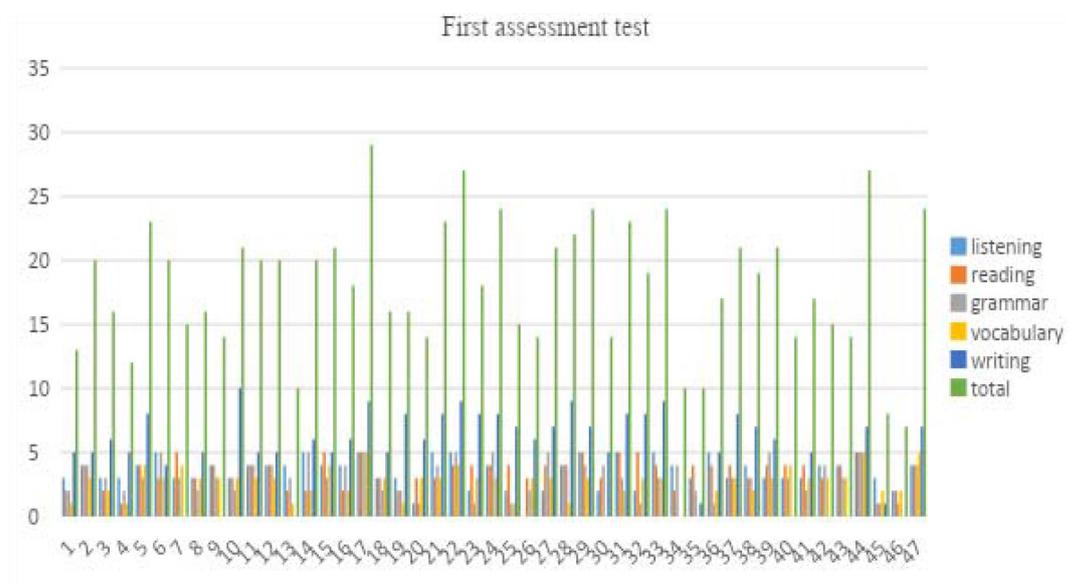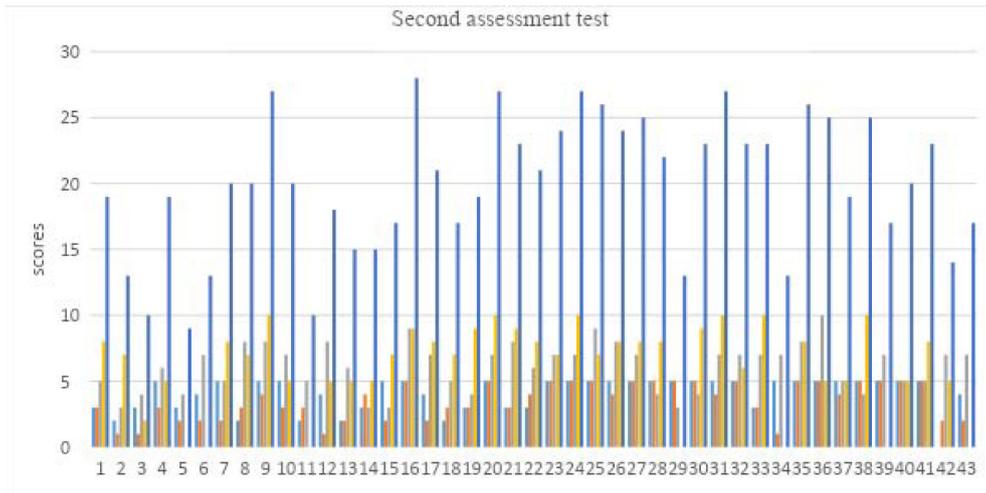

Figure 1 – First formative assessment by criteria.

Second assessment test was held 7 weeks after first test. The results of the test are given below. At the end of the semester there was held summative test that summarizes the to the learning process and the use of traditional formative assessment. The results of formative test are given in the Figure 3.
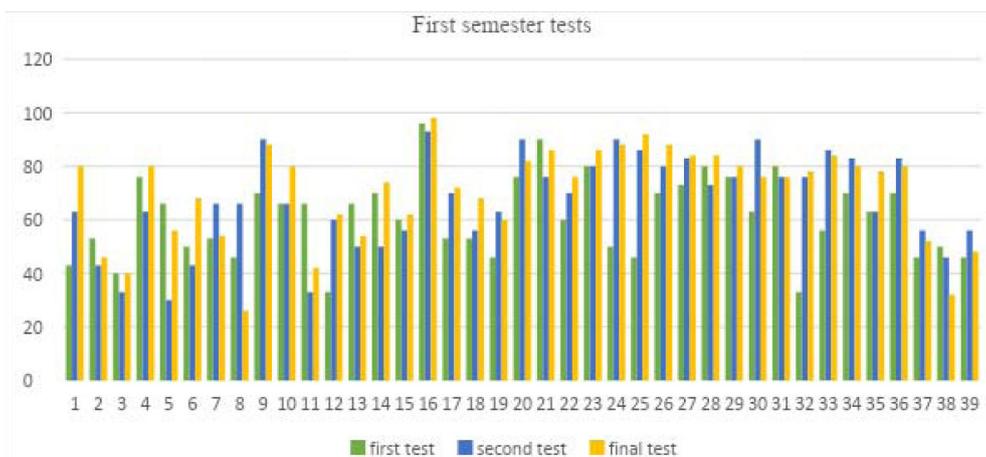
Figure 2 – Second formative assessment by criteria
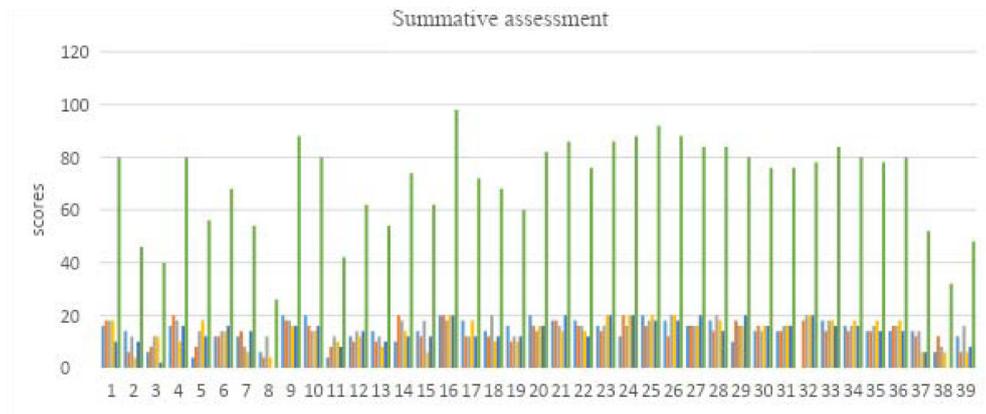
Figure 3 – Summative test by criteria

In the Figure 4 are gathered results for all 3 tests held in first semester. The graph compares the results and performance of students during 1 semester.

Figure 4 – Results of first, second formative tests and summative test of 1 semester

Comparing the results given in the table 4 we may observe positive growth of scores. From these results we may come to conclusion that the methods and techniques used in first semester positively influence to students' performance and may be found efficient.

Second semester

The second semester there were used such online platforms as Moodle, UIB EngApp and Kahoot to improve the results of students and adapt formative assessment to the modern requirements of digital world.

In the Figure 5 are depicted the results of grammar test provided on the MOODLE during 15 weeks. The results are given by groups of students. As we may observe the tests show positive influence on skills and knowledge of English grammar.
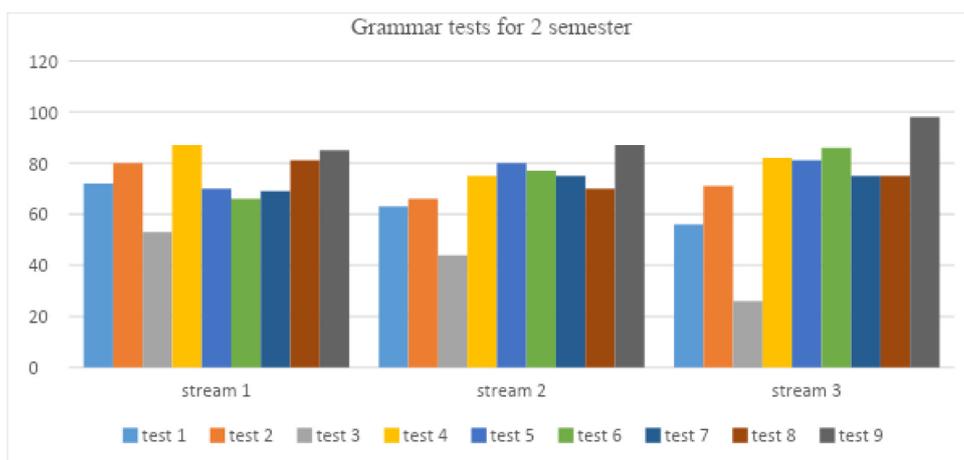
Figure 5 – MOODLE

In the figure 6 are depicted the results of tests from Kahoot during 15 weeks. The results are divided by groups and we may observe positive growth of results.
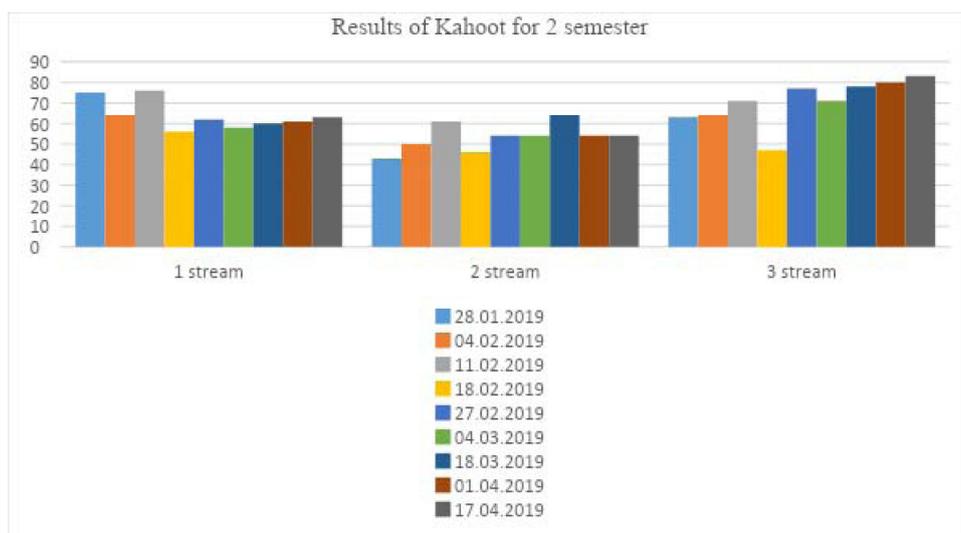

Figure 6 – KAHOOT

In the figure 7 is presented the frequency of use of UIB EngApp by students. As we observe in the table most of students frequently used the app to improve their vocabulary.
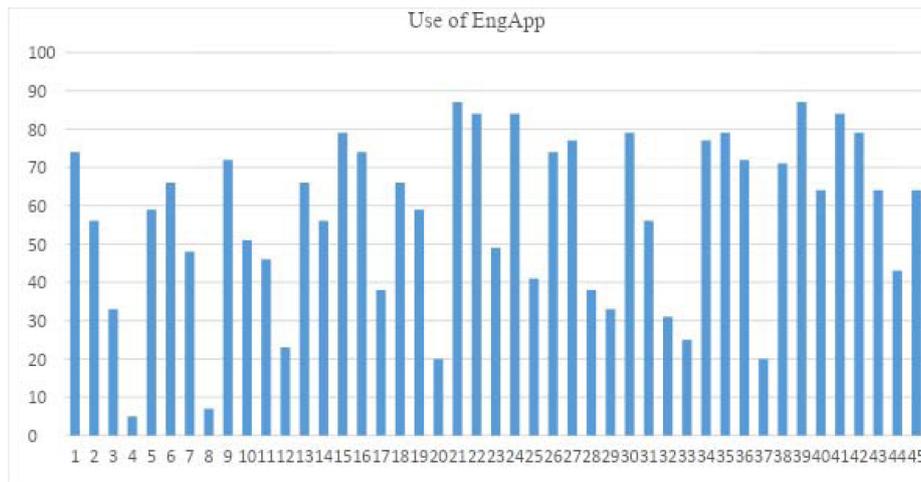

Figure 7 – UIB ENGAPP

In the figure 8, figure 9 are presented the results of first and second formative tests.
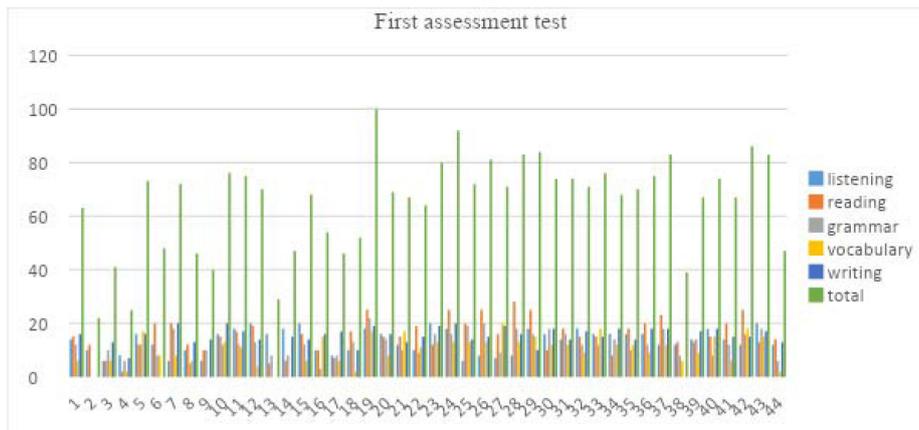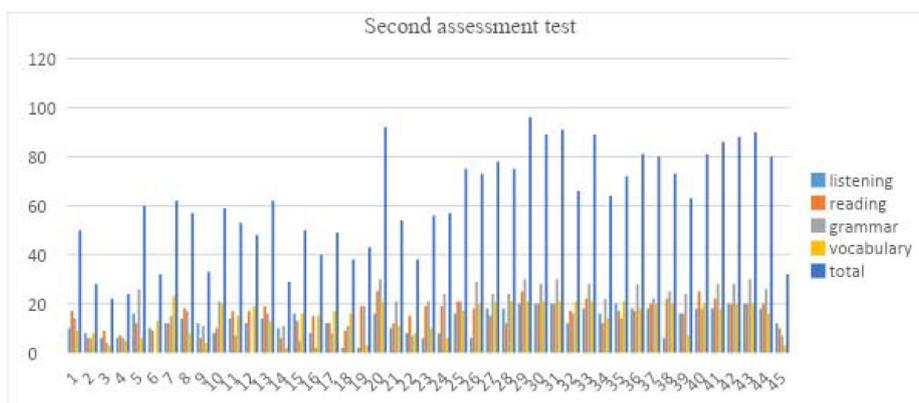

Figure 8 – first formative test

Figure 9 – second formative test

In the figure 10 is presented the results of final summative test.
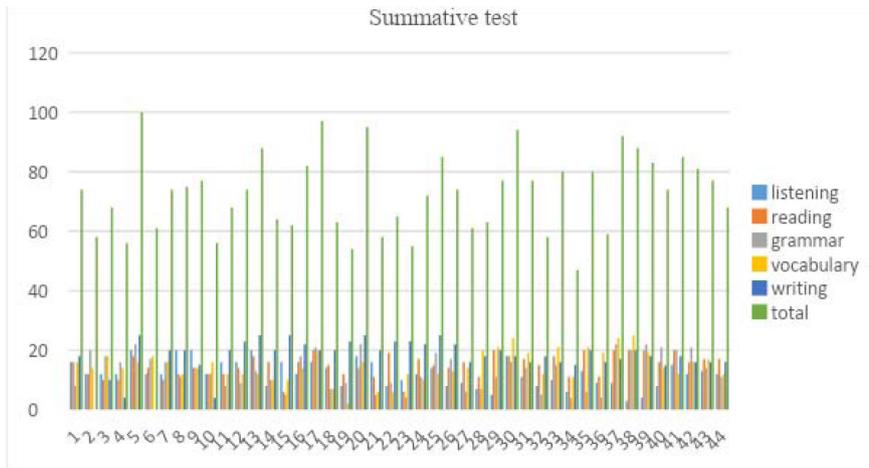

Figure 10 – final summative test

In the figure 11 are depicted the results of first and second formative and summative final test.

From the given graph we may observe that the results thus students' performance are improving.
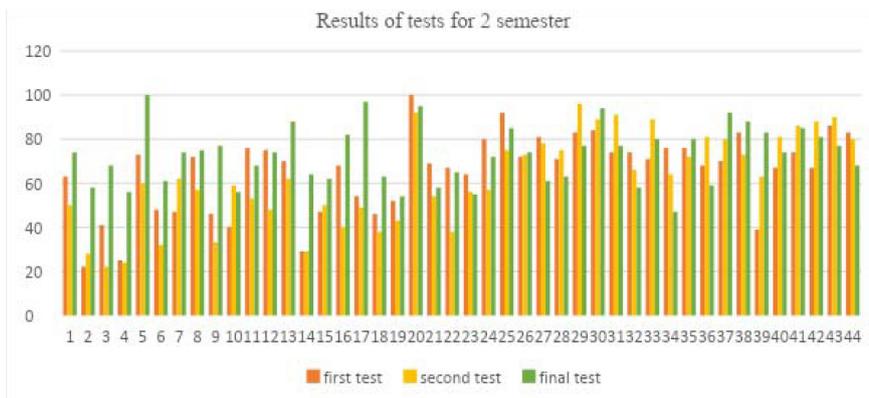

Figure 11 – results of first and second formative and summative tests
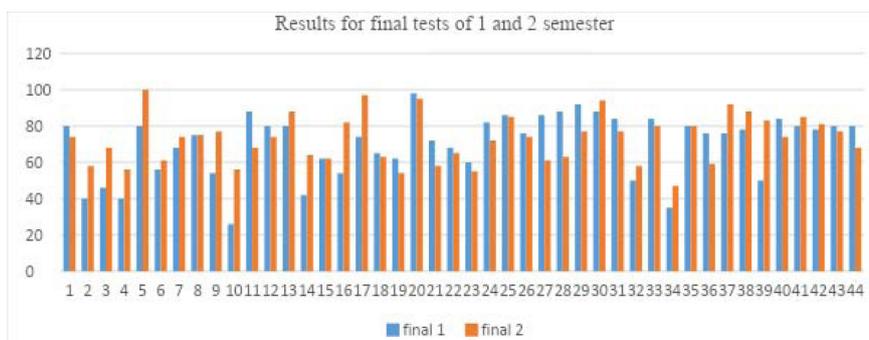

Figure 12 – Comparison of final tests for 1 and 2 semester

The figure 12 opens up all the necessary data that shows the efficiency of experiment. In the graph we may see the results of final test of 1 semester where online apps and learning platforms were not used; also there are the results of final test of 2 semester by students. As we see formative assessment through online learning platforms and apps is very efficient for students performance. It proves that delayed feedback and non-personal feedback has positive results. This article results may be used as a proof that digital learning is modern necessity rather than a whim of a teacher. The ability to integrate digital technologies in and outside the classroom benefits students and learning process.

Conclution

The study contains the results of 50 students, who during the experiment had formative assessment through digital technologies as well as traditional one. As we see formative assessment through online learning platforms and apps is very efficient for students performance. The ability to integrate digital technologies in and outside the classroom benefits students and learning process.

References

Andrade H., Valtcheva A. (2009). Promoting learning and achievement through self-assessment// Theory Into Practice. no 48. pp. 12-19.

Assessment Reform Group. Assessment for Learning beyond the Black Box. – Cambridge, UK (1999). University of Cambridge School of Education, 215 p.

Babo L., Azevedo J., Torres C., Lopes P. (2017). Formative Assessment In Higher Education: Detection And Improvement On Learning Level//International conference on education and new learning technologies. pp. 862-870 doi: 10.21125/edulearn.2017.1187. Bawa P. (2019). Using Kahoot to Inspire// Journal of Educational Technology Systems. Vol. 47. no. 3. pp. 373-390.

Brown, H. (2004). Language Assessment Principles and Classroom Practices. White Plains, NY: Pearson Education. 324 p.

Carnegie Mellon University. Formative vs Summative Assessment. – Eberly Center (2019). – Carnegie Mellon University.

Cole J. R., Foster H. (2008). Using Moodle. CA: OReilly Media, 240 p.

Cooch M. (2019). Moodle 2.0 First Look. Packt Publishing Limited, 272 p.

Digital English v pomosh' kazakhstanskim shkol'nikam.(2018) tengrinews.kz, Almaty

Gregory K., Cameron C., Davies A. (2000) Self-Assessment and Goal Setting: For Use in Middle and Secondary School Classrooms. Courtenay, BC: Connections Publishing, pp. 159-188.

Hattie J., Timperley H. (2007). The Power of Feedback // Review of Educational Research. Vol. 77. no. 1, pp. 81-112.

Jönsson A., Eriksson U. (2019). Formative Assessment in Higher Education// Handbook of Formative Assessment in the Disciplines. pp. 146–169. doi: 10.4324/9781315166933-7.

Opitz B., Ferdinand N., Mecklinger A. (2011). Timing Matters: The Impact of Immediate and Delayed Feedback on Artificial Language Learning// Frontiers in human neuroscience. Vol. 5. no. 8. 8 p. DOI: 10.3389/fnhum.2011.00008.

Schunk D. (2003). Self-efficacy for reading and writing: Influence of modeling, goal-setting, and self-evaluation// Reading & Writing Quarterly. no. 19. pp. 159–172.

Yorke M. (2003) Formative assessment in higher education: Moves towards theory and the enhancement of pedagogic practice// Higher education. Vol. 45. no. 4, pp. 477-501.

Литература

1   Yorke M. Formative assessment in higher education: Moves towards theory and the enhancement of pedagogic practice// Higher education. 2003. Vol. 45. no. 4, pp. 477-501.

2   Assessment Reform Group. Assessment for Learning beyond the Black Box. – Cambridge, UK: University of Cambridge School of Education, 1999. – 215 p.

3   Carnegie Mellon University. Formative vs Summative Assessment. – Eberly Center:Carnegie Mellon University, 2019.

4   Hattie J., Timperley H. The Power of Feedback // Review of Educational Research. 2007. Vol.7. no.1, pp. 81-112.

5   Opitz B., Ferdinand N., Mecklinger A. Timing Matters: The Impact of Immediate and Delayed Feedback on Artificial Language Learning// Frontiers in human neuroscience. 2011. Vol. 5. no. 8. 8 p. DOI: 10.3389/fnhum.2011.00008.

6   Brown, H. Language Assessment Principles and Classroom Practices. White Plains, NY: Pearson Education. 2004. – 324 p.

7   Jönsson A., Eriksson U. Formative Assessment in Higher Education// Handbook of Formative Assessment in the Disciplines. 2019. pp. 146–169. doi: 10.4324/9781315166933-7.

8   Gregory K., Cameron C., Davies A. Self-Assessment and Goal Setting: For Use in Middle and Secondary School Classrooms. Courtenay, BC: Connections Publishing, 2000. – pp. 159-188.

9   Babo L., Azevedo J., Torres C., Lopes P. Formative Assessment In Higher Education: Detection And Improvement On Learning Level//International conference on education and new learning technologies, 2017. – pp. 862-870 doi: 10.21125/edulearn.2017.1187.

10 Andrade H., Valtcheva A. Promoting learning and achievement through self-assessment// Theory Into Practice, 2009. no 48. pp. 12-19.

11 Schunk D. Self-efficacy for reading and writing: Influence of modeling, goal-setting, and self-evaluation// Reading & Writing Quarterly, 2003. no. 19. pp. 159–172.

12 Cooch M. Moodle 2.0 First Look. Packt Publishing Limited, 2019. – 272 p.

13 Cole J. R., Foster H. Using Moodle. CA: OReilly Media, 2008. – 240 p.

14 Digital English в помощь школьникам. tengrinews.kz, Алматы, 2018. 15. Bawa P. Using Kahoot to Inspire// Journal of Educational Technology Systems, 2019. Vol. 47. no. 3. pp. 373-390.