1.10. INTERNAL CONTROL AND ASSESSMENT OF THE QUALITY OF EDUCATION IN GENERAL SECONDARY EDUCATION INSTITUTIONS

1.10. ВНУТРІШНІЙ КОНТРОЛЬ ТА ОЦІНКА ЯКОСТІ ОСВІТИ В ЗАГАЛЬНООСВІТНІХ НАВЧАЛЬНИХ ЗАКЛАДАХ

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Abstract: The article discusses the issue of utilizing electronic systems to control and evaluate the quality of education internally. These systems include an electronic journal, an assessment system, a results analysis system, an electronic student portfolio, and a reporting system. These systems are important tools that aid in enhancing the quality of education and streamlining the learning process. They allow educational institution teachers and administrators to gather, analyze, and save data on students' learning and performance, as well as to effectively assess their work. The article stresses that the use of electronic systems leads to increased transparency and efficiency, and also contributes to enhancing student learning outcomes, providing greater flexibility and accessibility of education to different student categories, and encouraging interaction between students and teachers.

Keywords: education quality assessment; internal control; electronic systems; educational process; learning effectiveness.

Анотація: Стаття розглядає питання використання електронних систем для внутрішнього контролю та оцінки якості освіти. До цих систем входять електронний журнал, система оцінювання, система аналізу результатів, електронне портфоліо учня та система звітності. Ці системи є важливими інструментами, які сприяють підвищенню якості освіти та оптимізації навчального процесу. Вони дозволяють вчителям та адміністраторам освітніх закладів збирати, аналізувати та зберігати дані про навчання та успіхи учнів, а також ефективно оцінювати їх роботу. У статті наголошується, що використання електронних систем призводить до збільшення прозорості та ефективності, а також сприяє покращенню результатів навчання учнів, забезпечуючи більшу гнучкість та доступність освіти для різних категорій учнів, та заохочує взаємодію між учнями та вчителями.

Ключові слова: оцінка якості освіти; внутрішній контроль; електронні системи; освітній процес; ефективність навчання.

The issue of internal control and assessment of education quality in general secondary education institutions is relevant because ensuring the quality of education is a crucial task for any country. Therefore, e-learning tools are necessary for gathering, processing, and analyzing data on student performance. These tools enable teachers, especially educational institution heads and parents, to oversee the learning process and maintain a high level of education quality.

As technology advances and the number of electronic tools increases, educators and school administrators should explore their potential uses. Moreover, electronic methods of internal control and assessment of education quality are important for promoting transparency and openness in the educational process. Therefore, the problem of utilizing electronic means for internal control and

assessment of education quality is an extremely pressing issue that requires research and the development of new tools.

In the context of measuring and evaluating education quality within the monitoring system of general education institutions, the works of V. Prykhodko (Приходько, 2013), O. Alkhimova (Алхімова, 2016), Z. Ryabova (Рябова, 2018), and N. Batsul (Бацула, 2021) are of scientific interest. These authors have discussed various scientific approaches to measuring and evaluating education quality, emphasizing socio-psychological, pedagogical, managerial, and qualimetric components.

The use of electronic means for internal control and assessment of education quality in general secondary education institutions has been explored by G. Chen, J. Liao, and J. Chen (2017), L. Dvoretska (Дворецька, 2021), and T. Lukina (Лукіна, 2021). These authors have highlighted the possibilities and advantages of utilizing electronic learning outcomes assessment systems, providing a methodology for assessing and analyzing data that allows for more precise evaluation of student achievement.

In the study of e-assessment as an effective method for ensuring education quality (Sharma & Sharma, 2018), the authors investigate the impact of e-assessment on student knowledge. They have discovered that e-assessment reduces the cost of paper checking, increases the objectivity and speed of the assessment process, and decreases the likelihood of plagiarism or cheating. The authors have also addressed challenges and potential obstacles that could arise during e-assessment implementation, offering solutions to overcome them.

The implementation factors of e-assessment were studied by M. Shyshkina (Шишкіна,2010) and N. Baharin and Abdullah (2020). These authors have focused on analyzing favorable and unfavorable factors influencing the decision to use e-assessment, based on a survey of teachers who employ e-assessment in the learning process. The study findings demonstrate that technical, financial, and social factors, in addition to low levels of technical proficiency among teachers and students, are the main factors influencing the implementation of e-assessment.

In today's world, many electronic tools are used for internal control and assessment of general secondary education quality, including:

- An electronic journal software allows the tracking of student attendance, progress, homework, grades, and other data.
- An electronic assessment system streamlines the quick and efficient assessment of student work, which can include tests, independent work, and homework.
- An electronic results analysis system analyzes data on student learning, teacher performance, and the effectiveness of study groups, and can be useful in identifying learning problems and enhancing education quality.
- An electronic student portfolio is an interactive system that enables students to collect and showcase their achievements and projects.
- An electronic reporting system helps teachers and administrators gather and analyze data on learning outcomes.

It is worth noting that the use of electronic assessment systems promotes the development of students' computer literacy and information culture, as these systems provide an opportunity to work with electronic tools and technologies. They also reduce the likelihood of errors and ensure a more objective assessment process. Let's examine each of these systems in more detail:

An electronic journal is one of the electronic tools used for internal control and quality assessment in general secondary education. It is a software designed to record various data, including student attendance, progress, homework, grades, and more. The electronic journal performs several functions, such as class attendance recording, homework recording, student grades recording, commenting, report generation, notifications, backup, remote access, integration with other systems, and storage of record history.

An electronic assessment system is software that allows teachers to efficiently evaluate student work and track progress in different aspects of learning. It can include tests, quizzes, learning tasks, portfolios, self-assessment, feedback, rubrics, parental support, analytics, and more. The primary benefits of using an electronic assessment system are that it provides a quick and accurate assessment

process, allowing teachers to receive assessment results and statistics immediately. Moreover, the system can be configured to automatically check test results, significantly reducing teachers' workload and allowing them to devote more time to individual assessment.

The electronic assessment system has several main functions, which include:

- *Test creation*: This function allows teachers to quickly and efficiently create test tasks for students using various formats, such as multiple choice, fill-in-the-blank, short answer, etc. The system enables teachers to create different types of tests, such as single-choice tests, multiple-choice tests, and open-response tests. Additionally, teachers can set the number of questions, duration, and other parameters of the test. The system also allows teachers to save tests and view the results of students' learning in the future. Another useful feature is the ability to automatically grade tests. When a student completes a test, the system automatically checks the answers and provides a grade for each task. This saves teachers time on grading and helps students receive timely feedback on their work. Overall, creating test tasks in an electronic assessment system enables teachers to efficiently create tests, monitor student knowledge, and receive quick assessment results. Such tests help students prepare for exams and ensure high-quality assessment of learning outcomes.

- *Assessment of test results*: This is a crucial function of the electronic assessment system, as it helps teachers analyze students' knowledge and skills and improve their work in the learning process. After a student completes a test, the system automatically checks the test items and displays the assessment results in the electronic assessment system. Teachers can access a detailed report on the test results, including the number of correct answers, the time spent on the task, and more detailed information on which specific tasks were incorrect. This information can be useful for teachers in identifying students' weaknesses and preparing additional materials to help students learn a particular topic. Assessment of test results is a valuable tool for teachers who want to improve their teaching process.

- One of the functions of an electronic assessment system is the *assessment of independent work*. The system allows teachers to create tasks for independent work and evaluate the results of students' work. Teachers can create various types of tasks, such as writing essays, creating presentations, performing projects, etc. Students can upload their completed tasks to the platform where teachers can evaluate the quality of their work. Teachers can apply different criteria for evaluation, such as quality, originality, technical accuracy, etc. The evaluation results are stored electronically and used to form individual student grades. Such an evaluation system enables teachers to effectively monitor the learning process and evaluate the results of students' independent work. It can also provide a more objective and fair evaluation of learning outcomes, as it allows teachers to use the same evaluation criteria for all students. It should be noted that the system may also include a function for evaluating students' independent work. Teachers can create tasks for independent work, which students complete with the support of the electronic system. After the student completes the task, they can submit the results to the teacher through the electronic system. The teacher then reviews and evaluates the results based on a specific evaluation system that depends on the type of task and criteria established by the teacher. Additionally, the electronic assessment system provides the formation of reports on the results of independent work and the tracking of students' progress in certain topics and disciplines. Reports can be automatically generated with statistical data and graphs, which allows teachers to quickly obtain necessary information and draw conclusions about the effectiveness of learning.

- *Grading homework.* The system makes it possible to evaluate students' work done at home. After a student has completed a task, they upload their answers to the system, where the teacher can review and grade them. The electronic system also allows the teacher to keep track of homework that has not been completed and draw attention to it during the next lesson. In addition, an electronic homework grading system can contain different types of assignments, such as test assignments, independent work assignments, research assignments, reports, and others. This allows the teacher to create more diverse assignments that help students develop different skills. It should be noted that homework assessment helps teachers not only evaluate students' work, but also provide feedback and correct mistakes to help students improve their skills and knowledge. It also provides automatic

checking of homework that consists of fixed-answer questions, such as quizzes or multiple-choice tasks. The assessment of such tasks is carried out automatically with the help of special software that works on yes/no/or algorithms, which significantly reduces the time required for grading homework.

- *Monitoring student progress.* With an electronic assessment system, teachers can monitor student performance in various aspects of learning, including knowledge, skills, and abilities. They can also track the progress of each student throughout the entire period of study and compare it with other students in the class. The system allows you to analyze their results and identify possible problems in time. Monitoring of students' progress can be done by creating special reports that contain information on test results, independent work, homework, and other parameters of student performance. This allows teachers to see how students are progressing from year to year, identify trends, and find ways to improve the learning process. The electronic assessment system also allows parents and students to view assessment and progress monitoring results through an online interface. This helps to avoid unfavorable situations and helps to maintain partnerships between schools and parents. Thus, the electronic assessment system allows monitoring student performance, provides analysis of the results, and enables timely identification of problems in the learning process.

- *Data retention.* An e-learning assessment system helps to store all student progress, grades, test results, and other important data in one place, allowing teachers to easily access this data at any time and quickly find the information they need. Data storage also helps teachers analyze student performance and identify trends and areas of concern. For example, teachers can view student performance statistics for a certain period, compare the learning outcomes of different students, track the dynamics of performance, etc. In addition, the electronic evaluation system stores data on teachers' work, such as lessons taught, preparation for them, and teaching methods and techniques used. This facilitates the analysis and evaluation of teachers' work, updating data on students and their progress. In addition, the system helps to avoid the loss of educational information, as all data is stored electronically on secure servers or in cloud storage, where backup can be configured, which significantly reduces the risk of data loss. Thus, data storage is a very important function of an e-learning assessment system that allows teachers to effectively keep track of student progress and access this data at any time.

- *Improving the quality of education.* With the help of an electronic assessment system, teachers can analyse student performance data and identify weaknesses in learning. This allows them to improve their teaching methods and develop new educational approaches to improve the quality of education. This can be achieved through a variety of tools provided by such a system. First, an e-assessment system enables teachers to quickly and efficiently assess students' knowledge, identify areas where students are struggling, and focus on them to achieve better learning outcomes. In addition, the system can provide teachers with recommendations on which topics require further study. Second, an e-assessment system can help teachers track student progress over the course of a class. Teachers can track how students' knowledge levels change over the course of a semester or even a year. This allows them to adjust their work and focus on areas that need further study. Third, an e-learning assessment system can help students improve their knowledge and skills. The system provides learners with additional tasks and recommendations on how to improve their knowledge and skills. In addition, learners can track their progress and identify topics that require additional study. Fourth, an e-learning assessment system helps to collect data on the effectiveness of a particular teaching method and assess its impact on student performance. Such a system can be used to analyse the effectiveness of certain teaching methods and make timely adjustments to the learning process. Fifthly, an electronic system allows you to automate many routine processes related to the assessment and recording of student data. This frees teachers from the need to keep records manually, saving them time and allowing them to focus on more important aspects of the learning process. Sixth, an e-assessment system can be a useful tool for ensuring greater transparency and openness of information about learning outcomes. Parents and students have access to data on academic performance and other important aspects of the educational process in general secondary education.

Interaction with parents. The electronic grading system allows parents to track their children's progress, receive notifications about their absence from classes, grades and other data. This allows

parents to be more involved in their children's education and helps to increase students' responsibility for their learning.

In addition, the system may have built-in features for communicating with parents, such as email, in-system messages, or an electronic journal that contains information about student attendance, progress, homework, grades, and other data that only parents can access. This allows teachers to quickly and effectively communicate with parents if they have questions or concerns about their children's learning. The e-assessment system also has functions to generate reports for parents that contain information about their child's academic performance, grades, attendance, and other important data. These reports can be sent to parents on a monthly basis or at the end of each term. This can help parents to be more informed about how well their children are adjusting to school and enables them to further support their children in their studies. In addition, parents can receive notifications about new assignments and other important events in their children's educational process through the electronic assessment system. This helps to ensure more effective communication between teachers and parents, which is an important element in improving the quality of education.

The e-system helps teachers and parents communicate with each other via email or special platforms. This can be useful for discussing students' academic progress, strengths and difficulties, and for solving any problems that arise in the learning process. Note that schools use electronic notification systems to inform parents about important events at school, such as parent-teacher conferences, sports competitions, concerts and other events. This allows parents to be more informed about the life of the school and interact with it. It thus helps to improve the interaction between teachers and parents of students by providing parents with more detailed information about their child's academic performance through more convenient ways of communicating with teachers. In addition, the e-assessment system allows teachers to quickly identify and address students' weaknesses in order to provide additional support and improve their academic performance. It simplifies the process of assessing students' work, analysing learning outcomes and obtaining performance statistics, and ensuring an individual approach to each student's learning.

Overall, an e-assessment system is a powerful tool for teachers and students that enables effective assessment and monitoring of learning, ultimately improving the quality of education and the learning process itself. An e-grading system can help teachers to organise the learning process, communicate more effectively with students and their parents, increase the effectiveness of lessons, and reduce the time required for preparing and assessing student work. The e-assessment system can also help to identify best practices and teaching methods, allowing teachers to continuously improve their approaches. Through data collection and analysis provided by e-assessment, educational institutions can develop more effective development strategies that meet the needs of students and teachers, thereby contributing to students' competence development and the optimisation of teaching and learning processes.

In summary, an electronic system for monitoring and assessing the quality of general secondary education should include an electronic journal, assessment system, result analysis system, electronic student portfolio, and reporting system, which are essential tools for improving the quality of education and optimising the learning process. These systems enable teachers and school administrators to collect, analyse and store data on student performance, which can be useful for identifying problems and improving the quality of learning. Furthermore, e-learning systems that incorporate tests, independent work, homework, and other forms of assessment enable teachers to quickly and effectively evaluate student performance. E-portfolio and reporting systems also allow for the collection and analysis of data on learning outcomes, providing greater transparency and efficiency, and contributing to improved student learning outcomes. Ultimately, the use of electronic systems for assessing the quality of general secondary education supports the improvement of the educational process and better prepares students for their future personal and professional pursuits.

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