# Use of Internet Resources in Teaching and Learning

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## ABSTRACT

This study aims to explore the extent to which student teachers in Sri Lanka's National Colleges of Education utilize the Internet and educational websites as tools for enhancing their learning and teaching approaches. In Sri Lanka, the National College of Education plays a pivotal role in producing teachers at the national level. Educational websites serve as effective platforms for managing crucial elements of classroom instruction, such as developing learning materials, implementing classroom management strategies, ensuring student focus during lessons, conducting classroom assessments, and providing relevant feedback. By advocating for the integration of these educational websites, students can foster the development of advanced cognitive skills, including analysis, decision-making, critical thinking, and collaboration. The research focused on selecting internet services from four primary domains. These domains encompassed the utilization of Internet services, the adoption of learning management systems, the utilization of educational websites, and the incorporation of websites for assessment purposes. Based on the findings, it was determined that a greater number of students engage in activities such as email communication, data retrieval, and content sharing. It has been verified that the utilization of educational websites like Nearpod, Visme, and Genially, which are capable of enhancing advanced cognitive abilities, is significantly limited. Additionally, it has been confirmed that the adoption of services like e-portfolios, which facilitate the creation of performance-based evaluations, and internet platforms such as Kahoot and Quizizz.com, which offer engaging assessments in the classroom, is also at an extremely low level. Consequently, it appears that offering systematic training to aspiring teachers on the effective utilization of these technologies in the learning and teaching process can greatly contribute to the development of individuals with exceptional intellectual skills.

**Keywords –** Teaching and Learning, Platforms, Cognitive Skills, Learning Management System, e-portfolio

## Introduction

The rapid growth of technology and its application has not only transformed sectors such as medicine, engineering, and manufacturing but has also brought about changes in the field of education. In today's interconnected world, the accessibility of learning has transcended physical barriers, enabling people to acquire knowledge from any corner of the globe and at any time (Cavus, 2011). Technological advancements have had a direct impact on the educational landscape, particularly in the classroom setting. Tools like smartboards, smartphones, learning management systems, and software designed for creating educational content and interactive assessments are examples of technologies that play a significant role in shaping the learning and teaching process. Digital Learning Objects (DLO) are the predominant educational resources utilized in technology-enabled classrooms. These resources encompass a wide range of multimedia content, including texts, hypertexts, graphics, pictures, simulations, films, sounds, and more (Nocar, Tang, & Bartek, 2016).

The Internet has become an essential component of classroom instruction in contemporary times. In the realm of learning and teaching, various educational websites and learning management systems, such as Google Classroom, have gained significant prominence. Notably, websites like Education.com, Khan Academy, Genial, and Google Sites are widely recognized platforms that facilitate the creation of educational resources. Additionally, the integration of gamification websites like Kahoot, Quizizz.com, and Word Wall has been observed as a means of conducting assessments within the classroom setting. The utilization of technology in the learning and teaching process offers a significant benefit, as it fosters the cultivation of advanced intellectual abilities among students. These abilities encompass a range of skills, including analysis, decision-making, critical thinking, collaboration, and self-learning, all of which fall under the umbrella of higher intellectual skills. By incorporating software, hardware, or Internet-based tools into classroom instruction, students are able to enhance their higher intellectual skills (Apriyanti et al., n.d.). In support of this notion, Apriyanti et al. (n.d.) conducted research among primary teachers, which revealed that the adoption of technology-based teaching methods led to the rapid development of high intellectual skills in these students.

Despite the fact that developed countries around the world are at the forefront of integrating technology into classrooms, schools in third world countries like Sri Lanka have yet to fully embrace technology in the teaching and learning process. It is worth noting that while a majority of students in Sri Lanka

heavily rely on the Internet through devices like smartphones, the utilization of these technologies for educational purposes remains low (Samsudeen & Mohamed, 2019). In Sri Lanka, most schools are government-run and provide education free of charge (Sudarshana & Alexander, 2018). The government takes responsibility for providing the necessary physical and human resources to these schools. To ensure an adequate supply of teachers, the government maintains a separate institution known as the National College of Education (NCOE). These colleges are tasked with producing qualified teachers who directly contribute to the learning and teaching process in schools across Sri Lanka. In order to promote the use of technology in education, teachers themselves must be proficient in utilizing technology (Murshitha & Wickramarachchi, 2016). However, it is important to highlight that traditional teaching and learning methods still prevail in the national colleges of education, with limited provisions for incorporating modern technological approaches. Therefore, it is crucial to allocate greater attention and resources to these institutions of national significance.

## Literature Review

In the present day, it is commonplace for classroom teaching to incorporate the use of the Internet and Internet-based learning management systems across the globe. Educational institutions worldwide make use of platforms such as Google Classroom for a diverse range of learning activities (Abazi-Bexheti et al., 2018). The integration of the Internet and learning management systems in Sri Lankan educational institutions, particularly in higher education institutions, is experiencing growth. A significant progress has been made in this domain since the Covid-19 pandemic. Learning management systems are widely utilized in Sri Lankan universities to support the processes of learning and teaching. The incorporation of a learning management system is deemed essential in the establishment of an e-learning system within an educational context (Rashida, 2018). Rashida (2018) pointed out that in the development of an e-learning system, it is crucial to focus not only on the learning management system but also on the viewpoints of students and the performance of lecturers. Lecturers should incorporate a learning management system into their teaching practices to create an extensive learning environment for learners. The implementation of a learning management system by lecturers is crucial in expanding the opportunities for learners to delve into their studies. This research emphasizes the significance of conducting the learning-teaching process through such a system. Students' effectiveness in utilizing a learning management system is influenced by the degree to which the instructor has incorporated that particular system. As a result, educators who are integrating such online technologies into their teaching should possess a solid grasp of how these systems operate (Murshitha & Wickramarachchi, 2016). Learning based on the diverse range of services offered on the Internet can foster students' autonomy and promote individual work. In order to achieve this, instructors utilize educational resources to facilitate the learning process. It is evident that in Internet-based teaching, the exchange of instructions, algorithms, and cognitive activities should be conducted with utmost clarity (Samoylenko et al., 2021).

Internet technology plays a crucial role in the instruction of English as a foreign language within the classroom setting. This technology enables the creation of an immersive environment where language acquisition becomes effortless, and teachers can effortlessly convey their ideas, knowledge, skills, and practices. Moreover, educators can actively engage in diverse training programs, courses, or workshops organized by the government, thereby gaining valuable insights into innovative teaching methodologies. Consequently, this knowledge can be effectively applied in the classroom to enhance students' language proficiency (Suwartono & Aniuranti, 2019). An investigation conducted across selected schools in South Brazil unveiled multiple factors that impact the integration of the Internet into educational activities. A significant portion of teachers demonstrated proficient use of Internet tools in their teaching methodologies. Moreover, it was evident that these teachers underwent regular training sessions on Internet utilization. Compatibility, complexity, observability, and trialability were highlighted as the key factors among the identified variables (Martins et al., 2004).

The study employed the Technology Adaptation Model (TAM) to investigate the perceptions of teachers in Sri Lanka. It was observed that teachers recognized the potential of technology in facilitating educational tasks within the classroom. However, the findings also revealed a lack of sufficient knowledge among most teachers regarding the implementation of these techniques. Consequently, the research emphasized the importance of conducting comprehensive training programs for teachers and ensuring the provision of necessary online systems to support the utilization of technological methods (Nawaz et al., 2015). The results of a research study conducted by Sabaragamuwa University in Sri Lanka indicate that a majority of university students exhibit a preference for utilizing smartphones and laptops in their online educational activities. Notably, learning management systems and Zoom technology emerged as the favored online tools among these students. The study suggests a growing acceptance among university students towards integrating technology into their online learning experiences. Nevertheless, the lack of internet infrastructure in certain areas poses a significant barrier to online education (Haththotuwa & Rupasinghe, 2021). Based on a recent study conducted by Samsudeen & Mohamed, 2019,it appears that students attending public universities in Sri Lanka are not fully embracing the use of technology in their academic pursuits. The researchers employed the Unified Theory of Acceptance and Use of Technology 2 (UTAUT-2) framework in their analysis, taking into account variables such as performance expectancy, effort expectancy, social influence, and work-life quality.

## Research gap

Based on this literature review, the majority of research conducted globally and in Sri Lanka focuses on investigating the impact of the Internet on educational practices. Specifically in Sri Lanka, a significant portion of the research has been directed towards university students. Some studies have explored the effects of utilizing Internet services for teaching various subjects such as English and Mathematics. Additionally, a considerable amount of research has been dedicated to examining Learning Management Systems (LMS), primarily targeting university students. Furthermore, certain studies have aimed to determine individuals' willingness to incorporate technology into their educational activities. Notably, models such as TAM or UTAUT-2 have been employed to investigate the effects of the Internet on the educational experiences of both students and teachers. It is worth mentioning that a substantial portion of the research conducted in Sri Lanka has been centered around university students.

This literature review has identified a significant dearth of research pertaining to schools and teacher education in Sri Lanka. Specifically, there is a notable scarcity of studies investigating the utilization of Learning Management Systems (LMS) and Internet services by teachers in Sri Lanka for their instructional and learning endeavors. Consequently, it becomes evident that a substantial research gap exists in the realm of teacher education in Sri Lanka with regard to the integration of technology in teaching and learning practices. Notably, the primary avenue for producing teachers in Sri Lanka is through the National Colleges of Education (NCOE). Hence, the objective of this research endeavor is to bridge the aforementioned research gap by examining the utilization of Learning Management Systems (LMS) and internet services in the teaching and learning processes of students enrolled in the National Colleges of Education.

## Objective

This study aims to examine the degree to which aspiring teachers in education faculties utilize the Internet, Internet-based learning management systems, and other Internet-based educational resources in their learning and teaching endeavors. Concerning the Internet, an exploration will be conducted to ascertain how email services, data searching and sharing, and e-portfolios can be effectively employed in teaching activities. The utilization of Google Classroom as a learning management system will also be acknowledged. Additionally, an in-depth investigation will be carried out to determine the methods of incorporating internet-based educational resources, such as education.com, Khan Academy, Visme, NearPod, Genial, and others, into the classroom teaching process. Furthermore, internet websites specifically designed for classroom assessment will be examined. Several interactive websites, including Kahoot, Quizizz.com, and Word Wall, will be explored to gain insights into their application in the assessment process.

## Methodology

The research involved the selection of 171 student-teachers from National Colleges of Education through a random sampling method. Both teachers and students from five colleges located in various regions of Sri Lanka took part in the study. These colleges were chosen from the Southern, Western, Sabaragamuwa, and Central provinces. The breakdown of students from each college included 16 students from Ruhunu College of Education representing the Southern Province, 21 students from Ruwanpura College representing the Sabaragamuwa Province, 66 and 19 students from Mahaweli and Peradeniya Colleges respectively for the Central Province, and 40 students from Maharagama National College of Education in the Western Province.

The collection of data from specific students involved the distribution of a questionnaire via Google Forms, which was made available online. The data was gathered across the following categories.

1. geographical information
2. basic computer literacy
3. utilization of Internet resources in classroom teaching
4. engagement with Learning Management Systems
5. Use of educational websites
6. integration of websites in classroom assessments

**Geographical Information**

The purpose of this section was to gather essential information about the students, enabling the identification of their background. The collected data encompassed details such as the student's field of study, the educational institution they were affiliated with, and their income level.

**Basic Computer Literacy**

A fundamental understanding of computers is crucial for the efficient integration of technology in the educational setting. This segment focused on gathering insights regarding the utilization of computers among student educators. The information was obtained by categorizing data into hardware and software components. Student educators were instructed on using various software applications for tasks such as writing, mathematical computations, and image manipulation. In terms of hardware, the examination delved into the usage of multimedia projectors, smartboards, web cameras, and other related equipment.

**Utilization of Internet resources in classroom teaching**

Data was gathered to examine the utilization of Internet services in the context of learning and teaching. The services encompassed email, data retrieval, sharing, presentation creation, e-portfolio development, and social media platforms. Email services proved valuable for exchanging feedback about classroom instruction, while data retrieval and sharing services facilitated the dissemination of notes, assignments, and other relevant materials among peers and teachers. The creation of an e-portfolio online emerged as a crucial service, enabling teachers and students to effectively organize their educational resources. Moreover, e-portfolios served as a means to evaluate performance. Additionally, student teachers leveraged social media networks to collaborate on group projects and engage in various tasks.

**Engagement with Learning Management Systems**

Learning management systems play a crucial role in enhancing the educational experience for students. In this study, Google Classroom, an online learning management system, was examined to determine the extent to which its features were utilized in the teaching and learning process. The functionalities offered by Google Classroom include uploading, downloading, viewing, recording, and creating assignments.

**Use of educational websites**

There exists a selection of educational websites that can be effectively utilized by student teachers to fulfill their learning and teaching responsibilities. These responsibilities encompass the creation of interactive learning materials and assessments, fostering interest in task-based assessments, and promoting self-study. The utilization of educational websites available on the Internet plays a crucial role in accomplishing these tasks related to learning and teaching. Notably, NearPod and Genial are significant websites in this regard. NearPod is specifically designed to facilitate active online lessons in an engaging manner. To investigate the usage of such educational websites in the learning and teaching process of student teachers within the College of Education, data was collected through research.

**Integration of websites in classroom assessments**

The utilization of assessments within the classroom setting is instrumental in fostering the development of students' advanced cognitive skills. By incorporating interactive and enjoyable assessment techniques, teacher trainees can effectively enhance abilities such as analytical thinking, decision-making, and collaboration. Websites like Kahoot, Word Wall, and Quizizz.com have been identified as accessible resources that support teachers and students in this endeavor.

**Confidence Level**

All data that was gathered underwent a systematic organization process, which involved the creation of four distinct tables using an Excel spreadsheet. These tables were specifically designed to showcase the usage of Internet services, learning management systems, educational websites, and evaluation websites. To assess the level of proficiency in utilizing each service for learning and teaching purposes, six confidence-level elements were established. The proficiency levels were classified as Excellent, Good, Average, Poor, Don't Know, and No-answer. The analysis of the data in this research is predominantly conducted using two confidence levels, namely **High-Level** and **Low-Level**. High-Level is defined by the integration of two confidence level elements, Excellent and Good. In contrast, Low-Level is comprised of two elements, Good and Poor. The confidence level known as **"Don't Know"** is utilized to indicate a lack of knowledge or information. On the other hand, the confidence level termed as **"No Answer"** is employed to signify a non-response or the absence of any answer. The present study examines the utilization of different technologies among students enrolled in the National Colleges of Education (NCOE) in Sri Lanka. Specifically, it investigates the usage of learning management systems, internet facilities, and the manner in which these internet resources are employed for educational purposes and evaluations. The research categorizes these practices into four distinct levels: High-Level, Low-Level, Don't Know, or No Answer. The High-Level category signifies that more than fifty percent of students have utilized these technologies proficiently. The proficiency is not at a satisfactory level if it is less than fifty percent. Conversely, the Low-Level category indicates that more than fifty percent of students have a limited level of usage.

## Data Analysis and Discussion

### The Use of Internet Facilities

Nowadays, the Internet has become an essential part of the learning and teaching process. Every college has internet facilities and every academic member has a device that can access the internet. Students and other academic members are encouraged to use the Internet at a very high level to obtain data needed for the learning and teaching process as well as to share knowledge (Tutkun, 2011). The research examined the proficiency of teacher-students in using internet facilities for their studies, focusing on email, data search, data sharing, social media use, e-portfolio creation, and so on. The utilization of Internet services by educators and teachers for their studies has also been examined.

### Email, Searching, and Sharing

Electronic mail, online search capabilities, and data exchange functionalities are provided at no cost on the Internet, and educators worldwide make efficient use of these services in their classroom pedagogy. The email feature is utilized to facilitate and expedite communication between students and parents concerning the feedback generated during classroom teaching (Cahyani & Cahyono, 2012). Online search techniques can be employed to locate materials such as tutorials, notes, presentations, and educational software required in the learning and teaching process. Moreover, data-sharing tools can be utilized when collaborating on group work through digital methods. This study aims to investigate the utilization of email, searching, and data-sharing facilities on the Internet by students in national colleges of education in Sri Lanka for their teaching and learning activities. The outcomes of this research are presented in the subsequent table.

| Service | Confidance level Element | Maharagama NCOE | | Mahaweli NCOE | | Peradeniya NCOE | | Ruhuna NCOE | | Ruwanpura NCOE | | Total | | Confidance Level | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | | |
| **Internet Facilities** | | | | | | | | | | | | | | | |
| Sending Email | Excellent | 22 | 45% | 21 | 32% | 7 | 37% | 4 | 25% | 13 | 62% | 67 | 39% | 83% | High Level |
| | Good | 22 | 45% | 31 | 47% | 9 | 47% | 8 | 50% | 5 | 24% | 75 | 44% | | |
| | | 44 | 90% | 52 | 79% | 16 | 84% | 12 | 75% | 18 | 86% | 142 | 83% | | |
| | Average | 5 | 10% | 11 | 17% | 3 | 16% | 2 | 13% | 2 | 10% | 23 | 13% | 14% | Low Level |
| | Poor | 0 | 0% | 1 | 2% | 0 | 0% | 0 | 0% | 0 | 0% | 1 | 1% | | |
| | | 5 | 10% | 12 | 19% | 3 | 16% | 2 | 13% | 2 | 10% | 24 | 14% | | |
| | Don't know | 0 | 0% | 1 | 2% | 0 | 0% | 0 | 0% | 0 | 0% | 1 | 1% | Don't know | |
| | No answer | 0 | 0% | 1 | 2% | 0 | 0% | 2 | 13% | 1 | 5% | 4 | 2% | No answer | |
| | Total | 49 | 100% | 66 | 100% | 19 | 100% | 16 | 100% | 21 | 100% | 171 | 100% | | |
| Searching | Excellent | 25 | 51% | 28 | 42% | 8 | 42% | 4 | 25% | 14 | 67% | 79 | 46% | 88% | High Level |
| | Good | 18 | 37% | 33 | 50% | 8 | 42% | 8 | 50% | 5 | 24% | 72 | 42% | | |
| | | 43 | 88% | 61 | 92% | 16 | 84% | 12 | 75% | 19 | 91% | 151 | 88% | | |
| | Average | 6 | 12% | 5 | 8% | 3 | 16% | 2 | 13% | 2 | 10% | 18 | 11% | 11% | Low Level |
| | Poor | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | | |
| | | 6 | 12% | 5 | 8% | 3 | 16% | 2 | 13% | 2 | 10% | 18 | 11% | | |
| | Don't know | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | Don't know | |
| | No answer | 0 | 0% | 0 | 0% | 0 | 0% | 2 | 13% | 0 | 0% | 2 | 1% | No answer | |
| | Total | 49 | 100% | 66 | 100% | 19 | 100% | 16 | 100% | 21 | 100% | 171 | 100% | | |
| Sharing | Excellent | 22 | 45% | 19 | 29% | 8 | 42% | 3 | 19% | 12 | 57% | 64 | 37% | 83% | High Level |
| | Good | 20 | 41% | 33 | 50% | 9 | 47% | 11 | 69% | 6 | 29% | 79 | 46% | | |
| | | 42 | 86% | 52 | 79% | 17 | 89% | 14 | 88% | 18 | 86% | 143 | 83% | | |
| | Average | 6 | 12% | 13 | 20% | 2 | 11% | 0 | 0% | 2 | 10% | 23 | 13% | 14% | Low Level |
| | Poor | 0 | 0% | 1 | 2% | 0 | 0% | 0 | 0% | 1 | 5% | 2 | 1% | | |
| | | 6 | 12% | 14 | 22% | 2 | 11% | 0 | 0% | 3 | 15% | 25 | 14% | | |
| | Don't know | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | Don't know | |
| | No answer | 1 | 2% | 0 | 0% | 0 | 0% | 2 | 13% | 0 | 0% | 3 | 2% | No answer | |
| | Total | 49 | 100% | 66 | 100% | 19 | 100% | 16 | 100% | 21 | 100% | 171 | 100% | | |

**Table 1** – Usage of an Emai, data searching, and sharing among teacher trainees.

Overall, it is clear that internet usage is widespread among all Colleges of Education. When considering the high-level confidence, the percentage is over seventy-five (75%) in each of the five colleges. The Internet sees a considerable amount of activity in terms of service usage, with a marked emphasis on individual engagement. A vast majority of Colleges of Education display a strong inclination towards email correspondence through online platforms, with figures reaching up to eighty-three percent (83%). When considering all colleges of education collectively, Maharagama College emerges as a frontrunner in effectively utilizing e-mail. Its remarkable proficiency is evident from its high percentile of 90%, which positions it in the high-level category. This achievement underscores their exceptional competence in leveraging e-mail as a communication tool. However, in general, a considerable proportion of individuals, amounting to fourteen percent (14%), exhibit a lower proficiency in utilizing email. Specifically, when examining the College of Education, it becomes evident that Mahaweli NCOE displays the most significant deficiency in terms of email usage, with a percentage of nineteen percent (19%) falling into the lower-level category.

When considering all colleges of education, online search and sharing of information are prevalent, with rates standing at eighty-eight percent (88%) and eighty-three percent (83%) respectively. However, a limited number of trainees possess inadequate knowledge regarding data searching and sharing. Specifically, the percentage of trainees with proficiency in searching is approximately 11%, while the percentage of trainees skilled in sharing data is around 14%. In the analysis of each college independently, Mahaweli NCOE emerges as the foremost institution in the effective utilization of search features, achieving a high rate of 92%. Other colleges also show a high level of usage regarding the search facility on the internet.

**E-Portfolio**

The integration of e-portfolios into the educational landscape has the potential to revolutionize the learning and teaching process, enhancing its efficiency. Specifically, students can conveniently prepare and arrange all their academic work in a digital format through the utilization of an E-portfolio (İŞMAN et al., 2011). Moreover, the importance of an E-portfolio becomes evident in its ability to effectively organize performance evaluations, making it an invaluable internet service for the design of project-based assessments. Hence, it is crucial to ascertain how students utilize e-portfolios in their teaching and learning process. The following table presents the skills exhibited by teacher-students in colleges of education when utilizing e-portfolios.

| Internet Facilities | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Service | Confidence level Element | Maharagama NCOE | | Mahaweli NCOE | | Peradeniya NCOE | | Ruhuna NCOE | | Ruwanpura NCOE | | Total | | Confidence Level |
| | | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | |
| E-Portfolio | Excellent | 4 | 8% | 5 | 8% | 3 | 16% | 0 | 0% | 8 | 38% | 20 | 12% | 45% High Level |
| | Good | 20 | 41% | 23 | 35% | 3 | 16% | 6 | 38% | 5 | 24% | 57 | 33% | |
| | | 24 | 49% | 28 | 43% | 6 | 32% | 6 | 38% | 13 | 62% | 77 | 45% | |
| | Average | 15 | 31% | 28 | 42% | 6 | 32% | 7 | 44% | 6 | 29% | 62 | 36% | 44% Low Level |
| | Poor | 5 | 10% | 7 | 11% | 0 | 0% | 0 | 0% | 1 | 5% | 13 | 8% | |
| | | 20 | 41% | 35 | 53% | 6 | 32% | 7 | 44% | 7 | 34% | 75 | 44% | |
| | Don't know | 1 | 2% | 0 | 0% | 5 | 26% | 1 | 6% | 1 | 5% | 8 | 5% | Don't know |
| | No answer | 4 | 8% | 3 | 5% | 2 | 11% | 2 | 13% | 0 | 0% | 11 | 6% | No answer |
| | Total | 49 | 100% | 66 | 100% | 19 | 100% | 16 | 100% | 21 | 100% | 171 | 100% | |

**Table 2** – The use of e-portfolios among teacher trainees

The research conducted on the five Colleges of Education reveals a low level of e-portfolio implementation. The high-level usage of e-portfolios has declined by more than fifty percent (50%) across all five colleges, with a specific decrease of forty-four percent (44%). It is noteworthy that 5% of individuals are uninformed about e-portfolio usage, and 6% did not offer any response.

Ruwanpura College of Education leads in the implementation of e-portfolios, with a peak utilization rate of sixty-two percent (62%). Conversely, thirty-four percent of the college's population exhibits a lack of confidence in utilizing e-portfolios. The production of E-Portfolios at Peradeniya College of Education lags significantly behind other institutions, with a mere 32% success rate. Another 26% of trainees in this college represent "don't know" confidence level which is a considerable fact. In contrast, Ruhuna, Mahaweli, and Maharagama Colleges have achieved commendable success rates of 38%, 43%, and 49% respectively in effectively creating e-portfolios. Consequently, the confidence level in these colleges' ability to produce high-quality e-portfolios remains below fifty percent, leading to our dissatisfaction with the overall outcome.

**The Internet-based Learning Management System**

The internet-based Learning Management Systems are very important in the teaching and learning process. Learning management systems significantly contribute to classroom teaching methods like distance, face-to-face, and blended learning (Fathema et al., 2015). The study evaluated the effectiveness of three popular internet-based learning management systems, Google Classroom, Edmodo, and Ethaksala, by assessing their confidence in using features such as resource uploading, classroom creation, assessment creation, and group activities.

**Google Classroom**

Utilized by a significant number of teachers and students globally, Google Classroom is a web-based learning management system that is available free of charge. Its numerous features are designed to enhance the educational experience for both educators and learners. Google Classroom provides many features and facilities to promote blended learning and professional development (Iftakhar, 2016). Google Classroom has emerged as an increasingly favored educational and instructional platform in national colleges of education. Its popularity has experienced a notable upswing, particularly among students, in light of the Covid-19 pandemic.

The purpose of this research was to gather data and explore the extent of proficiency in utilizing the various functionalities of Google Classroom for educational purposes. Specifically, attention was given to ten distinct features provided by Google Classroom. They are upload, download, view, voice recording, creating groups, creating quizzes, creating classes, creating assignments, creating reports, and collecting attendance.

**Upload**

Uploading refers to the process of transferring the essential educational resources required for teaching onto the Google Classroom platform. These resources encompass a wide range of materials such as presentations, video clips, digital documents, and websites. These aids play a crucial role in facilitating effective teaching practices.

Overall, the integration of Google Classroom in all educational colleges appears to be beneficial. The following table represents the use of the upload facility in Google Classroom to integrate with classroom teaching.

| Service | Confidance Element | Maharagama NCOE | | Mahaweli NCOE | | Peradeniya NCOE | | Ruhuna NCOE | | Ruwanpura NCOE | | Total | | Confidance Level | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | | |
| Upload | Excellent | 4 | 8% | 13 | 20% | 3 | 16% | 1 | 6% | 12 | 57% | 33 | 19% | 58% | High Level |
| | Good | 23 | 47% | 23 | 35% | 4 | 21% | 9 | 56% | 7 | 33% | 66 | 39% | | |
| | | 27 | 55% | 36 | 55% | 7 | 37% | 10 | 62% | 19 | 90% | 99 | 58% | | |
| | Average | 10 | 20% | 24 | 36% | 6 | 32% | 4 | 25% | 1 | 5% | 45 | 26% | 32% | Low Level |
| | Poor | 3 | 6% | 4 | 6% | 1 | 5% | 1 | 6% | 1 | 5% | 10 | 6% | | |
| | | 13 | 26% | 28 | 42% | 7 | 37% | 5 | 31% | 2 | 10% | 55 | 32% | | |
| | Don't know | 3 | 6% | 2 | 3% | 0 | 0% | 1 | 6% | 0 | 0% | 6 | 4% | Don't know | |
| | No answer | 6 | 12% | 0 | 0% | 5 | 26% | 0 | 0% | 0 | 0% | 11 | 6% | No answer | |
| | Total | 49 | 100% | 66 | 100% | 19 | 100% | 16 | 100% | 21 | 100% | 171 | 100% | | |

**Table 3** – The use of the upload feature in the Google Classroom

The table above outlines the confidence level associated with incorporating educational resources into Google Classroom. When considering the overall, at fifty-eight percent (58%), the confidence level for adding educational materials is considered high-level. This data reflects the students' demonstrated competence in successfully uploading video clips, web references, and other digital materials to Google Classroom, as required for effective teaching and learning. Nonetheless, the data shows that 32% are not proficient in uploading educational materials, 4% of students are unfamiliar with this process, and an additional 6% have not mentioned anything about uploading educational resources.

Ruwanpura National College of Education has shown a strong capability in uploading educational materials for each college individually. The rate stands at ninety (90%) percent, which is notably higher than that of other education colleges. The independent information technology college likely plays a crucial role in showcasing its high value. Ruhunu National College of Education is ranked second in terms of educational resource uploads, with a high-level confidence of 62%. Meanwhile, Maharagama and Mahaweli faculties hold the third and fourth positions, respectively. The Peradeniya National College of Education has been observed to have a deficiency in uploading educational resources, with a level-level proficiency of thirty-seven percent (37%). Hence, it is essential to focus on improving this capability at the Peradeniya NCOE by giving it special attention.

**Download and View**

The data presented in the table below illustrates the utilization of download and view features in Google Classroom by students from five different colleges of education. The upper and lower levels have been previously established. Downloading educational materials from Google Classroom is referred to as download while accessing attendance records and student performance reports is known as view. It should be attainable to monitor the number of students connected to Google Classroom, as well as the number of students who have been assigned tasks and those who have not.

| Service | Confidance Element | Maharagama NCOE | | Mahaweli NCOE | | Peradeniya NCOE | | Ruhuna NCOE | | Ruwanpura NCOE | | Total | | Confidance Level | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | | |
| Download | Excellent | 9 | 18% | 14 | 21% | 5 | 26% | 0 | 0% | 14 | 67% | 42 | 25% | 61% | High Level |
| | Good | 22 | 45% | 22 | 33% | 4 | 21% | 8 | 50% | 5 | 24% | 61 | 36% | | |
| | | 31 | 63% | 36 | 54% | 9 | 47% | 8 | 50% | 19 | 91% | 103 | 61% | | |
| | Average | 11 | 22% | 25 | 38% | 4 | 21% | 6 | 38% | 2 | 10% | 48 | 28% | 33% | Low Level |
| | Poor | 2 | 4% | 4 | 6% | 1 | 5% | 1 | 6% | 0 | 0% | 8 | 5% | | |
| | | 13 | 26% | 29 | 44% | 5 | 26% | 7 | 44% | 2 | 10% | 56 | 33% | | |
| | Don't know | 3 | 6% | 1 | 2% | 0 | 0% | 1 | 6% | 0 | 0% | 5 | 3% | Don't know | |
| | No answer | 2 | 4% | 0 | 0% | 5 | 26% | 0 | 0% | 0 | 0% | 7 | 4% | No answer | |
| | Total | 49 | 100% | 66 | 100% | 19 | 100% | 16 | 100% | 21 | 100% | 171 | 100% | | |
| View | Excellent | 4 | 8% | 10 | 15% | 4 | 21% | 0 | 0% | 11 | 52% | 29 | 17% | 57% | High Level |
| | Good | 26 | 53% | 20 | 30% | 4 | 21% | 9 | 56% | 9 | 43% | 68 | 40% | | |
| | | 30 | 61% | 30 | 45% | 8 | 42% | 9 | 56% | 20 | 95% | 97 | 57% | | |
| | Average | 8 | 16% | 25 | 38% | 4 | 21% | 4 | 25% | 1 | 5% | 42 | 25% | 31% | Low Level |
| | Poor | 3 | 6% | 5 | 8% | 1 | 5% | 1 | 6% | 0 | 0% | 10 | 6% | | |
| | | 11 | 22% | 30 | 46% | 5 | 26% | 5 | 31% | 1 | 5% | 52 | 30% | | |
| | Don't know | 3 | 6% | 2 | 3% | 1 | 5% | 1 | 6% | 0 | 0% | 7 | 4% | Don't know | |
| | No answer | 5 | 10% | 4 | 6% | 5 | 26% | 1 | 6% | 0 | 0% | 15 | 9% | No answer | |
| | Total | 49 | 100% | 66 | 100% | 19 | 100% | 16 | 100% | 21 | 100% | 171 | 100% | | |

**Table 4** – The use of the download and view feature of the Google Classroom

Across all colleges of education, students have displayed a consistent level of proficiency in utilizing the download and view features, mirroring their performance in uploading educational materials. This high-level proficiency is estimated to be around sixty-one percent (61%). Moreover, a considerable

number of 33% of the individuals surveyed seem to lack understanding when it comes to downloading educational materials in Google Classroom. Furthermore, 3% of the respondents do not know the matter, while 4% have chosen not to disclose their thoughts.

When considering each college, once again, Ruwanpura National College of Education stands out as the top-performing institution at the college level. It is noteworthy that the download rate for this college is ninety-one percent (91%), while the view rate is an impressive ninety-five percent (95%). On the other hand, Peradeniya and Mahaweli National Colleges seem to have a lower level of utilization when it comes to the download and view facilities.

**Educational Websites**

Numerous websites with educational value can be found on the internet. Aspiring teachers undergoing training can utilize these websites to digitally construct their learning and teaching resources. These resources not only enhance student engagement but also aid in maintaining their attention during lessons. Furthermore, students can independently foster learning by utilizing these digital materials. This study focused on six educational websites, namely education.com, Khan Academy, YouTube, Visme, NearPod, and Genial. The aim was to determine the extent to which the resources offered by these websites can enhance the learning and teaching processes. Additionally, the research explored how teachers and teacher educators utilize the resources provided by these websites for their educational purposes.

**Khan Academy**

Another important educational website for student teachers in the learning and teaching process is Kahn Academy. This website provides a lot of lesson plans, assignments, and interactive activities for various subjects. Through it, self-study skills are enhanced, and the knowledge and experience needed to create assignments with high intellectual skills can also be obtained. A key feature of this website is the provision of lessons in video format, which sets it apart from other platforms. The video lessons are structured to be easily digestible, with the option for students to revisit any challenging sections for further clarification. Furthermore, teacher trainees are inspired to create their own video lessons based on the content they plan to deliver in the classroom. According to Light & Pierson, 2014, Kahn Academy is widely recognized by teachers as a valuable tool for teaching mathematics, enabling them to integrate digital resources into their teaching methods to enhance students' cognitive skills. Thus, it is imperative to determine how teacher trainees make use of this website to enhance their teaching and learning processes. The following table depicts the utilization of Khan Academy by teacher trainees in colleges of education.

| | | Maharagama NCOE | | Mahaweli NCOE | | Peradeniya NCOE | | Ruhuna NCOE | | Ruwanpura NCOE | | Total | | Confidence Level | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **web site** | **Confidence level Element** | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | | |
| Khan Academy | Excellent | 1 | 2% | 2 | 3% | 0 | 0% | 1 | 6% | 2 | 10% | 6 | 4% | 22% | High Level |
| | Good | 11 | 22% | 13 | 20% | 1 | 5% | 1 | 6% | 5 | 24% | 31 | 18% | | |
| | | 12 | 24% | 15 | 23% | 1 | 5% | 2 | 12% | 7 | 34% | 37 | 22% | | |
| | Average | 19 | 39% | 20 | 30% | 4 | 21% | 7 | 44% | 5 | 24% | 55 | 32% | 52% | Low Level |
| | Poor | 9 | 18% | 10 | 15% | 6 | 32% | 4 | 25% | 5 | 24% | 34 | 20% | | |
| | | 28 | 57% | 30 | 45% | 10 | 53% | 11 | 69% | 10 | 48% | 89 | 52% | | |
| | Don't know | 4 | 8% | 12 | 18% | 5 | 26% | 2 | 13% | 3 | 14% | 26 | 15% | Don't know | |
| | No answer | 5 | 10% | 9 | 14% | 3 | 16% | 1 | 6% | 1 | 5% | 19 | 11% | No answer | |
| | Total | 49 | 100% | 66 | 100% | 19 | 100% | 16 | 100% | 21 | 100% | 171 | 100% | | |

**Table 5 –** The use of Khan Academy among teacher trainees

The Khan Academy website usage data indicates a concerning lack of high-level proficiency, with only twenty-two percent of users demonstrating proficiency at that level. In contrast, over fifty percent exhibit low proficiency. Moreover, fifteen percent of students are unaware of the website's existence, while eleven percent have refrained from sharing their thoughts on its usage. Additionally, it seems that the utilization of Khan Academy within each college is significantly limited. The colleges with the least amount of usage are Peradeniya and Ruhunu, with only a mere five percent (5%) and twelve percent (12%) respectively. On the other hand, Maharagama and Mahaweli colleges exhibit slightly higher usage rates, standing at twenty-four percent (24%) and twenty-three percent (23%) respectively. The Ruwanpura National College of Education, which previously led in the utilization of various internet services, has witnessed a significant decline in the use of Khan Academy, with usage plummeting to a mere 34%. Considering this data, it becomes evident that there is a need for greater awareness and utilization of Khan Academy among teacher-students in colleges of education.

**Near Pod**

NearPod is a platform designed for interactive educational experiences within the classroom. A crucial element of this tool is the ability to assess students and provide feedback in real time during their classroom engagements. With NearPod, educators can easily facilitate interactive lessons, even in a classroom environment with a substantial number of students. Research conducted by Naumoska et al., 2022 has revealed that the distinctive interactive features of NearPod have proven to enhance children's engagement and involvement in the learning process.

The utilization of NearPod is conducive to inquiry-based learning and the cultivation of advanced cognitive skills. Its interactive quiz, video activity, and drawing activity functionalities enable the design of educational tasks that contribute to the enhancement of students' intellectual capabilities. By way of illustration, the drawing activity empowers students to depict their envisioned concepts related to a particular subject matter. Educators can then assess and provide feedback on the drawings of all students collectively, thereby supporting skill refinement. Furthermore, the interactive discussion board offers students a valuable platform to express their thoughts and engage in constructive criticism of their peers' ideas. This fosters the growth of their

reasoning abilities and encourages critical thinking. Additionally, the integration of video-based activities into lessons via the NearPod website allows children to actively participate in tasks while watching videos. This active engagement enables children to enhance their listening skills and develop their analytical thinking capabilities. This platform offers educational resources and a space for aspiring educators to facilitate interactive classes. This study examined the utilization of these educational websites by student teachers in their learning and teaching endeavors. The data collected is presented in the table provided below.

### Use of Educational Web Sites

| web site | Confidence level Element | Maharagama NCOE | | Mahaweli NCOE | | Peradeniya NCOE | | Ruhuna NCOE | | Ruwanpura NCOE | | Total | | Confidence Level | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | | |
| NearPod | Excellent | 1 | 2% | 4 | 6% | 0 | 0% | 0 | 0% | 1 | 5% | 6 | 4% | 21% | High Level |
| | Good | 9 | 18% | 12 | 18% | 0 | 0% | 6 | 38% | 2 | 10% | 29 | 17% | | |
| | | 10 | 20% | 16 | 24% | 0 | 0% | 6 | 38% | 3 | 15% | 35 | 21% | | |
| | Average | 19 | 39% | 27 | 41% | 5 | 26% | 3 | 19% | 8 | 38% | 62 | 36% | 56% | Low Level |
| | Poor | 9 | 18% | 12 | 18% | 6 | 32% | 3 | 19% | 4 | 19% | 34 | 20% | | |
| | | 28 | 57% | 39 | 59% | 11 | 58% | 6 | 38% | 12 | 57% | 96 | 56% | | |
| | Don't know | 5 | 10% | 5 | 8% | 5 | 26% | 3 | 19% | 6 | 29% | 24 | 14% | Don't know | |
| | No answer | 6 | 12% | 6 | 9% | 3 | 16% | 1 | 6% | 0 | 0% | 16 | 9% | No answer | |
| | Total | 49 | 100% | 66 | 100% | 19 | 100% | 16 | 100% | 21 | 100% | 171 | 100% | | |

**Table 6 –** The use of NearPod among teacher trainees.

NearPod, known for its educational benefits in classroom settings, does not enjoy widespread popularity among college of education students. The usage data indicates that only twenty-one percent (21%) engage with it at a high level, while fifty-six percent (56%) use it at a low level. A substantial twenty-three percent (23%) are unaware of the website, leading to a total of seventy-nine percent (79%) of colleges of education having limited knowledge about NearPod. In terms of the utilization of NearPod in various colleges of education, the data reveals significant variations. The highest percentage of usage is observed in Ruhuna NCOE, accounting for thirty-eight percent (38%), while the lowest figure is recorded in Ruwanpura NCOE, with a mere fifteen percent (15%). It is worth noting that despite being an institution that produces teachers specializing in information technology, Ruwanpura NCOE exhibits a relatively low percentage of engagement with this valuable educational platform. Conversely, Peradeniya National College of Education seems to have a negligible level of adoption, as indicated by the zero percent utilization rate. Similarly, the employment of NearPod appears to be relatively low in Mahaweli and Maharagama Colleges of Education, with utilization rates of 24% and 20% respectively. These statistics underscore the importance of raising awareness among students in all five Colleges of Education regarding the benefits and potential of NearPod as an educational resource.

**Genial**

The proficiency enhancement of students in schools frequently relies on the utilization of audio-visual aids by educators. The level of attentiveness, engagement, and comprehension exhibited by students towards the subject matter is contingent upon the caliber of the audio-visual aids employed. The digitization of such aids has emerged as a highly favored approach among contemporary teachers. The utilization of internet websites for educational purposes was revolutionized by the Genially website. This platform offers a wide range of interactive learning aids, including clickable images, gamification, and infographics. A study conducted in southern Ecuador, following the guidelines of the Common European Framework of Reference for Languages, revealed that the interactive games developed by Genially significantly contributed to the enhancement of students' English language skills (Castillo-Cuesta, 2022). The effectiveness of these games was evident, highlighting the importance of incorporating such websites into the creation of high-quality learning materials by students in Colleges of Education. Consequently, this survey provided valuable insights into the usage of the Genially website among students in these educational institutions. The findings are presented below,

### Use of Educational Web Sites

| web site | Confidence level Element | Maharagama NCOE | | Mahaweli NCOE | | Peradeniya NCOE | | Ruhuna NCOE | | Ruwanpura NCOE | | Total | | Confidence Level | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | | |
| Genial | Excellent | 1 | 2% | 2 | 3% | 1 | 5% | 1 | 6% | 1 | 5% | 6 | 4% | 19% | High Level |
| | Good | 9 | 18% | 9 | 14% | 0 | 0% | 6 | 38% | 2 | 10% | 26 | 15% | | |
| | | 10 | 20% | 11 | 17% | 1 | 5% | 7 | 44% | 3 | 15% | 32 | 19% | | |
| | Average | 19 | 39% | 17 | 26% | 3 | 16% | 2 | 13% | 8 | 38% | 49 | 29% | 51% | Low Level |
| | Poor | 9 | 18% | 16 | 24% | 6 | 32% | 3 | 19% | 4 | 19% | 38 | 22% | | |
| | | 28 | 57% | 33 | 50% | 9 | 48% | 5 | 32% | 12 | 57% | 87 | 51% | | |
| | Don't know | 5 | 10% | 11 | 17% | 5 | 26% | 3 | 19% | 6 | 29% | 30 | 18% | Don't know | |
| | No answer | 6 | 12% | 11 | 17% | 4 | 21% | 1 | 6% | 0 | 0% | 22 | 13% | No answer | |
| | Total | 49 | 100% | 66 | 100% | 19 | 100% | 16 | 100% | 21 | 100% | 171 | 100% | | |

**Table 7 –** The use of Genially among teacher trainees

Considering all the five Colleges of Education that participated in the research, the high-level of Genially usage was as low as nineteen percent (19%). Another fifty-one percent (51%) of those colleges seem to have used this website very poorly. Another eighteen percent (18%) do not know about the use of this website and another thirteen percent (13%) have not given any response about the use of Genially. The highest percentage of usage of this

website is from Ruhuna College of Education. Although it is a figure of forty-four percent (44%), it is not a high level of use. Peradeniya NCOE shows the lowest value of utilization i.e. five percent (5%). Mahaweli and Maharagama Colleges show the next lowest values. Those values appear to be seventeen percent (17%) and twenty percent (20%) respectively. When examining the lower-level percentages for each College, it is seen that their value is higher than fifty percent. Therefore, all these values indicate that the knowledge about the use of this website is low and a large number of people are not aware of the existence of such websites.

**Assessment Websites**

The demand for interactive learning among students is substantial, and it seems that students are positively utilizing websites (Freeman, 1997). These assessment websites will be most useful in promoting interactive teacher-student learning. Data was also collected through this research to find out to what extent these websites are used for assessment through the learning and teaching process. For that, five specific websites were taken into account for evaluation, namely, quizizz.com, Word Wall, National Geographics for Kids, fun brain, and Kahoot.

**Quizizz.com & Word Wall**

Quizizz.com serves as an engaging platform that enhances the learning experience for students. By offering interactive activities, these websites effectively capture students' interest in education. Educators can utilize the website to develop gamified games and lessons, which can be assigned in real-time during class or as homework. A notable feature of Quizizz.com is the instant feedback provided to students upon completion of assignments or quizzes. Through this platform, students are unable to plagiarize, fostering a competitive environment that promotes academic growth. This method of assessment proves to be more effective in evaluating student performance compared to conventional testing methods (Amalia, 2020). Kahoot and Word Wall are two alternative websites comparable to quizizz.com, providing interactive activities that can foster students' interest in learning within a competitive atmosphere. The table below shows how student-teachers in the Colleges of Education use this gamification website in their teaching and learning.

| web site | Confidence level Element | Maharagama NCOE Count | % | Mahaweli NCOE Count | % | Peradeniya NCOE Count | % | Ruhuna NCOE Count | % | Ruwanpura NCOE Count | % | Total Count | % | Confidence Level | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Quizizz.com | Excellent | 7 | 14.00% | 8 | 12.00% | 1 | 5.00% | 1 | 6.00% | 7 | 33.00% | 24 | 14.00% | 36% | High Level |
| | Good | 16 | 33.00% | 14 | 21.00% | 3 | 16.00% | 1 | 6.00% | 4 | 19.00% | 38 | 22.00% | | |
| | | 23 | 47% | 22 | 30% | 4 | 21% | 2 | 12% | 11 | 52% | 62 | 36% | | |
| | Average | 11 | 22.00% | 16 | 24.00% | 4 | 21.00% | 7 | 44.00% | 6 | 29.00% | 44 | 26.00% | 44% | Low Level |
| | Poor | 6 | 12.00% | 15 | 23.00% | 3 | 16.00% | 4 | 25.00% | 2 | 10.00% | 30 | 18.00% | | |
| | | 17 | 34% | 31 | 47% | 7 | 37% | 11 | 69% | 8 | 39% | 74 | 44% | | |
| | Don't know | 5 | 10.00% | 5 | 8.00% | 5 | 26.00% | 2 | 13.00% | 2 | 10.00% | 19 | 11.00% | Don't know | |
| | No answer | 4 | 8.00% | 8 | 12.00% | 3 | 16.00% | 1 | 6.00% | 0 | 0.00% | 16 | 9.00% | No answer | |
| | Total | 49 | 100.00% | 66 | 100.00% | 19 | 100.00% | 16 | 100.00% | 21 | 100.00% | 171 | 100.00% | | |
| WordWaLL | Excellent | 16 | 33.00% | 16 | 24.00% | 2 | 11.00% | 1 | 6.00% | 13 | 62.00% | 48 | 28.00% | 48% | High Level |
| | Good | 14 | 29.00% | 7 | 11.00% | 1 | 5.00% | 8 | 50.00% | 5 | 24.00% | 35 | 20.00% | | |
| | | 30 | 62% | 23 | 36% | 3 | 16% | 9 | 56% | 18 | 88% | 83 | 48% | | |
| | Average | 7 | 14.00% | 21 | 32.00% | 5 | 26.00% | 1 | 6.00% | 3 | 14.00% | 37 | 22.00% | 36% | Low Level |
| | Poor | 6 | 12.00% | 12 | 18.00% | 3 | 16.00% | 3 | 19.00% | 0 | 0.00% | 24 | 14.00% | | |
| | | 13 | 26% | 33 | 50% | 8 | 42% | 4 | 25% | 3 | 14% | 61 | 36% | | |
| | Don't know | 3 | 6.00% | 6 | 8.00% | 5 | 26.00% | 2 | 13.00% | 0 | 0.00% | 16 | 9.00% | Don't know | |
| | No answer | 3 | 6.00% | 4 | 6.00% | 3 | 16.00% | 1 | 6.00% | 0 | 0.00% | 11 | 6.00% | No answer | |
| | Total | 48 | 100.00% | 66 | 100.00% | 19 | 100.00% | 16 | 100.00% | 21 | 100.00% | 171 | 100.00% | | |

**Table 8 –** The use of Quizizz.com and word wall among teacher trainees

Students employ diverse evaluation techniques within the educational institution to validate their acquired knowledge. In the present era, the integration of digital technology has become indispensable in the evaluation process. However, the utilization of digital resources for teacher-student assessments across all five colleges remains relatively limited. A mere fraction of teachers, less than fifty percent, employ platforms such as Quizizz.com and Word Wall for evaluating their students. Specifically, Quizizz.com is utilized by a substantial proportion of teachers, accounting for thirty-six percent (36%), while Word Wall is employed by a slightly higher percentage of teachers, constituting forty-eight percent (48%). Twenty percent (20%) of individuals lacking familiarity with Quizizz.com and abstaining from providing any feedback on the utilization of these gamification platforms. The corresponding figure for Word Wall stands at fifteen percent (15%). Despite all Colleges of Education exhibiting lower usage rates of these websites, there was a slight inclination towards employing Word Wall rather than Quizizz.com. Upon examining individual colleges, Ruwanpura National College of Education emerged as the frontrunner in utilizing both Word Wall and Quizizz.com. The utilization rates of Word Wall and Quizizz.com among Ruwanpura NCOE students are reported at eighty-six percent (86%) and fifty-two percent (52%) respectively. Maragama College, in comparison, exhibits a lower percentage of forty-seven percent (47%) for Quizizz.com, while Mahaweli College stands at thirty-three percent (33%). Notably, the adoption of Word Wall seems to be more prevalent than Quizizz.com across individual colleges. Maharagama NCOE demonstrates a proficiency rate of sixty-two percent (62%) in using Word Wall, while Ruhunu NCOE follows closely behind at fifty-six percent (56%). Peradeniya and Mahaweli colleges, on the other hand, exhibit the lowest proficiency levels in utilizing Word Wall, with rates of thirty-five percent (35%) and sixteen percent (16%) respectively.

**Kahoot**

Kahoot is an online platform known for its interactive elements that enhance the enjoyment of educational activities. Presently, Kahoot is widely utilized for developing formative assessments in educational settings across various nations globally. Research conducted by Licorish & Lötter, 2022 revealed that a significant number of students leverage Kahoot activities to enrich their learning experiences, foster a competitive spirit to boost interest in learning, and facilitate communication among classmates and other individuals. According to a study conducted by Licorish & Lötter, 2022, it was found that incorporating live Kahoot activities in the classroom resulted in a notable increase in student engagement. During the live gameplay of Kahoot in the classroom, a specific problem is displayed on a large screen, while the answer choices related to that problem are recorded on the students' computers or smart devices. Students then individually or collaboratively determine the correct answers within the given time frame. At the end of each question, the top-performing groups or students are showcased on the award screen, creating a sense of competition and motivating them to perform better in subsequent questions.

The survey conducted among teacher trainees from the Colleges of Education revealed several significant findings regarding the utilization of the Kahoot website.

| web site | Confidance level Element | Maharagama NCOE | | Mahaweli NCOE | | Peradeniya NCOE | | Ruhuna NCOE | | Ruwanpura NCOE | | Total | | Confidance Level | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | | |
| Kahoot | Excellent | 1 | 2.00% | 2 | 3.00% | 0 | 0.00% | 0 | 0.00% | 1 | 5.00% | 4 | 2.00% | 17% | High Level |
| | Good | 8 | 16.00% | 5 | 8.00% | 0 | 0.00% | 7 | 44.00% | 6 | 29.00% | 26 | 15.00% | | |
| | | 8 | 18% | 7 | 11% | 0 | 0% | 7 | 44% | 7 | 34% | 30 | 17% | | |
| | Average | 17 | 35.00% | 23 | 36.00% | 4 | 21.00% | 2 | 13.00% | 5 | 24.00% | 51 | 30.00% | 52% | Low Level |
| | Poor | 7 | 14.00% | 16 | 24.00% | 5 | 26.00% | 4 | 25.00% | 5 | 24.00% | 37 | 22.00% | | |
| | | 24 | 49% | 39 | 59% | 9 | 47% | 6 | 38% | 10 | 48% | 88 | 52% | | |
| | Don't know | 8 | 16.00% | 10 | 15.00% | 7 | 37.00% | 2 | 13.00% | 4 | 19.00% | 31 | 18.00% | Don't know | |
| | No answer | 8 | 16.00% | 10 | 15.00% | 3 | 16.00% | 1 | 6.00% | 0 | 0.00% | 22 | 13.00% | No answer | |
| | Total | 49 | 100.00% | 66 | 100.00% | 19 | 100.00% | 16 | 100.00% | 21 | 100.00% | 171 | 100.00% | | |

**Table 8 –** The use of Quizizz.com and word wall among teacher trainees

Across all Colleges of Education, the utilization of the Kahoot website in students' learning process is predominantly at a minimal level. However, a small proportion of students, amounting to 17%, demonstrate a commendable level of proficiency in using the Kahoot website. On the other hand, a majority of 52% exhibit a limited ability to utilize the website effectively. Interestingly, there is a subset of students, comprising 18%, who lack the knowledge and understanding of how to use kahoot, while an additional 13% remain completely unaware of its existence. Although each college is assessed individually, it is evident that the overall utilization of the kahoot website falls below the halfway mark, with less than 50% of students demonstrating a high level of engagement. Specifically, within Ruhunu NCOE, 44% of students indicate a proficient use of the kahoot website for their academic pursuits. Conversely, Peradeniya College of Education does not exhibit a substantial level of utilization, with only 47% of students utilizing the website to a limited extent. In Mahaweli NCOE, the proportion of students utilizing the website at a low level surpasses 50%, while none of the other faculties reach a significant level of utilization. Furthermore, it is noteworthy that a considerable number of individuals across all colleges possess no knowledge or understanding of how to use Kahoot. This lack of familiarity is most pronounced in Peradeniya College, where it accounts for a substantial 37% of students. In Ruwanpura College, this group of individuals who are unaware of Kahoot's usage reaches a significant 19%.

## Conclusion

The comprehensive analysis reveals that student teachers across all Colleges of Education exhibit insufficient utilization of Internet-based technologies in their learning and teaching endeavors. Particularly, students from Mahaweli and Peradeniya Colleges demonstrate a lack of confidence when it comes to incorporating technology into classroom instruction. This is evident from the fact that the usage percentages for internet services remain below fifty percent. Consequently, it is imperative to provide the students of Mahaweli and Peradeniya Colleges with enhanced opportunities to acquire knowledge about the effective integration of technology in the classroom setting. In this regard, particular emphasis should be placed on the establishment of an E-Portfolio and the utilization of Google Classroom. Furthermore, it is crucial to familiarize them with educational websites such as Khan Academy, Visme, NearPod, and Genial, which offer valuable resources for creating learning materials. Additionally, due attention should be given to websites like Quizizz.com, Word Wall, and Kahoot, which can be utilized for classroom assessments.

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