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Enhancing Equity and Inclusion in Higher Education E-Assessment A Review

Nishal Murthi; Anish Singh

Fiji National University, School of Health Science, Department of Pathology and Medical Laboratory Science, Suva, Fiji

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Abstract: Technological advancements in education have led to a shift from face-to-face to virtual classrooms, requiring online assessment platforms. However, challenges like internet connectivity and device availability persist. To ensure equity and inclusivity, a well-structured plan should provide students with resources and support to practice and demonstrate their skills online, ensuring all students have equal opportunities for success. Equity and inclusivity in education are crucial for bridging achievement gaps and promoting lifelong learning. Universities in the Pacific region, like Fiji National University and the University of the South Pacific, are implementing guidelines to promote equity and inclusivity. However, internet accessibility is a significant issue, particularly in remote or undeveloped locations. Developed countries have more resources to support online education, which can bridge the digital gap. To address equity and inclusion in e-assessments, institutions should prioritize the development of accessible and culturally relevant assessment resources and include diverse perspectives in the design and implementation of e-assessment technologies.

Keywords*: Equity, Equality, E-Assessment.*

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I. INTRODUCTION

In the twenty-first century, when technological advancements have taken over every aspect of our lives, one must adapt and embrace these changes to thrive in a rapidly evolving world. These technological developments affect how a sector runs daily, providing opportunities as well as challenges to professionals in the field. These changes have been noted in the education field, where the teaching mode has shifted from a face-to-face classroom to a virtual one. These changes are the result of ever-changing digital tools and platforms that have transformed how we teach today. As a result, conveners need to adapt to this change to provide the best learning environment for students to prepare them for the future workforce, and one way to prepare students is through the assessment we provide These assessments must be aligned to meet individual needs while addressing the curriculum's overall goals.

The measure of students' skills, abilities, and knowledge has been through assessments, whether it was assessing their intellect through exams or demonstrating their skills in practical situations. Assessments have become a benchmark for an individual's ability to excel at a certain task. This offers valuable feedback on areas for growth and areas of strength, enabling students to monitor their progress and take the required steps to reach their goals. The modes of this assessment have drastically changed as countries are seeing major developments in the ICT industry and e-learning platforms; thus, the focus has shifted from the traditional mode to the electronic assessment (Alotaibi, 2021). The shift from face-to-face assessment has led to the utilization of online platforms for assessment, and conveners have become creative in finding new ways to evaluate students remotely. This evolution to Online assessment offers advantages such as lower costs, immediate feedback, flexibility, reliability, impartiality, and multimedia-enhanced question types over traditional paper-based assessments (Koneru, 2017).

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The pandemic has been an awakening for all, as there was a sudden shift from face-to-face classes to a virtual classroom. This brought in newer, innovative ideas for the delivery of the course online. The shift also meant changing all modes of assessment to online, whereby we had to change and submit our modes of assessment to the Senate for approval within a short period. It was a challenging but necessary adjustment that was made for all students and faculty members during that time. Students found it quite challenging to adjust to the new modes of assessment, and newer challenges arose, like internet connectivity and the availability of a device. Some students even used their handheld devices, like mobiles or tablets, to complete their e-assessments.

In the medical laboratory, offering practicals online became a challenge as students learned better hands-on. A newer approach was utilized, whereby simulations and video practicals came into play to ensure students were still able to gain practical experience and skills. The assessment of these skills could not be measured effectively, as the online assessment just measured their knowledge of the practical and left out the demonstration of their skills in a real-life setting. Therefore, to bridge this gap in equity and inclusivity in e-assessments, a well-structured plan needs to be implemented to provide students with the necessary resources and support to practice and demonstrate their skills in an online environment. This will ensure a more comprehensive evaluation of their practical abilities, ensuring that all students have equal opportunities to succeed in the assessment.

II. EQUITY AND INCLUSIVITY IN E-ASSESSMENT

Equity places a high priority on providing minority students with equal opportunities to participate in educational programs and attain equal outcomes, which can aid in closing achievement gaps in student completion and success (McNair et al., 2020). Diversity and equality contribute to a more inclusive educational atmosphere in which all students feel appreciated and encouraged. Institutions that actively promote diversity and fairness in education can better prepare students for success in today's complicated and interconnected society. For example, Sustainable Development Goal 4, set by the United Nations, strives for equity and inclusivity for all at respective levels of education, including universities, as part of promoting lifelong learning for everyone (Chankseliani & McCowan, 2021). Therefore, Universities must play a crucial role in facilitating access to high-quality education and research opportunities, bridging the socioeconomic gap, and advancing diversity in higher education.

Moreover, universities in the Pacific, like Fiji National University, have embraced similar guidelines and plans, as shown in their 2021–2026 strategy plan for the provision of equity and inclusivity among all staff and students towards their professional development (*Our People Strategy 2021-2026 | Fiji National University 1*). Similar guidelines are followed by the University of the South Pacific, as stated in their policy (*Policies and Procedures Diversity, Equity, and Inclusion Policy 1 Policy Number: 1.6.2.47*, n.d.). Universities in the Pacific region are striving to establish a more diverse and inclusive academic environment that supports the development and success of all participants by placing a high priority on equity and inclusivity.

III. UNDERSTANDING EQUITY AND INCLUSIVITY IN E-ASSESSMENTS

It is important to understand the roles that inclusion and equity play in education if we want to ensure that every student has an equal chance to excel. Education systems may strive to provide a more inclusive and equitable learning environment for all students, regardless of their socioeconomic background, by addressing these differences.

One issue that arises when considering equality in e-assessment is internet accessibility, as students in remote or undeveloped locations may not have constant access to high-speed internet. The lack of internet access in Nigeria is made worse by students' low socioeconomic status. Students still end up doing their e-assessment regardless of their situation across the different states. They all deal with issues including unstable power supplies, unstable internet connections, and low connectivity to the internet. Universities are ill-equipped for online education due to inadequate infrastructure and high poverty levels (Ibrahim & Iliyasu, 2021). Low-quality internet access was also a common problem that kept coming up among students and academic staff, according to a survey conducted on e-assessment issues (Ndzinisa & Dlamini, 2022). This problem affected students' ability to efficiently complete online assessments, causing disappointment for both students and staff. Improving internet connectivity may result in more successful application of e-assessment approaches in educational settings.

A study conducted in Zambia shows that although conveners and students supported the new online teaching approach, they encountered barriers, including poor internet access and technological constraints, which prevented lecturers and students from fully engaging in virtual evaluations (Masaiti et al., 2023). Developed countries have more resources to support online education, such as reliable internet infrastructure and access to technology, which gives them an advantage over developing countries like Zambia. This is quite evident in developed countries like Saudi Arabia, the education ministry supports national e-learning expansion in institutions such as the Malaysian Open University and Multimedia Technology Enhancement Operations. It also conducts research and development on e-learning in higher education, including the National Learning Management System and the National Repository (Alruwais et al., 2016). These programs help bridge the digital gap and ensure students have access to high-quality online education. By

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investing in e-learning infrastructure, these nations may provide individuals with possibilities for academic growth and skill development.

This digital divide between developed and under-developed nations highlights the need for increased investment in technology and infrastructure to ensure equal access to education for all students, regardless of their location or economic status. Closing the digital gap would enhance educational performance and enable students to learn critical digital literacy skills, which are becoming increasingly crucial today. Investing in technology can eventually lead to a more fair and inclusive school system.

In another study conducted in Karachi, the researchers highlighted the challenges the lecturers faced when undertaking the e-assessments, as they did not clearly understand the assessment tools and technology required for online exams. As a result, students' knowledge and skills were unfairly assessed, which eventually affected how well they performed academically (Raza et al.,2023). To ensure equality in e-assessment, universities must first recognize the digital gap that exists between students and conveners. By resolving internet connectivity challenges, educators may guarantee that all students have an equal opportunity to participate in e-assessment activities and achieve in their academic pursuits.

The Pacific's underdeveloped nations deal with the same issues mentioned above, which have an impact on students' learning. Lack of resources, inadequate infrastructure, and restricted access to high-quality education all contribute to academic failure in these areas. As a result, students in the Pacific face considerable barriers that hinder their full potential to pursue further education and employment opportunities. The figure below shows the underdeveloped regions in the world, of which three Pacific Island nations—Solomon Island, Kiribati, and Tuvalu are part. Because of their inadequate infrastructure and resources, these small island nations struggle to provide high-quality education, which lowers students' chances for future success in the classroom. This is quite evident, as medical laboratory students coming from these developing islands do face these challenges, whether it is the language barrier or the use of technology. Therefore, when e-assessments are assigned, this student faces a more challenging task than others.

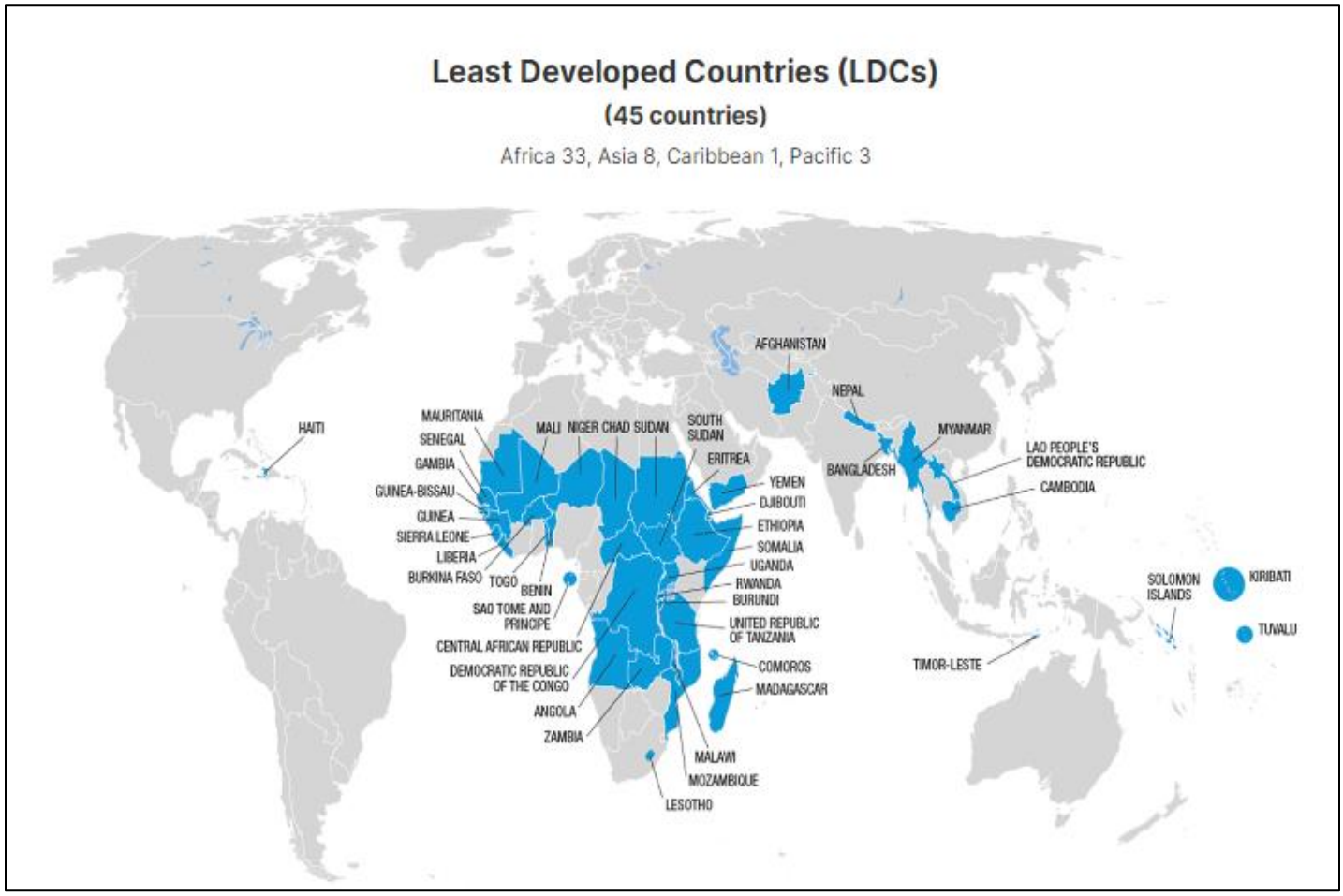

Fig 1 Retrieved from: https://unctad.org/topic/least-developed-countries/list (Accessed: 05 May 2024).

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IV. ADDRESSING EQUITY AND INCLUSION IN E-ASSESSMENTS

To address equity and inclusion issues related to higher education e-assessment, institutions should prioritize the development of accessible and culturally relevant assessment resources. Furthermore, including different perspectives in the design and implementation of e-assessment technologies will help ensure fair and unbiased assessments for all students. To view these perceptions, a survey was conducted to evaluate the effectiveness and challenges faced in the e-assessment. Through this survey, students were able to offer multiple solutions to online assessment difficulties, the majority of which center on conveners' considerable involvement in undermining them. For example, students advise allocating enough time for learners; upgrading the system; effective lesson preparation; and enhancing internet speed and equipment efficiency (Masood & Qaddomi, 2022).

In a separate study to meet the diverse requirements of its students, the University of Auckland has implemented the Canvas TFC curriculum, a one-year pre-degree enabling course. Researchers have been actively investigating and adapting online technologies to meet the special needs of the TFC cohort. The study looks at the effective transition from traditional to online teaching materials, assessment tests, and feedback alternatives for teaching English grammar and punctuation. The TFC English syllabus requires foundation English papers for students from various backgrounds, including Maori, Pacific Islanders, students with disabilities, immigrants, refugees, older learners, and LGBTQ+ students. The report emphasizes the need for a more systematic technological approach to addressing these difficulties (Zabicka, 2018). These approaches are highlighted in another study whereby students may analyze their work and development to improve their chances of success in the workplace in the future by using feedback and evaluations that include constructive criticism, mentoring, and self-reflection. Digital assessments encourage group learning, improve the value of formative assessments and feedback, and encourage the acquisition of new knowledge (Olasina, 2023).

The digital gap has been a major concern in communities, especially in rural regions where access to technology and internet connectivity is restricted. Bridging this gap is critical for ensuring that everyone has equitable access to information, education, and economic opportunity. Researchers have revealed that "a new learning theory for the digital age" is based on four essential principles: autonomy, connectivity, diversity, and openness. These principles highlight the significance of self-directed learning, cooperation, diversity, and accessibility in educational environments. By adopting this approach, educators may better prepare students for success in a fast-changing world that is driven by technology and creativity (Cain & Fanshawe, 2020).

In the Pacific, socioeconomic policies and initiatives that promote equity and inclusivity can assist in establishing a more fair and just society for all individuals, regardless of their background or circumstances. By focusing on equity and inclusion, we may seek to break down barriers and promote equal opportunities for all. This will also influence what universities provide. For example, Fiji National University, from last year, has started to provide students with laptops to help bridge the digital gap and guarantee that all students have access to the materials they require for their studies. Another approach that will address the issue at hand is the accessibility of the Moodle platform offline will help students access course materials and resources even when they do not have an internet connection, allowing for more flexibility in their learning. This initiative was adopted by the country's major internet providers during the pandemic, whereby all educational platforms were free to use but it was discontinued when the pandemic ended. This would have helped students in rural places or with restricted internet connectivity, allowing them to continue their studies uninterrupted. Such initiatives can have a significant impact on leveling the playing field and providing equal possibilities for success.

V. CONCLUSION

For equality and inclusion in higher education e-assessment, institutions should give top priority to developing easily available and culturally appropriate assessment materials. According to students' perspectives, answers to problems vary, with the main emphasis being on conveners' participation. Time allocation, system upgrades, efficient lesson planning, and increased internet and equipment efficiency are some of the solutions. Feedback improves their chances of success in the job in the future by receiving helpful criticism, having a mentor, reflecting on their work, and using digital tests that facilitate knowledge acquisition and group learning.

Socioeconomic policies and programs that support inclusion as well as equity can help build a more equitable and just society in the Pacific for all people, irrespective of their circumstances or background. By emphasizing fairness and inclusion, we may work to remove challenges and advance equitable chances for all. A well-thought-out plan must be put into place to give students the tools and assistance they need to practice and display their abilities in an online setting and to close the equity and inclusion gap in e-assessments. This will provide a more thorough examination of their skills and knowledge to guarantee that every student has an equal chance to pass the test.

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