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Innovative Strategies on DIKSHA Portal: An Experimental Study of Impact on Inclusive Student Engagement

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Abstract

Innovative strategies, involving technology, hands-on activities, and various materials, are presented as instructional approaches designed to create enthusiasm and encourage active participation in learning. Portals and technology are identified as potential solutions for Indian education, with the DIKSHA portal specifically mentioned as a key component of NEP 2020. This research aimed to explore the transformative potential of innovative studies focused on the proper use of the DIKSHA portal for fostering inclusive student development.Through a carefully designed experiment, the study investigated how the DIKSHA portal could contribute to an inclusive educational environment. The population studied was the Balipatna block of Khordha district. A purposive sampling method was used to select 30 students with disabilities as the experimental group and 30 students as the control group. A five-point Likert questionnaire served as the research tool, with diverse methodologies implemented to analyze the impact of this innovative approach based on pre- and post-test results. By evaluating the portal's features and functionalities, the research aimed to identify effective strategies that support inclusivity for students with diverse learning abilities. Additionally, Herman and Banister's research, comparing traditional and online education, was referenced to support the claim that online courses engage students and promote strong learning outcomes. Ultimately, the findings of this research offer valuable insights into leveraging technology for inclusive student development, providing practical implications for educators, administrators, and policymakers committed to advancing inclusive education practices.

Keywords: *Innovative Strategies, DIKSHA Portal, Student Engagement, Inclusive Education*

INTRODUCTION

The right to education applies universally, regardless of ability. Inclusive education embodies this principle by ensuring all students learn together in mainstream classrooms. This approach dismantles segregated special education programs, fostering a shared environment that caters to the unique needs of each learner. Inclusive education is not just a moral imperative, but also a strategy to maximize student potential and cultivate a more equitable society.

Traditional classrooms often struggle to provide resources and cater to diverse learning styles. However, technology offers a powerful solution. Online platforms like the DIKSHA Portal (Digital Infrastructure for Knowledge Sharing), a national platform for school education launched by the Government of India, provide a vast library of educational resources. These include interactive activities, videos, simulations, and digital textbooks, fostering a more engaging and adaptable learning experience. Students gain access to materials that suit their individual needs and preferences, anytime and anywhere. This is particularly beneficial for students in remote locations or those requiring extra support beyond school hours.

DIKSHA: A PLATFORM FOR INCLUSIVE LEARNING

DIKSHA empowers both educators and students with a vast array of educational tools and materials. This research delves into the potential of DIKSHA to promote inclusive learning environments. We explore how innovative strategies implemented on the DIKSHA portal can enhance the engagement of students with diverse needs, ultimately supporting their holistic development. Through an experimental study, this research will investigate the effectiveness of these strategies in fostering a truly inclusive learning experience.

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Inclusive student engagement goes beyond mere participation. It encapsulates active involvement, a sense of belonging, and equitable access to educational opportunities for all learners, irrespective of their background, abilities, or circumstances.

DIKSHA'S CANVAS FOR INNOVATION

Maitri Porecha (2023) points out that DIKSHA launched in 2017 by the Ministry of Education offers e-textbooks and resources across various boards and states. Importantly, it also includes assistive technologies for learners with visual or hearing impairments. However, DIKSHA itself is a static content repository. The true power lies in using it as a canvas upon which innovative pedagogical approaches can be applied. This study positions DIKSHA as a platform brimming with resources, tools, and interactive features.

The conceptual framework of this study revolves around exploring how innovative strategies on DIKSHA, ranging from: multimodal learning resources, adaptive learning paths, and Gamification element scan enhance inclusive student engagement. By embarking on an experimental journey, educators aim to uncover insights into the effectiveness of these strategies in fostering inclusive learning environments.

The study seeks to bridge the gap between theory and practice, drawing upon empirical evidence to inform pedagogical decision-making and drive continuous improvement in educational practices.In essence, this study investigates the synergistic interplay between innovative strategies, digital platforms like DIKSHA, and inclusive student engagement. Through rigorous inquiry and experimentation, educators endeavor to unlock the transformative potential of technology in advancing educational equity and excellence.

REVIEW OF LITERATURE

The DIKSHA (Digital Infrastructure for Knowledge Sharing) portal is a national platform in India designed to provide educational resources to teachers and students. It offers various features and strategies aimed at enhancing learning experiences and ensuring inclusivity. Interactive elements such as quizzes, simulations, and games are known to increase student engagement and learning outcomes. According to Bicen and Kocakoyun (2018), gamified learning environments can significantly improve student motivation and engagement. Similarly, a study by Wang (2020) highlighted that interactive quizzes and simulations help in better concept retention and understanding, making learning more engaging and enjoyable.Audio descriptions provide verbal explanations of visual content, making educational materials accessible to visually impaired students. Research by Smith and Friend (2018) indicates that audio descriptions enhance comprehension for students with visual impairments. Additionally, Mayer (2020) found that integrating audio descriptions into multimedia learning resources supports dual-channel processing, benefiting all learners by reinforcing information through auditory and visual channels.

The COVID-19 pandemic necessitated the shift to digital learning platforms like Zoom and Google Meet, which are also integrated into DIKSHA's ecosystem. A study by Ramirez (2021) examined the impact of digital learning environments on student engagement. The findings indicated that students developed critical digital literacy skills, such as information literacy, media literacy, and digital citizenship, through their use of these platforms. This shift has helped students become adept at navigating and assessing digital resources, essential skills in the modern digital world.

Inclusive education aims to provide equal learning opportunities for all students, regardless of their abilities or backgrounds. Research by Florian and Beaton (2018) emphasized the role of technology in supporting inclusive education by offering adaptive learning resources and assistive technologies. DIKSHA's features, such as interactive elements, audio descriptions, and closed captions, align with the goals of inclusive education by ensuring that all students can access and benefit from educational content.

OBJECTIVES OF THE STUDY

To identify the innovative strategies implemented on the DIKSHA portal.

To assess the impact of the innovative strategies on the engagement of inclusive students.

RESEARCH QUESTIONS

What specific innovative strategies are available on the DIKSHA portal that caters to the diverse learning needs of inclusive students?

Are there measurable differences in student engagementbetween inclusive and non-inclusive students when using the DIKSHA portal with implemented strategies?

METHODOLOGY ADOPTED

METHOD

To investigate the effectiveness of innovative strategies on the DIKSHA portal for fostering inclusive student engagement, this research employed a two-group quasi experimental design.Students with diverse needs in the experimental group were exposed to the innovative strategies implemented on the DIKSHA portal during a designated intervention period. These strategies could include features such as:

Multimodal learning resources (e.g., videos, simulations, interactive activities),

Adaptive learning paths that adjust difficulty based on student performance, and

Gamification elements that use game-like mechanics to enhance motivation and engagement

However, students with diverse needs in the control group were not exposed to the innovative DIKSHA strategies during the intervention period. Instead, they continued with their usual learning methods, which likely involved traditional classroom instruction.

TARGET POPULATION AND SAMPLE SELECTION

This quantitative experimental study investigated the impact of innovative strategies on the DIKSHA Portal for promoting inclusive student development. The target population for this research was inclusive students in elementary schools within Khordha District, Odisha, India. A purposive sampling technique was employed to select 02 elementary schools located in Balipatna, Khordha District. This approach ensures the sample reflects the study's focus on students with diverse learning needs.

To ensure a fair comparison between groups, the researchers ideally randomly chose 1 school having 18 inclusive students as the experimental group and another school having 22 students as the control group. All together the sample of the study was 40 inclusive students. This randomization process helps to control for pre-existing student differences that could influence the results.

TOOLS OF THE STUDY

The following tools were used to carry out the study;

Content analysis of DIKSHA portal resources, this tool was used to identify innovative strategies of the portal. It studies the features like Interactive elements (games, simulations), audio descriptions for visuals, and closed captions for videos etc.

Observation schedule identifying difficultiesof using DIKSHA App by inclusive learners.

Pre- and post-tests surveys measuring student self-reported engagement.

PROCEDURE

Prior to implementing any strategies, the researcher conducted a pre-test for both groups.Subsequently, the researcher proceeded with the following steps for the experimental group's intervention.

-In the initial stage, the researcher utilized materials from the DIKSHA Portal to facilitate warm-up activities, fostering an engaging atmosphere in the inclusive class- room.

Moving on to the second stage, the researcher presented videos and audios showcasing various competencies to cater to the diverse students.

The third stage involved the utilization of e-contents on different subjects, obtained from the DIKSHA Portal, within a matter of minutes.

Lastly, in the fourth stage, the inclusive students utilized the portal for self-assessment quizzes. After a span of two months, the investigatorsadministered the post-test onboth groups by using a five-point Likert questionnaire that encompassed multiple aspects such as the engagement rate, active participation, collaborative learning, self-motivation, digital skills, and the scope of assessment. The data were analyzed by employing statistical methods such as mean, standard deviation (SD) and t-test. After duration of 2 months, the researchers conducted the post-test.

DATA PREPARATION

For the quantitative analysis, the data underwent several preparation steps. As anticipated, missing scores were identified within the test data. To determine whether these missing values should be considered truly missing or coded as incorrect (scored as zero), the researchers implemented a specific procedure.

First, the researcher assessed if a participant made a genuine attempt to answer the test questions. If a question was left blank, but the participant attempted other questions, it was marked as incorrect and assigned a score of zero. This process ensured a more statistically valuable analysis by differentiating between unanswered questions due to lack of effort and those genuinely not attempted.

Following this procedure, the final dataset included 18 participants in the experimental group and 22 participants in the control group.

DATA ANALYSIS

IDENTIFYING INNOVATIVE STRATEGIES

Content analysis of the portal resources was conducted to identify features categorized as innovative strategies.

Table 1 Features of DIKSHA Portal

Feature	Description	Example
Interactive Elements	Activities that enable student participation (games, simulations)	Drag-and-drop exercises, interactive quizzes
Audio Descriptions	Verbal explanations of visual content	Description of images, charts, diagrams
Closed Captions	Textual representation of audio content	Captions synchronized with videos and audio lectures
Differentiated Learning Materials	Materials catering to various learning styles and abilities	Multiple difficulty levels, text-to-speech options, visual aids

The DIKSHA Portal offers several key features designed to enhance the learning experience through interactive and accessible educational content. Here are the features described in the table 1:

Interactive Elements: This feature includes activities that actively engage students, promoting participation through interactive methods. Examples of these elements are drag-and-drop exercises and interactive quizzes, which make learning more engaging and hands-on.

Audio Descriptions: This feature provides verbal explanations of visual content, making it accessible to students who may have visual impairments or prefer auditory learning. For examples, descriptions of images, charts, and diagrams, ensuring that all students can understand and benefit from the visual materials.

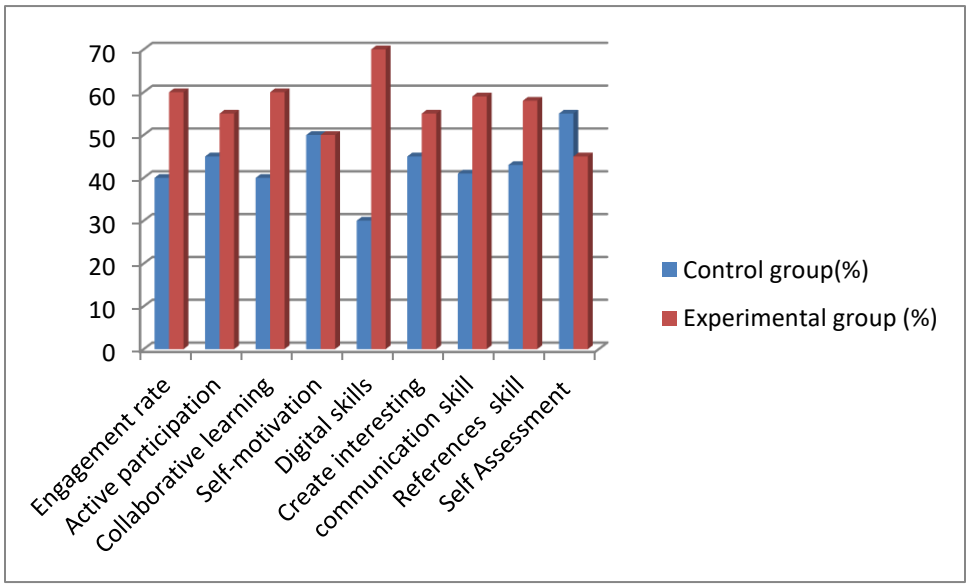
Closed Captions: This feature offers a textual representation of audio content, which is particularly useful for students who are deaf or hard of hearing. Captions are synchronized with videos and audio lectures, providing a written transcript of spoken words and sounds to aid comprehension.

Differentiated Learning Materials: This feature provides materials tailored to various learning styles and abilities, supporting diverse educational needs. Examples include materials with multiple difficulty levels, text-to-speech options, and visual aids, ensuring that each student can learn in a way that suits them best.

These features collectively aim to create an inclusive and effective learning environment on the DIKSHA Portal.

Table-2 Differences in Student Engagement between Control and Experimental Group

Factors	Control group(%)	Experimental group (%)
Engagement rate	40	60
Active participation	45	55
Collaborative learning	40	60
Self-motivation	50	50
Digital skills	30	70
Create interesting	45	55
communication skill	41	59
References skill	43	58
Self Assessment	55	45



RESULT AND DISCUSSION

The presented data in table 1 suggests that the DIKSHA portal with its innovative strategies has a positive impact on several engagement factors for inclusive students compared to the control group. The factors wise impact of the DIKSHA portal discussed in the following paragraphs.

Increased Engagement and Participation: Both engagement rate (40% to 60%) and active participation (45% to 55%) show a significant rise in the experimental group using DIKSHA. This suggests the portal's features effectively capture student interest and encourage active involvement in learning.

Collaborative Learning and Digital Skills: Similar increases (40% to 60% and 30% to 70%) in collaborative learning and digital skills point towards the DIKSHA portal fostering a collaborative learning environment and equipping students with digital literacy.

Communication and Reference Skills: Moderate increases in communication skills (45% to 55%) and reference skills (43% to 58%) suggest potential benefits, but further investigation might be needed. Here, the portal's design and the specific learning activities offered could play a role.

Self-Motivation and Self-Assessment: Interestingly, self-motivation remained consistent (50% in both groups). This could be due to factors beyond the portal's control, such as individual student learning styles or pre-

existing motivational levels. Self-assessment scores even dipped slightly in the experimental group (55% to 45%). This might require further exploration to understand if the portal's assessment methods require adjustments.

Overall, the data indicates that the DIKSHA portal's innovative strategies are promising for boosting engagement and promoting active learning among inclusive students.

IMPLICATIONS FOR EDUCATION

The DIKSHA portal's novel strategy exploration and its effect on inclusive student engagements have various important educational ramifications. Students can gain important digital literacy skills, such as understanding information, interpreting media, and practicing responsible digital behavior, by using online resources like the DIKSHA site.

Teachers can find tactics that support fairness by lessening differences in access to educational opportunities and resources by conducting experiments and analyses. By doing this, we can ensure that all students, regardless of socioeconomic background or place of residence, have equitable access to high-quality education and help close the digital divide.

Interactive, inquiry-based learning activities that foster critical thinking, creativity, and problem-solving abilities are frequently incorporated into innovative tactics. Through active inquiry and experimentation, teachers may help students learn more deeply and feel more in control of their education.By engaging students in hands-on exploration and experimentation, educators can foster deeper learning and a greater sense of ownership over their education.

Students can acquire critical digital literacy skills, such as information literacy, media literacy, and digital citizenship, by using online resources like the DIKSHA site. Additionally, students learn to use digital programmes. This equips them with the skills necessary to successfully navigate and assess digital resources in a world that is becoming more and more digital.

CONCLUSION

The DIKSHA portal is a helpful tool for teachers to make learning fun and inclusive for all students. This study involved teachers trying out new and different tools from the DIKSHA toolbox to see if they could help all kinds of learners do well in school. The results were exciting! Students seemed to enjoy learning more and their scores improved when teachers used these new tools in creative ways.

This is important because it shows that there are many ways to teach and that some methods might be better for some students than others. Just like some tools in a toolbox are better for different jobs, some teaching methods are better for different students. Finding the right method for each student is like finding the perfect tool for the job!

This research also tells us that technology can be a great helper in the classroom. Technology can be like a special adapter that allows us to use the perfect tool for every student, regardless of their background or learning style. Just like an adapter lets you use a light bulb from one country in a lamp from another country, technology can help teachers use the right teaching method for each student.

Finally, this study shows that trying new things in teaching is a good idea! There are always better ways to teach, and by trying out new tools and methods, teachers can find ways to help all students succeed.

REFERENCES

Aulkemeier, F., Iacob, M. E., & van Hillegersberg, J. (2019). Platform-based collaboration in digital ecosystems. Electronic Markets, 29(4), 597-608.

Bicen, H., &Kocakoyun, S. (2018). Perceptions of students for gamification approach: Kahoot as a case study. International Journal of Emerging Technologies in Learning (iJET), 13(2), 72-93.

Chandra, R. (2023). The Changing Contours of Online Learning in India: A Critical Study. Journal of Legal Studies & Research, 9(1), 27-41.

Florian, L., & Beaton, M. (2018). Inclusive pedagogy in action: Getting it right for every child. International Journal of Inclusive Education, 22(8), 870-884.

Goel, P., & Malik, N. (2021). A study on awareness and usage of E-resource portals among prospective teachers. Integrated Journal of Social Sciences, 8(1), 1-8.

Haleem, A., Javaid, M., Qadri, M. A., &Suman, R. (2022). Understanding the role of digital technologies in education: A review. Sustainable Operations and Computers, 3, 275-285.

Jam, F. A., Akhtar, S., Haq, I. U., Ahmad-U-Rehman, M., & Hijazi, S. T. (2010). Impact of leader behavior on employee job stress: evidence from Pakistan. European Journal of Economics, Finance and Administrative Sciences, (21), 172-179.

Jungjohann, J., &Gebhardt, M. (2023). Dimensions of Classroom-Based Assessments in Inclusive Education: A Teachers' Questionnaire for Instructional Decision-Making, Educational Assessments, Identification of Special Educational Needs, and Progress Monitoring. International Journal of Special Education, 38(1), 131-144.

Khan, A. (2023). ICT and Digital Revolution: Implications for Teacher Education. In Teaching and Teacher Education in India: Perspectives, Concerns and Trends (pp. 299-321). Singapore: Springer Nature Singapore.

Kaur, S., &Mehndroo, M. M. EMPOWERING STUDENTS THROUGH DIGITAL EDUCATION. E-Pedagogy for the Digital Age, 62.

Malika, G. D. (2030). Understanding the Significance of An Inclusive Education System: Strategies for Developing Qualitative Education. Multidisciplinary Subjects, 82

Mandal, C. (2022). Innovative Approaches to Teaching in Education: A Review and Critique.

Mondal, G. C., Kamila, S., Sarkar, S., &Mondal, P. (2023). National Education Policy 2020: Initiatives for Reforming Curriculum and Pedagogy in Online and Digital Education.

Mayer, R. E. (2020). Multimedia learning.Cambridge University Press.

Noor, U., Younas, M., SalehAldayel, H., Menhas, R., &Qingyu, X. (2022). Learning behavior, digital platforms for learning and its impact on university student's motivations and knowledge development. Frontiers in Psychology, 13, 933974.

Pargaien, A. V., Pargaien, S., Kumar, T., Pargaien, N., Kedar, M. S., & Joshi, H. (2021, November). A study on the availability and utilization of e-educational portals during Covid-19 pandemic.In 2021 International Conference on Disruptive Technologies for Multi-Disciplinary Research and Applications (CENTCON) (Vol. 1, pp. 329-333). IEEE.

Ramirez, L. N. (2021). Digital literacy and the shift to online learning during COVID-19.Journal of Educational Technology, 18(4), 45-60.

Ramírez-Ramírez, L. N., Fernández de Castro, J., &GarcíaHiguera, M. D. C. (2021). Digital academic writing: analysis of the perceptions of teachers, students, and librarians in COVID-19 context. Dilemascontemporáneos: educación, política y valores, 9(spe1).

Rudge, P. (2021). Beyond the Blue Economy: Creative industries and sustainable development in small island developing states. Routledge.

Sarkar, M. B. (2023). Online and Digital Education in The Light of National Policy on Education 2020: An Interpretation. Multidisciplinary Approach to Sustainable Development Goal (SDG) 8, 74.

Shahbaz, M., Hye, Q. M. A., Tiwari, A. K., & Leitão, N. C. (2013). Economic growth, energy consumption, financial development, international trade and CO2 emissions in Indonesia. Renewable and sustainable energy reviews, 25, 109-121.

Smith, A., & Friend, D. (2018).Enhancing comprehension through audio descriptions. Journal of Visual Impairment & Blindness, 112(1), 87-95.

Wang, S. (2020). Interactive learning tools and student engagement: A study of online quizzes and simulations. Journal of Educational Technology Systems, 48(3), 325-340.

Westera, W. (2004). On strategies of educational innovation: Between substitution and transformation. Higher education, 47, 501-517.