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Enhancing inclusive Education through Audio books: A Collaborative Approach for Visually Impaired Children

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Abstract: In our modern world, people from all walks of life and all demographics agree that education is crucial. In today's knowledge-driven society, everyone needs access to high-quality education if they want to thrive Even more concerning is the fact that many visually impaired kids have a hard time with not just understanding academic topics but also finishing their work and doing well on tests. Recently developed audio-based assistive solutions for the visually impaired are included with regard to research on mobile assistive technology and applications for visually impaired people. Audiobooks gained popularity as a viable alternative to Braille books due to their portability. Adding music and sound effects made the audio books more visually appealing, which helped them reach all children, even those with disabilities.

Keywords: Audio, Books, Visually, Children, education

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INTRODUCTION

The development of a sharp awareness of the world around these youngsters may be facilitated by local education programme that are aided by professionals in blind education who are well-prepared. Without a doubt, with the right technical help and advice from their typically developing classroom instructors and the wide world, these visually impaired students may prove their value. They find more social acceptance from their sighted coworkers in such setting. Presently, data show that in the most of developing nations, just a single one percent of visually impaired youngsters is getting any kind of formal education. This is why the only realistic strategy is integrated learning.

Even more concerning is the fact that many visually impaired kids have a hard time with not just understanding academic topics but also finishing their work and doing well on tests. Students encounter a multitude of obstacles in their educational journey, including limited access to learning resources, challenges in understanding visual material, and barriers to information delivered through traditional teaching methods. It is crucial to address these problems and difficulties effectively. Their ability to learn and fit in with their classmates may suffer as a result of these difficulties. There is a convoluted history to the development of educational curricula for children with vision impairments.

The communities who benefited the most from disability education finally achieved systematization and improvement in attitudes and practices after decades of struggle. Disabled people face social stigma, which has slowed the development of accessible services and technology. Those who are visually impaired would have seen the same thing. A lack of interest or isolation characterized the early initiatives that did exist for

the visually handicapped. But, over time, perspectives on the visually handicapped shifted, first towards tolerance and understanding, and then towards independence and full participation in society.

'Blind and low vision' refers to significant and ongoing challenges with the ability to see. Some children may be considered 'legally blind' if they cannot see beyond six if their visual field is less than 20 degrees in diameter (as opposed to 140 degrees for a typically developing youngster) or if their visual field is shorter than 60 meters. In the absence of corrective lenses, certain children may be deemed to have "low vision," which impacts their capacity to carry out routine chores. While some children with poor vision may be able to see, they often struggle with visual acuity, accommodation, field of vision, colour vision, and adjusting to changing lighting settings.

The value of education is acknowledged by all nations as a tool for progress since it has given human beings complete autonomy. Because of it, humanity has gone from a state of ignorance and unhappiness to one of knowledge and joy. By doing so, man has become an asset to his own and future generations. Umoh (2006) makes the astute observation that education fosters a person's holistic development by providing a nurturing atmosphere and imparting the values, beliefs, and abilities necessary for personal and societal success.

LITREATURE REVIEW

Martin Zbuzant (2024) This study set out to investigate novel approaches to elementary school education. While tried-and-true methods of instruction like the lecture, the question-and-answer session, and hands-on demonstrations still have their place, the demand for innovative approaches has grown in recent decades, and staying stuck in the past will not get students where they need to go. More emphasis in contemporary pedagogy is placed on students' engagement in class and their holistic development. There was a time when the teacher was seen as the exclusive source of knowledge and its transmission to the pupil, and this narrow perspective on education led to traditional methods of instruction. Improving pupils' production was the primary goal of these approaches. The value of scientific knowledge is growing, but so is the role of individual skills; as a result, current approaches to teaching in primary schools need to be revised to keep up with these developments.

Baraka Michael Mwakyeja (2013) The study's authors set out to learn more about general education teachers' viewpoints and experiences who work with kids who have visual impairments in inclusive classrooms. We set out to learn how mainstream educators modify their lessons to better accommodate students with visual impairments so that they may fully participate in the classroom. Its secondary objective was to shed light on the difficulties encountered by regular educators in the course of instructing visually impaired children in mainstream settings. The research was place in a high school in the country's southern region. The research used a qualitative case study approach and surveyed four general education instructors who work with kids who have visual impairments. Methods for gathering data included participant observation and semi-structured interviews. The results showed that regular educators don't know much about inclusive education or how to implement it for kids with disabilities, including those who are visually impaired.

Halima Tahiri (2023) The present research is to delve into the difficulties encountered by visually

impaired students in the classroom, with a focus on higher education institutions in Morocco. Fifteen visually impaired students from the vast majority of Moroccan institutions will participate in semi-structured interviews to shed light on the difficulties these students face in the classroom, particularly when it comes time for exams. Similarly crucial, this study will investigate how these obstacles have affected the academic achievement of Moroccan students with impairments. According to the research, there are four major obstacles that visually impaired university students in Morocco face: in the fields of administration, academia, ecology, and sociology. These findings informed a set of recommendations for Moroccan legislators to take into account the needs of individuals with disabilities and the challenges faced by visually impaired children in the classroom attending university and taking tests on a regular basis.

Abdallahi Ghadeer Abu Dawud and colleagues (2024) Students with visual impairments have great challenges in many aspects of life, but especially in the classroom. The difficulties already experienced by people with impairments have been made much worse by the continuing COVID-19 epidemic. Nevertheless, educators to better aid visually impaired students, have been using a variety of in-person and online teaching tactics. Physiological, social, and academic development have all been positively affected by these methods. On the other hand, this work aims to investigate and address the limitations of both approaches. This study was conducted by academics from Hebron University in the second part of the 2022–2023 school year. The study's goals were accomplished via the use of qualitative methods, such as WhatsApp interviews, to collect extensive data. Six people who were willing to take part in the interviews provided the data.

Reddy et al., (2014) we assess how well children with MDVI read after participating in a Low Vision Care intervention. Three students enrolled in a special school with a diagnosis of cerebral palsy and vision impairment were chosen for the research. They were all evaluated for poor vision treatment and subjected to comprehensive eye exams at a tertiary eye care facility. The research lasted for 16 weeks and used a single-subject multiple-baseline approach. Both the baseline and intervention phases evaluated the ability to read quickly, accurately, and fluently. Once a week, we took note of the reading parameters and found their median. Both parts included visual representations of the reading performance trend.

ASSISTIVE TECHNOLOGY FOR STUDENTS WITH DISABILITIES

Recently developed audio-based assistive solutions for the visually impaired are that were part of the research on mobile applications and assistive technology for visually impaired users. Most cell phones nowadays couldn't include these technologies' audio capabilities, and they're also quite easy to use. At the same vein, Bhowmick & Hazarika (2017) assembled a comprehensive database of visual aids. Their research showed that the area of assistive technology for the visually impaired has been expanding at a steady rate. They went on to say that this field would continue to advance, which is great news for those with vision loss. the planning, creating, and launching of an iPad application for autistic preschoolers.

The primary goals of this design were to facilitate learning and therapy. In a similar vein, we looked at yet another evaluation of walking aids for the blind. New and improved walking aids for the visually handicapped were included in the evaluation. People who are visually challenged may find information on walking aids in this review. But in their research, Singhal, Singhal, Bhatnagar & Malhotra (2019) focused on how to make assistive technology more accessible for students with visual impairments. As part of this

research, we installed the Android packet kit on smart devices so that visually challenged learners could access and use their mobile devices more effectively.

AUDIOBOOKS AND OTHER AUDIO-BASED EDUCATIONAL RESOURCES FOR VISUALLY IMPAIRED CHILDREN

An increasing number of people are turning to audio-based virtual learning environments as a means to improve their cognitive and learning capacities. Research has also shown that students may improve their motivation and self-esteem via the usage of technology in the classroom. Sanchez and Saenz detailed the layout and operation of Audio Chile, a three-dimensional interactive simulation, for the benefit of visually impaired youngsters. During interactions, the kids were more engaged and motivated by sound, according to the data. One study that looked at using audiobooks to help visually impaired students learn English was Fansury, Lutfin, and Arsyad.

According to the study's findings, pupils benefited from the use of audio books during studying. Students were more motivated to study as audio books are easy to utilize whenever and whenever. Additionally, Ozgur and Kiray assessed the audio course book project as supplementary resources for blind students' distant learning. As a result of this endeavor, some 300 visually impaired students were able to study independently and at their own pace, covering every topic in the book. Students who are visually impaired were able to make better use of the study aids.

AUDIO BOOKS AND ENGLISH LANGUAGE LEARNERS

Children and teenagers who read for longer periods of time have better cognitive development and do better in school. Research has also shown that listening to audiobooks has helped students do better in class. Audiobooks have the potential to enhance reading comprehension and academic achievement for students of both native English speakers and those learning the language as a second language, asserts Montgomery (2009). Middle school students whose reading capabilities were below grade level benefited greatly from listening to audio books, according to one study. Audiobooks are a staple in school and public libraries due to the digital aspect that has made them so popular with kids. Additionally, audiobooks help families bond through early literacy and are a boon to readers who struggle with reading.

AUDIO BOOK CREATION FOR VISUALLY IMPAIRED CHILDREN

Everyone, regardless of age, may now benefit from virtual learning. In a virtual classroom, students study using computers and the web. The term "collaborative learning" refers to a method of teaching in which students or students and instructors pool their knowledge and skills to solve problems more effectively. To better address the needs of their pupils, educators work together and share what they've learned. Teachers may take use of technology to meet the requirements of their pupils, particularly those with visual impairments, thanks to the rising popularity of virtual learning.

While they shouldn't be considered a substitute for braille books, audiobooks may be a lifesaver for visually impaired pupils. Audiobooks gained popularity as a viable alternative to Braille books due to their portability. One of the main goals of this initiative was to find creative ways to teach spoken English to visually impaired youngsters in India. The research set out to provide an opportunity for six university

graduate students enrolled in an early childhood education course to collaborate on a project to help visually impaired children in India learn spoken English using virtual means.

METHODS FOR COLLABORATIVELY COLLECTING FEEDBACK FROM BOOK SELECTION PARTNERS

To get things off, each student was asked to bring two books for children to class. They had to come up with an argument for why the books were suitable for the target demographic orally. The next step was for the students to choose a book after discussing it with a companion. The students grasped the need of speaking slowly, gently, and clearly since they were aware that their narrative would be used to teach English to an audience.

They learned that these kids were from a different culture and that not all the things we take for granted in the West were accessible to them in India via the book selection process. Thus, the pupils gained cultural insight from this encounter. As for the children's book that Student A choose to use for the project, she said, "Corduroy" by Don Freeman. You can easily picture the scenes because of how vividly described the writing is. Friendship, bravery, and hope are three of life's most important lessons that this narrative imparts. "I thought class time spent talking about it, and it was really helpful for I learned a lot," she said even further.

Another student, B, was given the task of doing the same with a different tale. "I chose the book Goodnight Moon by Margaret Wise Brown," she writes in her report. The message of Goodnight Moon was to say goodbye to all things and people before turning in for the night. Because it was brief and straightforward, Goodnight Moon was my choice. The fact that it's an easy-to-read book that anybody can appreciate was another plus. With the help of their imaginations, these visually challenged youngsters can still follow along with the words in the book while they listen to it. We were getting ready for the final audiobook with all this criticism. Student C, on the other hand, expressed anxiety over the procedure.

Despite my anxiety, I thought this would be a decent place to begin when given the project. Doing something I've never done before—recording audiobooks—was clearly meant for me by this project. I've always wanted to do it. “"I decided to read "Polar Bear, Polar Bear, what do you hear?" by Eric Carle. I thought it would be a great book to record the experiences of blind children in India. I figured they'd like the audiobook more if it included the sounds from the book. My classmate and I listened to our respective taped presentations versions of our books after we recorded ours in class. We were both pleased with my performance, and I thought her recording was great, too.

"When being given the task to find an appropriate book to read, I had immediately gravitated to "Little Cloud" by Eric Carle," Student D said as her last justification. Fun, creative, and expressive—that is the book. Kids may use the concept to make things, have conversations about weather and forms, and most importantly, observe how the clouds change over time. It was a mixed bag of emotions when my fellow students and I presented the book. It warmed my heart to see so many diverse children's books, some of which may be adapted to meet the needs of visually impaired youngsters. We all had a long list of ideas, words, animals, or objects that the students would need help understanding, It's tough to acknowledge that young kids will struggle to grasp the meaning of other novels because of cultural differences and a lack of

visual clues.

PROBLEM SOLVING AND LEARNING BY DOING APPROACH FOR VISUALLY IMPAIRED STUDENTS

It is a way of thinking that involves systematically using different approaches to solve issues. The scientific community is only one of several that makes use of problem-solving strategies. In addition to acquiring factual knowledge, students are required to build scientific process skills via this topic. These abilities include the ability to observe, measure, categories, analyses information, interpret, think critically about problem-solving, and draw conclusions, among others. Learning in a problem-solving strategy is having pupils use their acquired knowledge to tackle practical issues. Learners obtain experience solving real-world situations, which expands their knowledge base. This method equips students to take in information, process it, draw conclusions, solve problems, and apply what they've learned.

Multiple studies have shown that problem-solving techniques improve students' understanding of scientific concepts and their ability to follow procedures. Students' success is positively impacted by both problem-solving and conventional teaching techniques, according to research by Elvan et al. (2010). Students' ability to apply the scientific method was shown to be enhanced by the problem-solving approach, which outperformed more conventional forms of instruction, according to the study's findings. Abell and Pizzini (1992) found that when students were asked to solve a problem in class, they were more likely to brainstorm ideas, spend more time on problem definition, sharing, and presentation, and generate more research questions and investigations of their own design.

Students will have little trouble solving scientific questions if they remember these procedures.

1. Getting a handle on the issue: Students would benefit from building their confidence by gaining a better grasp of the problem's nature, size, and associated objectives.

2. Recognizing Potential Obstacles: Students should be alert to any limitations or restrictions that might be limiting their progress towards their objective.

3. After pupils have a good grasp of a problem's characteristics and nature, the next skill is to identify potential solutions and choose the best one or ones.

4. Attempting a solution: It is important for students to grasp that there are several options at their disposal, and that no one approach will be effective for every situation.

5. Analyzing the outcomes: Students must be given many chances to evaluate both their problem-solving abilities and the solutions they come up with as a consequence of those abilities.

Some suggestions on how instructors might support their pupils in problem-solving:

- **Conjure up concrete pictures:** Making "mind pictures" of the issue and its solutions helps a lot of people solve problems. By using mental images, problem solvers are able to "see" and map out the numerous facets of an issue.
- **Conjecture:** Permit your kids to try out various methods of problem-solving via trial and error. Keep in

mind that this is only an effort to collect some basic information and not a definitive solution to the issue.

- **Make a tableau:** Data may be organized in a table. Students get an understanding of their ability to gather and organize data in relation to an issue when they are given chances to design and produce tables of information.

- **Make use of manipulatives:** Students may build patterns and organize issue pieces into visually appealing components by rearranging things on a desk or table.

THE RESULTS FOR THE STUDENTS' LEARNING: THE STUDENTS' FEELINGS OF REWARD AND THEIR GREAT EXPERIENCE IN COLLABORATIVE REINFORCEMENT

It would seem from the interviews that each and every one of the students thought this project was a fantastic educational opportunity. Despite their visual impairment, they mastered the art of vocal modulation to captivate audiences. Since the listeners are not native English speakers and come from a different cultural background, they also discovered the need of speaking slowly, clearly, and pausing at suitable points. Additionally, they felt good and joyful after making the audio books, thus it was a fulfilling experience, according to them. On top of that, everyone involved expressed a desire to do such audio books in the future. "I felt the process of creating the audiobook was really fun and exciting," Student B said.

I was very satisfied with my work after finishing the final edition. Knowing that I had pulled everything together gave me a great sense of self-worth. My buddies thought it was great; they all raved about how much they liked it and how relaxing my voice was, as Student C put it. Their comments validated my efforts, so I was overjoyed to hear them. I even had a buddy read it to my godson when I emailed it to her. "I really enjoyed working on this project and would love to be given the chance to do it again," another student said. The fact that it will aid kids in their English language acquisition is fantastic. It was a pleasure working with you on our audio books, and it makes me happy to be of service, particularly to kids.

CONCLUSION

Adding music and sound effects made the audio books more visually appealing, which helped them reach all children, even those with disabilities. This finding provides further evidence that educators can help students learn by collaboratively creating audio books. Educators might create these kind of creative audio books for kids with specific needs, and teacher preparation programmed could benefit from such initiatives Based on the interviews, it seems that every single kid thought this project was a fantastic educational opportunity The communities who benefited the most from disability education finally achieved systematization and improvement in attitudes and practices after decades of struggle. In our modern world, people from all walks of life and all demographics agree that education is crucial.

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