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ASSISTIVE TECHNOLOGY DEVICES AND TEACHERS' ATTITUDE AS CORRELATES OF SCHOOL ADJUSTMENT OF SECONDARY SCHOOL STUDENTS WITH VISUAL IMPAIRMENT IN OYO STATE, NIGERIA

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Abstract

This paper takes a look into assistive-technology devices and teachers' attitude as correlate of school adjustment of secondary school students with visual impairment in Oyo State. The study aimed at the identification of the relationship that exist among assistive-technology device, teachers' attitude and school adjustment of secondary students with visual impairment, examine the joint contribution of assistive-technology device and teacher's attitude to the school adjustment of secondary school students with visual impairment and investigate the relative contribution of the assistive-technology device and teachers' attitude to the school adjustment of secondary school students with visual impairment. The study adopts the survey research design. The sample for the study comprise of 100 respondents with visual impairment including male and female students with total blindness and low vision. Questionnaire method was adopted in collecting data for this study. Pearson Product Moment Correlation (PPMC) was used to analyze the data collected from the field. The findings show that, assistive-technology device and teachers' attitude has impact on the school adjustment of students with visual impairment. Teachers' attitude and assistive-technology device have a significant positive effect on the school adjustment of students with visual impairment and the use of assistive-technology devices and teachers' attitude are important predictors of school adjustment among students with visual impairment. The study recommends that, modern and sophisticated assistive-technology devices should be provided to schools so as to create an enabling environment for the school adjustment of student with visual impairment.

Keywords: Assistive Technology Devices, Teachers, Attitude, School Adjustment, Students, Visual Impairment.

INTRODUCTION

Successful adaptation to school is a crucial indicator of academic achievement and future independence. A positive adjustment to the school environment is essential for individuals, including those with visual impairments, to acquire literacy, numeracy, and socio-emotional skills. This adaptation fosters the development of well-adjusted, responsible, and productive members of society. School adjustment significantly enhances the likelihood of children with visual impairments gaining control over their lives, managing psychological and emotional

challenges associated with their disability, and integrating into the social and economic fabric of society.

The persistent challenges arising from poor school adjustment among children with visual impairments are not only an educational concern but also a matter of significant public interest. A considerable number of these children consistently avoid school, exhibiting behaviors such as absenteeism, truancy, school refusal, loneliness, and a lack of motivation to learn, leading to frequent school dropouts. This issue is alarming for schools and parents, as it not only impedes government efforts to educate and contribute to national development but also deprives these children of opportunities for social, educational, and personal development. The consequences extend beyond the individual to impact families and society, resulting in unfulfilled potential, social, educational, and economic disintegration, and imposing substantial economic burdens on families. Moreover, this problem may have severe implications for the mental health of these children, as they grapple with unresolved psycho-emotional challenges, limiting their prospects for a productive life (Ajata and Kenny, 2016).

Children facing substantial challenges in school adjustment include those with visual impairment, ranging from total blindness to low vision. Individuals with visual impairment often rely on Braille as their reading and writing medium. Vision plays a critical role in daily functioning and interaction with the external world, making the loss of sight a profound physical and sensory impairment coupled with psychological and emotional trauma.

Despite efforts to adjust, individuals with visual impairment, even those well-adapted, require significant support to navigate their environment. This severe condition hampers independent functioning, and even with corrective measures, it adversely affects a child's educational performance (Smith, 2014). Limited vision poses difficulties in tasks such as mobility, orientation, and visually perceiving inputs from the environment. Adjusting to this disability alone presents formidable challenges for individuals, particularly when it comes to adapting to the school environment.

Corn and Lusk (2010) assert that individuals with visual impairment, despite having measurable vision, encounter challenges in performing visual tasks even with refractive correction. These individuals can sometimes enhance their abilities using compensatory low vision aids and environmental adjustments. Abodunrin and Abodunrin (2020) note that the visually impaired face inefficiencies in the organ of sight, hindering their capability in tasks requiring vision.

In the educational environment, students with visual impairments confront unique challenges, requiring access to text information across all subjects and full participation in visually rich instruction. Assistive technology becomes a crucial support in this process. Abodunrin and Olutoyosi (2020) highlight that a school equipped with sophisticated assistive technology devices and an inclusive library environment aids in the academic adjustment of students with special needs.

Consideration of assistive technology by the Individualized Education Program (IEP) team is mandated for all students with disabilities under the Individuals with Disabilities Education Act (IDEA). When appropriate, it must be provided and supported by the local education

agency, ensuring that students have the tools necessary for full curriculum access and participation with maximum independence. Importantly, the use of assistive technology also prepares students for independent living, vocational pursuits, or higher education post-graduation (Kapur, 2018).

Assistive technology encompasses various tools, devices, and strategies enabling students to accomplish tasks they might struggle with otherwise. It ranges from simple, such as enlarged text or raised line paper for students with visual impairments, to complex digital tools that read aloud, connect to braille displays, or utilize GPS.

A common characteristic among students with visual impairment is their limited ability to learn incidentally from the environment. Sight plays a crucial role in receiving and processing information, with up to 80% of learning for children without visual impairments occurring through visual cues. The other senses, such as touch and hearing, often cannot fully compensate for the loss of sight and may be ineffective substitutes for many individuals.

The Nigerian school system, particularly in primary and secondary schools, has witnessed changes with the adoption of inclusive education policies. This approach integrates more students with special education needs into the same classes as their peers without such needs. Special and regular teachers now collaborate to make the curriculum accessible to all students, employing various tools and devices collectively known as assistive technology. This inclusive use of assistive technology encompasses a range of devices and services aimed at ensuring that students with disabilities fully participate in social experiences and achieve greater independence, thereby improving their overall quality of life.

Examples of these assistive technology devices include Braille machines, electronic communication devices, pencil grips, and computers. Such tools not only reduce environmental barriers but also enhance communication and promote independence. The incorporation of assistive technology contributes to the educational achievement of individuals with disabilities, facilitating their integration into the workforce and enabling them to become valuable contributors to societal development, moving away from dependency. Without these devices, the learning experience for children with special needs would face significant challenges.

The effective use of assistive technology devices by students with visual impairment largely depends on how teachers integrate them into their classrooms. The National Policy on Education (NPE, 2008) underscores the importance of making education accessible to all children, regardless of their abilities or disabilities. However, this inclusive education would be challenging for children with special needs without the support of assistive technology devices, which hold significant untapped potential for enhancing the learning experiences of both students with and without disabilities.

Creating awareness among teachers is essential for the selection and use of assistive technology devices. Many western countries achieve this through workshops, seminars, and public enlightenment campaigns. Teachers' awareness enables them to evaluate specific devices based on performance, affordability, and reliability. It also empowers them to access evaluation and training resources, information on maintenance and repairs, and funding

opportunities. Teachers' awareness of assistive technology devices equips them to advise and request the purchase of suitable devices for their institutions and for parents seeking solutions for their affected children. Having knowledge of where to acquire these devices and how to select appropriate ones according to the learning needs of the children is vital for effective integration into the educational environment.

School adjustment is an important predictor of success and independence in life. Huge and unbearable consequences arise from a child's inability to adjust to the school environment. Maladjustment is determined by various factors related to emotions, character, family, school. Failure to adjust to school environment is an indication that the child is yet to accept or come to terms with his/her disability. Such is also an indication that the child is still having some unresolved psychological and emotional disputes about the disability or the home or school environment. School maladjustment creates an enduring self-denial and inability to cope with life challenges. School being a socializing institution and a place for personal development, inability of a student with visual impairment to adjust to school environment limits a student's chance of being educationally and economically relevant. Bueto and Coage (2015) noted that some children with visual impairment who fail to adjust to school may not have come to terms with their disability and are mostly suicidal. The authors stressed that it is pertinent to ensure that relevant stakeholders in the child's education creates a school and home environment that suit the students as the relevance of education to a child with such a condition cannot be overemphasized. Abodunrin and Emmanuel (2023) categorize teachers as one of the socio support variables that contribute immensely to the social adjustment of student with visual impairment.

This research investigates the correlation between assistive technology devices and teachers' attitudes as factors influencing school adjustment among secondary school students with visual impairment in Oyo state. The primary objectives include identifying the relationship between the independent variables (assistive technology devices and teachers' attitude) and the dependent variable (school adjustment) of secondary students with visual impairment in Oyo State. Additionally, the study aims to examine the combined impact of assistive technology devices and teachers' attitudes on the school adjustment of secondary school students with visual impairment. Lastly, the research seeks to explore the individual contributions of assistive technology devices and teachers' attitudes to the school adjustment of secondary school students with visual impairment in Oyo State.

METHODS

This research adopted the survey research design of the *ex-post facto* type. The sample for the study will comprises of 100 respondents with visual impairment including male and female students with total blindness and low vision. Purposive sampling technique was used to select the target population for the study. Questionnaire method was adopted in collecting data for this study. The questionnaire was divided into four sections. The first section covers information on the respondent's personal bio data and the second section concentrates on questions relating to assistive technology devices section three focus on the questions relating to teacher's attitude and section four focuses on questions relating to school adjustment. Pearson Product Moment Correlation (PPMC) was used to analyse the data collected from the field.

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RESULTS

Table 1 Perception of Assistive Technology Device by teachers for the visually impaired

	Strongly Agree		Agree		Undecided		Disagree		Strongly disagree	
	f	%	f	%	f	%	f	%	F	%
Assistive technology device makes learning easier	100	97.1%	2	1.9%	0	0.0%	0	0.0%	1	1.0%
All assistive technology devices used for learning in my school helps me in my daily activities	94	91.3%	8	7.8%	0	0.0%	0	0.0%	1	1.0%
Using assistive technology devices for teaching as increased my stress in coping with the school activities	39	37.9%	9	8.7%	36	35.0%	0	0.0%	19	18.4%
Assistive technology devices has enabled me to participate in school activities	85	82.5%	17	16.5 %	0	0.0%	0	0.0%	1	1.0%
The use of assistive technology devices broadens my knowledge	27	26.2%	4	3.9%	24	23.3%	0	0.0%	48	46.6%
My exposure to some of the assistive technology devices aids my adjustment in school	63	61.2%	4	3.9%	0	0.0%	0	0.0%	36	35.0%
Regular usage of technology devices increases my potentialities	91	88.3%	11	10.7 %	0	0.0%	0	0.0%	1	1.0%
The use of assistive technology devices affords me to acquire essential skills effectively	81	78.6%	4	3.9%	0	0.0%	0	0.0%	18	17.5%
Assistive technology devices increase my functional capability	99	96.1%	3	2.9%	0	0.0%	0	0.0%	1	1.0%
Assistive technology devices has helped me to accomplished a task that they would otherwise be unable to do	103	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Source: field work 2023

The results presented in Table 1 indicate a positive perception among students regarding assistive technology devices and their impact on learning and daily activities. A significant majority (97.1%) strongly agreed that these devices make learning easier, and 91.3% acknowledged their assistance in daily activities. However, the findings also reveal that the use of assistive technology devices for teaching has heightened stress for a portion of the students (37.9%). Furthermore, only 26.2% strongly agreed that these devices broaden their knowledge, with 35% expressing disagreement.

Conversely, a substantial majority (61.2%) of students agreed that exposure to assistive technology devices has facilitated their adjustment in school, and 78.6% recognized the

devices' effectiveness in acquiring essential skills. Almost all students (96.1%) agreed that these devices enhance their functional capability, and a unanimous 100% confirmed that the devices enable them to accomplish tasks that would otherwise be challenging. In conclusion, the findings suggest a generally positive impact of assistive technology devices on students' learning and daily activities, albeit with a consideration for potential stress factors for some individuals.

Table 2: Teachers Attitude towards visually impaired

	Strongly Agree		Agree		Undecided		Disagree		Strongly disagree	
Items	F	%	f	%	f	%	f	%	f	%
The attitude of my teacher towards me is provoking	1	1.0%	0	0.0%	1	1.0%	18	17.5%	83	80.6%
The relationship between me and my teacher is like cat and rat	1	1.0%	0	0.0%	0	0.0%	18	17.5%	84	81.6%
I hate myself as result of teachers' attitude	0	0.0%	1	1.0%	0	0.0%	7	6.8%	95	92.2%
My teacher is too authoritarian	1	1.0%	0	0.0%	7	6.8%	5	4.9%	90	87.4%
I always wanted to be in school with my teacher	94	91.3%	8	7.8%	0	0.0%	0	0.0%	1	1.0%
my teacher added to my academic stress and frustration	1	1.0%	0	0.0%	0	0.0%	11	10.7%	91	88.3%
My teacher does not allow me to relate with others in the school environment	2	1.9%	0	0.0%	0	0.0%	21	20.4%	80	77.7%
My teacher does not listen to my complain	0	0.0%	0	0.0%	0	0.0%	21	20.4%	82	79.6%
I never pray to have a teacher like the one teaching me now	0	0.0%	0	0.0%	0	0.0%	9	8.7%	94	91.3%
My teacher's attitude does not put my special needs into consideration	18	17.5%	0	0.0%	0	0.0%	7	6.8%	78	75.7%

Source: field work 2023

The data presented in Table 2 reveals that a significant majority of visually impaired students (80.6%) harbor negative attitudes towards their teachers and perceive a reciprocated negativity from their teachers. This sentiment is further emphasized by the fact that 92.2% of students experience self-hatred due to their teacher's attitude. Some students (6.8%) also express concerns about their teacher's authoritarian approach. Despite this, a notable 91.3% of students express a consistent desire to be in school with their teacher.

However, the majority of students (88.3%) feel that their teacher contributes to their academic stress and frustration, and 77.7% believe their teacher restricts their interaction with others in the school environment. Moreover, 79.6% of students feel unheard when expressing complaints, and a significant 91.3% never wish for a teacher like their current one. A notable portion (17.5%) of students feel their teacher does not adequately consider their special needs.

These findings underscore the imperative for an enhancement in teachers' attitudes toward visually impaired students. It is crucial for educators to be more attuned to the needs of visually impaired students, fostering a supportive and inclusive learning environment.

Table 3. College adjustment among the visually impaired

	Very Inaccurate		Moderately Inaccurate		Neither Inaccurate nor Accurate		Moderately Accurate		Very Accurate	
	f	%	F	%	F	%	f	%	f	%
I am succeeding academically	0	0.0%	0	0.0%	0	0.0%	1	1.0%	102	99.0%
I don't have as much of a social life as I would like	67	65.0%	0	0.0%	0	0.0%	23	22.3%	13	12.6%
I feel that I am doing well emotionally since coming to college	0	0.0%	0	0.0%	0	0.0%	11	10.7%	92	89.3%
I am happy with my social life at college	0	0.0%	0	0.0%	0	0.0%	9	8.7%	94	91.3%
I am doing well in my classes	0	0.0%	0	0.0%	1	1.0%	10	9.7%	92	89.3%
I am happy with how things have been going in college	0	0.0%	0	0.0%	1	1.0%	4	3.9%	98	95.1%
I am happy with the grades I am earning in my classes	2	1.9%	1	1.0%	1	1.0%	10	9.7%	89	86.4%
I feel that I am emotionally falling apart in college	29	28.2%	1	1.0%	7	6.8%	9	8.7%	57	55.3%
I have had a hard time making friends since coming to college	56	54.4%	8	7.8%	0	0.0%	1	1.0%	38	36.9%
I am as socially engaged as I would like to be	3	2.9%	0	0.0%	0	0.0%	11	10.7%	89	86.4%
I have felt the need to seek emotional counseling since coming to college	20	19.4%	6	5.8%	2	1.9%	1	1.0%	74	71.8%
I am meeting my academic goals	7	6.8%	0	0.0%	0	0.0%	4	3.9%	92	89.3%
I have performed poorly in my classes since starting college	83	80.6%	1	1.0%	0	0.0%	0	0.0%	19	18.4%
I am satisfied with my social relationships	4	3.9%	0	0.0%	0	0.0%	2	1.9%	97	94.2%

Table 3 provides an overview of the college adjustment experiences among visually impaired students, revealing a nuanced perspective. Academically, a substantial majority (99%) of visually impaired students report success, indicating high accuracy in statements affirming their academic achievements. Conversely, a significant number of students (65%) express dissatisfaction with their social lives, suggesting challenges in this aspect that may require additional support.

Emotionally, the majority of students (89%) feel that they are doing well since coming to college, and 91.3% express contentment with their social lives at college. While these findings highlight positive emotional adjustment, some students continue to grapple with social aspects. Notably, a considerable percentage (80.6%) report performing poorly in their classes since starting college, suggesting a need for extra support and resources in academic endeavors. Moreover, 28.2% of students admit to feeling emotionally strained in college, emphasizing the importance of providing emotional support and counseling services to address their needs.

In conclusion, the findings underscore a mix of challenges and successes in the college life of visually impaired students. To foster their academic and social adjustment, it is crucial to offer the necessary resources and support tailored to their unique needs.

Research Questions

Research question 1:

What is the relationship between the independent variable (assistive technology device and teacher's attitude) and the dependent variable (school adjustment) of secondary students with visual impairment in Oyo State?

Table 1: Pearson correlation showing the relationship among assistive technology device, teachers' attitude and school adjustment secondary students with visual impairment in Oyo state

Variable	N	Mean	SD	R	P-value	Decision
School adjustment of visually impaired	103	57.82	5.10	.738**	<.001	Reject Ho_1
Assistive technology device	103	16.66	4.62			
School adjustment of visually impaired	103	57.82	5.10	.454**	<.001	Reject Ho_1
Teacher Attitude of visually impaired	103	43.86	2.54			

**. Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation findings presented in Table 1 illuminate the interrelation between assistive technology devices, teacher attitude, and school adjustment among secondary school students with visual impairments in Oyo State. The results reveal a noteworthy positive relationship between school adjustment and assistive technology devices ($r=0.738$, $p<.001$), as well as between school adjustment and teacher attitude ($r=0.454$, $p<.001$). The correlation between school adjustment and assistive technology devices is robust and statistically significant, signifying that an increase in the use of assistive technology devices corresponds to an improvement in school adjustment. This underscores the pivotal role of assistive technology devices in aiding visually impaired students in adapting to their school environment.

Similarly, the correlation between school adjustment and teachers' attitude is moderate and significant, suggesting that enhancements in teacher attitudes towards visually impaired students coincide with improvements in school adjustment. This underscores the crucial role teachers play in cultivating a positive and supportive environment for visually impaired students in schools. In conclusion, the results indicate that both the utilization of assistive

technology devices and positive teacher attitudes significantly contribute to determining the school adjustment of visually impaired students in Oyo State.

Research question 2
What is the joint contribution of the independent variable (assistive technology device and teacher's attitude) to the dependent variable (school adjustment) of secondary school students with visual impairment in Oyo State?

Table 2 Model Summary and ANOVA showing the effect of Teacher Attitude and Assistive Technology Device on School Adjustment of Visually Impaired Secondary Students

R = .749 R^2 = .561 Adjusted R^2 = .553 Std. Error = 3.41						Decision
Model	**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig**	Reject Ho3
Regression	1488.694	2	744.347	64.013	<.001[b]	
Residual	1162.801	100	11.628			
Total	2651.495	102				

a. Dependent Variable: School adjustment of visually impaired
b. Predictors: (Constant), Teacher Attitude of visually impaired, Assistive technology device

The Model Summary table (Table 2) illustrates that the combined influence of Teacher Attitude and Assistive Technology Device significantly impacts the School Adjustment of Visually Impaired Secondary Students (R = .749, R Square = .561). This implies that 56.1% of the variation in the School Adjustment of Visually Impaired Secondary Students can be elucidated by considering both Teacher Attitude and Assistive Technology Device. The ANOVA table (Table 4.7) reinforces this finding, indicating a substantial effect of Teachers' Attitude and Assistive Technology Device on the School Adjustment of Visually Impaired Secondary Students ($F(2, 100) = 64.013$, $p < .001$). The Regression model accounts for 64% of the variance in the School Adjustment of Visually Impaired Secondary Students (Sum of Squares = 1488.694).

In conclusion, the results underscore the significant positive impact of both Teacher Attitude and Assistive Technology Device on the School Adjustment of Visually Impaired Secondary Students. This suggests that fostering a supportive teacher environment and providing assistive technology devices can contribute to enhancing the school adjustment of visually impaired secondary students.

Research question 3
What is the relative contribution of the independent variable (assistive technology device and teacher's attitude) to the dependent variable (school adjustment) of secondary school students with visual impairment in Oyo State?

Table 3 Summary of Regression Analysis on relative contributions of assistive technology device and teachers attitude on School adjustment among secondary school students

Model		Unstandardized Coefficients			T	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.476	6.062		5.358	<.001
	Assistive technology device	.740	.082	.670	9.004	<.001
	Teacher Attitude of visually impaired	.297	.149	.148	1.985	.050

a. Dependent Variable: School adjustment of visually impaired

The results in Table 3 show the results of the multiple regression analysis examining the influence of assistive technology device and teacher attitude on school adjustment of visually impaired students. The model was significant, with a R of 0.749 and R2 of 0.561, which indicates that 56.1% of the variance in school adjustment of visually impaired students can be explained by the predictors (assistive technology device and teacher attitude).The constant term in the model was significant (B = 32.476, t = 5.358, p < .001), suggesting that even without considering the influence of the predictors, there is already a significant level of school adjustment among visually impaired students. The assistive technology device variable was significant (B = 0.740, t = 9.004, p < .001), indicating that an increase in the use of assistive technology devices is associated with an increase in school adjustment among visually impaired students. The standardized coefficient of 0.670 indicates that the assistive technology device variable has a strong positive relationship with school adjustment. The teacher attitude variable was significant at the p = .050 level (B = 0.297, t = 1.985, p = .050), meaning that there is a positive association between teacher attitude and school adjustment among visually impaired students. The standardized coefficient of 0.148 indicates that teacher attitude has a moderate positive relationship with school adjustment. Overall, the results suggest that the use of assistive technology devices and teacher attitude are important predictors of school adjustment among visually impaired students.

Discussion of Findings

Based on the findings, it can be inferred that both the utilization of assistive technology devices and teacher attitudes significantly influence the school adjustment of visually impaired students in Oyo State. This aligns with the perspectives of Kelly and Smith (2011), Butterworth et al. (2011), and Sarstedt (2011), who posit that assistive technology and positive teacher attitudes foster literacy acquisition, equal access to employment-related information, and facilitate social and community networks. The study identifies three primary challenges faced by individuals with visual impairments: access to information, independent travel, and a lack of meaningful experiences. Assistive technology serves as a compensatory tool for these limitations, enabling visually impaired students to achieve educational success and competitive employment.

Furthermore, the findings highlight the positive impact of assistive technology on students' learning, including increased reading speeds and comprehension rates, as noted by Howell

(1996), Kennedy (2002), Merbler, Azar, and Ulman (1999), and Bera (2011). Additionally, Nguyo (2015) emphasizes that assistive technology, particularly tools like JAWS and Dolphin Pen, positively affects students' learning, specifically in increasing their reading speed. The manual braillewriter is recognized for its effectiveness in providing faster access to information for individuals with visual impairments (Kennedy, 2002; Black, 2011; Mugo et al., 2010).

The study also underscores the significant positive effect of both Teacher Attitude and Assistive Technology Device on the School Adjustment of Visually Impaired Secondary Students. This implies that fostering a supportive teacher environment and providing assistive technology devices can contribute to improving the school adjustment of visually impaired secondary students. D'Andrea and Presley (2009) emphasize that students with visual impairments function independently in various school activities with appropriate assistive technology and positive teacher attitudes.

Moreover, the research delves into the study by Oira (2016) at Kisumu University, Kenya, highlighting the influence of assistive technology devices on the performance of visually impaired school children. The study demonstrates that the use of assistive technology devices improves reading skills, allowing participants to perform school tasks on par with their sighted counterparts.

The study also explores the broader impact of assistive technology on persons with disabilities, aligning with the perspective of UNESCO (2008) that individuals with disabilities can excel in academic and workplace settings when equipped with adaptive and assistive technology. Siligo's (2005) research on teaching non-academic students with visual impairment underscores how assistive technology devices contribute to talent development in performance arts, such as music, promoting social inclusion and enhancing overall quality of life (Ring, 2003).

In conclusion, the results of the study suggest that assistive technology devices and positive teachers' attitudes are pivotal factors in enhancing the educational experiences and overall well-being of visually impaired students. The findings emphasize the need for continued support, resources, and awareness to empower visually impaired individuals in their educational journey and beyond.

Conclusion

The research work takes a look into the impact of assistive technology devices and teachers' attitude on school adjustment of students with visual impairment. From the findings, it was confirmed that, the two independent variables significantly related to the school adjustment of students with visual impairment and the level of relationship cannot be disputed. From the findings, it was revealed that, the joint and relative contributions of assistive technology devices and teacher s attitude was also significant.

Recommendations

Based on the findings of this study, it is recommended that school administrators should establish effective counselling services in all special schools. These would improve positive attitudinal change among students with visual impairment towards learning with the aim of

fostering improved school adjustment. Moreover, counselling psychologists and teachers in special schools should develop good management techniques in fostering positive mind-set towards the use of assistive technology devices by students with or without impairment.

The concerned stakeholders in the education of the visually impaired should address positive use of assistive technology devices among students with visual impairment through their efforts to build good school adjustment and create environments in which students feel supported by their teachers.

There should be from time to time training and retraining of teachers on the use of assistive technology devices so as to update them as well as given them update on the latest assistive technology devices for their students with visual impairment.

REFERENCES

Abodunrin, S. A. and Abodunrin, O. (2020) COVID-19 and Social Distancing: Challenge Faced by Persons with Visual Impairment in South-West, Nigeria. Global Journal of Applied, Management and Social Sciences, 19

Abodunrin, S.A. and Emmanuel, G.O (2023). Impact of social media and social supporting on the social adjustment of adolescent with visual impairment in Ibadan Oyo State. Multidisciplinarni pristupi u Edukaciji i Rehabilitaciji 5(2): 3-16.

Abodunrin,S.A and Olutoyosi M.O. (2020) Bottle neck to the effective use of academic library among students with visual impairment in tertiary institution in Oyo state. International journal of educational research 7(1)

Ajata, S.C. and Kenny, I. (2016). Maternal intrusiveness in infancy and child maladaptation in early school years. *Development and Psychology,* 5(3): 359 – 370

Berfield.W. (2003). Addressing the Special Needs Students through Technology. Retrieved February 13, 2019. From http://www.techlearning.com

Bueto, W. and Coage, H. (2015). Post-trauma of visual impairment and transition to school. *Child Development, 61,* 111- 113.

Calder, D.J. (2010). Assistive technologies and the visually impaired: a digital ecosystem perspective. In: Proceedings of the 3rd International Conference on Pervasive Technologies Related to Assistive Environments. New York, NY, USA: ACM, 1-8

Corn, A. L., Wall, R. S., Jose, R. T., Bell, J. K., Wilcox, K. & Perez, A. (2002). An initial study of reading and comprehension rates for students who received optical devices. Journal of Visual Impairment & Blindness, 96, 322-334.

D'Andrea, M.F., Presley, L. (2009). Assistive technology for students who are blind or visually Impaired. A guide to assessment. Pittsburgh, Pennsylvania: American printing house for the blind. Retrieved November 6, 2018. From https://www.amazon.com/Assistive-Technology-Students-Visually-Impaired/dp/0891288902

Howell, R. (1996). Technological aids for inclusive classrooms. Theory into Practice, 35 (1), 58-65. Retrieved November 2012 http://design.ncsu.edu:8120/cud/univ_design/princ_overview.htmhttps:/www.education.gov.uk/publications/eOrderingDownload/15009MIG2791.pdF

Kavitha,v. Milind S.M. Praveen K. and Heralgi M.M.(2015).Low vision aid-A ray of hope for irreversible visual loss in the pediatric age group .Taiwan journal of ophthalmology.v

Kelly, S.M. (2008). Correlates of Assistive Technology Use by Students Who Are Visually Impaired in the U.S.: Multilevel Modelling of the Special Education Elementary

Longitudinal Study. The Association for Education and Rehabilitation of the Blind and Visually Impaired International Conference, Chicago, IL.

Nguyo, W.R (2015) Effect of assistive technology on teaching and learning of intergrated English among visually impaired learners in special secondary schools in Kenya. PhD Thesis. University of Nairobi. Kenya.

Sarstedt J. (2011). "A Concise Guide to Market Research: The Process, Data, and Methods Using IBM SPSS Statistics"; White Plains, New York:Long. South African national Council for the Blind (2012). Empowering visually impaired people to what they dare to dream. Retrieved April 30, 2018, from http:// www.sancb.org.za.

Siligo, W.R.(2005) Enriching the Ensemble Experience for Students with Visual Impairments. SAGE Publications. Music Educators Journal. Retrieved December 2, https://doi.org/102307/3400140.https://journals.sagepub.com/doi/10.1177/194849921400500001

United Nations Educational, Scientific and Cultural Organisation- UNESCO. (2008). Conclusions and recommendations of the 48th session of the International Conference on Education. Geneva, Switzerland: UNESCO.

United Nations Educational, Scientific and Cultural Organisation- UNESCO.(2011) Accessible ICTs and Personalized learning.. Retrieved 19th February, 2019. From Https://unesdoc.unesco.org, ark,pfooo.

Wong M.E. Cohen l. (2011) .School, family and other influence on assistive technology use use: Access and challenges for student with visual impairment in singapore. British journal of visual impairment 29(2)