



BRIDGING THE DIGITAL DIVIDE AND INFUSION OF VALUES AND ETHICAL EDUCATION IN RURAL SECONDARY SCHOOLS IN CALABAR EDUCATION ZONE: A PATH TO SUSTAINABLE NATIONAL DEVELOPMENT.



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Abstract

This study investigated how bridging the digital divide and the introduction of values and ethical education in secondary schools in rural communities could promote sustainable national development. The survey research design was adopted for the study. Three research questions were raised to guide the study. The population of the study was 58 principles in the rural public secondary schools in Calabar education zone. The study sample was determined through the adoption of the census procedure. Instrument for data collection was an 18 item structured questionnaire. Mean and standard deviation was used to answer the research questions. The results showed the various digital technology resources needed to bridge the digital gap in secondary schools in rural communities. Results also revealed that the provision of digital technology and the infusion of values and ethical education in rural secondary schools could to a great extent promote sustainable national development. It was recommended that digital technology resources should be provided and values and ethical education infused into secondary school curriculum in order to nurture youths that will drive sustainable national development.

Keywords: Digital divide, values, ethics, sustainable national development.

Introduction

The upsurge of unethical behaviours among youths in various societies across the world is becoming very alarming. Considering that most of the youths who engage in these unethical behaviours are students or ex-students of various schools seem to complicate the situation. Trying to unwittingly analyze the situation may also raise questions about the quality of education offered to those group of youths.

Scholars (Udakagi, 2022, Marua 2024, Nnaji and Unamba, 2024) agree that education is the tool for economic development, human capital development and knowledge advancement. This implies that for any education system to worth the reputation of being a tool for economic development and human capital development, it must have the capacity to inculcate worthwhile skills, knowledge and values in the learner.



Winog (2022) noted that the 21st century technology driven society is threatened by youths whose behaviour can best be described as unethical and lacking in moral values. Inah (2023) opined that a different kind of education is needed in schools in order to nurture the mind of the learners and prepare them for survival in a world bedeviled with problems and so much reliance on technology. In the words of Akan and Ajikor (2023), values and ethical education is the way forward for societies that want to harness the great potentials of their growing population of youths especially in rural communities.

Values and contribute positively to the development of the society (Modi, 2023). Ethical and values education inculcate discipline, respect, honesty, empathy, hard work, social intelligence and other desirable qualities in the learner (Mudu, 2021). Those qualities reflect the yearnings of stakeholders for the youths of the preset day Nigeria. However, there seem to be a wide gap between students and youths in rural communities and their urban counterparts. This gap manifests in their awareness of and usage of modern technological tools, relationship with others, approach to problem solving, career choice and value system. Students and youths in rural communities are still far backwards in the aforementioned areas.

In terms of awareness of modern technological tools, youths in urban areas demonstrate more awareness and usage of these tools than those in rural communities. Idege (2023) found in a study that most students in various rural communities in Cross River State still lack awareness of and usage of computers, email, whatsapp, facebook messenger, xender and other modern technologies while their counterparts in urban schools demonstrated relatively high degree of awareness and moderate proficiency in use of modern technologies. In terms of relationship with others, students in rural secondary schools seem not to always recognize and respect personal limits in their communications or dealings with others. Respect, commitment, obedience and empathy which characterized rural life has nose-dived in recent times among youths and students in rural communities as teachers and school administrators complain of students engaging in depraved life styles both in and outside the school environment. Udah (2024) stated that youths in rural communities are no longer resilient, honest, humble and committed to living morally and ethically. Additionally, these youths in rural communities do not also have great visions for future careers beyond what they see around them or the personalities around them in their environments.

Consequently, the moral and ethical ineptness of rural students has direct negative impact on national development. When students lack system of values and ethical principles that is supposed to guide their conduct, the human capital needed for the sustainable development of the nation may lack what it takes to keep the economy progressive.

Gred (2024) noted that the presence of the crop of youths with imbued moral values and ethical principles, is a blessing to a nation. This may be why Marua (2023) advocates for the express infusion of values and ethical education in all schools across the federation. Akintayo (2022) opined that the answer to the moral laxity and seeming ignorance of students in rural areas lies in bridging digital technology close to them.

Abba (2022) stated that the major hindrance to the enlightenment and exposure of youths in the rural communities to modern skills and etiquettes is lack of information and communications technology. The wide gap in technology resources between rural and urban communities is a remarkable setback to students in rural communities. This implies that bridging the digital divide between urban and rural schools may catalyze the values and ethical education in Calabar education zone.

Digital divide is the gap between people and communities with access to digital technology resources and those without or with limited access to these technologies. In the context of this study, digital divide describes the unequal access to technologies between rural community dwellers and their counterparts in urban cities. Digital divide exists when students in rural communities lack physical access to ICT resources such as computers, smartphones, tablets, internet and the ability to understand and use these technologies while their counterparts in urban schools have physical access to these technologies and also possess the knowledge and ability to use them. Studies conducted by Mark



(2022), Umai (2022) and Bassey (2024) indicate that there is glaring digital divide between rural and urban secondary schools in south-south zone of Nigeria. While majority of the urban schools are equipped with computers, laptops and desktops, printers, projectors, scanners, software installed in the computers and moderns for internet connectivity, school in rural areas lack these resources. Moreso, teachers and students in urban schools do possess smartphones and have the ability to operate these technologies while few teachers and students in rural schools possess smartphones or have the ability to operate the aforementioned technologies.

Studies (Umai, 2023, Nnaji and Unamba 2024) also indicates that a relationship exists between the availability of ICT tools for learning and students' academic performance and social behaviour. This implies that the availability and use of digital technology resources in schools may influence teaching, learning and students' social behavior, while the lack and non-usage of digital technologies in schools may pose barrier to learning. Ubaji (2023) advocates that bridging the digital divide is a major panacea for uprooting the learning barrier and inequalities in education and learning. Bridging the digital divide in the context of education delivery refers to equal provision of physical digital technologies and digital skills to all students, schools and teachers at both rural and urban schools. Udogu (2022) noted that in an era of decline of moral values and academic excellence, schools should embrace technologies for teaching and learning. Udei (2023) noted that ICT gadgets and digital literacy are required necessities by all schools regardless of ownership, location are required necessities by all school regardless of location and ownership of school.

Mbagana (2023) stated that the use of technology helps teachers to engage students in learning at any location and at any time. Umam (2023) revealed in a study that with the use of digital technology in schools, a variety of subjects and topics are effectively taught to the understanding of students. With digital technologies made available and accessible to students and teachers in schools, a variety of contents can easily be incorporated into the curriculum (Humara, 2021). This implies that teachers can reach their students from anywhere and anytime to teach them moral values using technology. Teachers can use technological tools to engage students in activities that will help them build better character and become responsible citizens. Ovio (2024) emphasize that students should be helped to learn and mold good character by consuming good online contents. Teachers can easily illustrate certain concepts to students using technology and also teach them how to stream, listen or watch digital contents and podcasts in a variety of relevant subjects and topics (Abasen, 2022). Teachers can therefore, easily teach topics on values and ethical education using computers, projects and other tools. These topics can easily be illustrated to the full view of all learners in the classroom. The teacher can also guide them on how to search and stream contents that teaches valuable moral lessons and desirable characters. Tifus (2022) emphasized that guiding students to search and consume only valuable online contents should be the priority of schools and teachers who want to promote good values and morals in their students. Samure (2023) affirmed that schools of the modern era need to be well equipped with modern information and communications technologies such as; computers, internet connection, electronic boards and other digital technologies.

Through the use of smartphones and applicants such as WhatsApp, email and messenger teachers can keep tabs on their student either directly or through contacting their parents. The provision of information and communication technology tools in schools has the potential of enhancing capabilities of teachers and students and transforming the entire education system (Nnaji et al.,2024). This implies that teachers can advise, counsel and emotionally support students outside the classroom using digital technologies. as a component of values education, teachers are to build the character and behaviour of students to become responsible citizens through counseling, teaching and advising (Udoh, 2022).

Udogu (2020) noted that it is only through the value and ethical education in schools that a country can raise responsible citizens that will drive the economy with patriotism and moral conscience. Students in rural communities are already shot of both ICT tools, values and ethical education, which has placed limitations on their ability to make meaningful contributions to sustainable national development. As learning organization, schools should be at the forefront of innovation (Nnaji and



Unamba, 2024). The infusion of values and ethical education in secondary schools and integration of digital technologies in schools may be a step towards sustainable national development. The use of technology tools in schools can help students acquire modern relevant skills in cyber security, business analytics, data analysis and various digital skills needed in today world (Chuba, 2023). Integration of technologies in education also aids teachers to update their knowledge of concepts which they transfer to the students to empower them with useful skills and competences to transform the various sectors the economy.

Statement of the problem

The rate of moral decadence among students in rural communities in Calabar education zone has become an issue of concern to stakeholders in education. Disobedience, disloyalty, impatience, drug abuse, stealing and other negative social behaviour has become very common in this area. The type of education given to these students has therefore come under scrutiny.

Although past governments had added subjects such as civic education and security education to the curriculum, it has not made any significant positive impact on the behaviour of the student in rural communities. School teachers and students in rural communities also lack access to digital technologies as compared to their counterparts in urban areas of the zone. This has placed limitations on the school teachers in the inculcation of ethical values in their students. Rural students are also hindered from online learning of these values under their teacher's guidance. The consequence of this is the prevalence of undesirable unethical and immoral behaviour among students and youth of these rural communities. Tackling these problems requires the incorporation of values and ethical education in schools. However, integrating technology in schools may be of great boost in the delivery of ethical and values education in schools. It is against the backdrop this study intends to investigate how bridging the digital divide and infusion of values and ethical education in secondary schools in rural communities could promote sustainable national development.

Research questions

1. What digital technology resources are required in secondary schools in rural communities in Calabar education zone.
2. In what ways can the provision of digital technologies in rural secondary schools in Calabar education zone promote sustainable national development.
3. In what ways can the infusion of values and ethical education in rural secondary schools promote sustainable national development.

Methodology

The study adopted survey research design. The population of the study comprised all principals in the 58 public secondary schools in rural communities in Calabar education zone of Cross River State. These rural schools were carefully selected from across the seven local government areas that make up Calabar zone. Census sampling procedure was used to involve the 58 principals in the study. The instrument for data collection is a researcher developed questionnaire titled "Bridging the digital divide and infusion of values and ethical education for sustainable national development questionnaire (BDDIVEESNDQ) and structured in 31 item 4-point Likert-type scale. The instrument was validated by two experts in the department of educational foundations in University of Calabar. The reliability of the instrument was established using Cronbach Alpha analysis and the reliability coefficient value yielded 'r' 0.86 which was considered adequate for the study. A total of 58 copies of the questionnaire were distributed to the respondents by the researcher and a research assistant. One week was chosen for the administration of the questionnaires. This was to ensure proper coverage of the schools. The filled questionnaire were collected on the spot. At the end of the exercise, all the 58 copies of the questionnaire distributed were returned. The data collected were analyzed using mean rating and standard deviation for the research questions. Any mean score equal to or higher than 2.50 represents

acceptance while any mean score lower than 2.50 represents rejection. 2.50 is therefore the decision rule.

Results and findings

Research question 1:

1. What digital technology resources are required to bridge the digital gap in secondary schools in rural communities in Cross River State?

Table 1: Mean rating on the perception of principal on digital technology resources required to bridge the digital divide in secondary schools in rural communities

S/n	Item	$\bar{X}$	Sd	Decision
1.	Desktop computers	3.05	1.28	Accepted
2.	Laptop	3.27	1.92	Accepted
3.	Tablets	3.01	0.89	Accepted
4.	Smartphones	3.25	1.25	Accepted
5.	High spaced internet	3.22	1.22	Accepted
6.	Interactive while boards	3.02	0.88	Accepted
7.	Projectors	3.00	0.86	Accepted
8.	Digital cameras	2.99	0.84	Accepted
9.	Learning management systems	2.99	0.88	Accepted
10.	Virtual reality tools	3.12	0.95	Accepted
11.	Augmented reality tools	3.04	1.18	Accepted
12.	Printers	3.08	0.99	Accepted
13.	Scanners	3.08	0.69	Accepted
14.	ICT skill training	3.21	1.15	Accepted
15.	Application software programme	3.20	0.66	Accepted

The data presented in table 1 shows that the respondents agreed to all the items with mean scores above 2.50. Reflecting on the above results, the overall mean score for perception of principals on the digital technology resources required to bridge the digital divide in secondary schools in rural communities was higher than the critical mean value of 2.50. It was thus concluded that; desktop computers, laptops, tablets, smartphones, high speed internet, interactive white boards, projectors, digital cameras, learning management systems, virtual reality tools, augmented reality tools, printers, scanners, ICT skills training and application software programme are digital technology resources required to bridge the digital divide in secondary school in rural communities.

Table 2: Mean ratings on the perception of principals on the extent to which provision of digital technologies in rural secondary schools could promote sustainable national development

S/n	Item	$\bar{X}$	Sd	Decision
1.	Equipping students with digital skills to enhance their employability	3.08	1.21	High extent
2.	Equipping students with innovative skills	2.99	0.51	High extent
3.	Promotion of inclusivity and reduction of inequalities in education	2.98	0.51	High extent
4.	Promotion of sustainability practices in schools	3.00	0.47	High extent
5.	Giving students access to global opportunities	2.91	0.45	High extent
6.	Providing students access to diverse information useful for informed decision making	3.36	0.53	High extent
7.	Enhancing teacher effectiveness for quality education	3.45	0.55	High extent
8.	Enhancing school administrator's data driven decision making for quality education.	3.23	0.51	High extent

The data presented in table 2 showed that the respondents agreed to all the items with mean scores above 2.50. Reflecting on the above results, the overall mean score for principals perception on the extent to which provision of digital technologies in rural secondary schools could promote sustainable national development was higher than the critical mean value of 2.50. It was thus concluded that the extent to which provision of digital technologies in rural secondary schools could promote sustainable national development is to a high extent.

Research question three

To what extent can the infusion of values and ethical education promote sustainable national development?

Table 3: Mean ratings on the perception of principals on the extent to which introduction of values and ethical education could promote sustainable national development

S/n	Item	$\bar{X}$	Sd	Decision
1.	Inculcating strong moral and ethical character in the students	3.05	1.21	High extent
2.	Developing in the students, tolerance and respect for diverse groups	3.08	1.30	High extent
3.	Instilling the love for hard work in the students	3.08	1.30	High extent
4.	Equipping students with ethical decision making skills.	2.98	1.18	High extent
5.	Developing students to become patriotic citizens	3.00	1.23	High extent
6.	Instilling honesty and transparency in students	3.01	0.85	Very High Extent
7.	Developing empathy in students	2.87	0.72	High extent
8.	Developing resilience and adaptability in students	3.61	1.36	High extent

The data presented in table 3 showed that the respondents agree to all the items with mean scores above 2.50. Reflecting on the above result, the overall mean score for perception of principals on the extent to which infusion of values and ethical education in rural secondary schools could promote sustainable national development was higher than the critical mean value of 2.50. It was thus concluded that the extent to which infusion of values and ethical education could promote sustainable national development is to a high extent.

Discussion of findings

The result in table 1 indicated that principals accepted that desktop computers, laptops, tablets, smartphones, high speed internet, interactive white boards, projectors, digital cameras, learning management systems, virtual reality tools, augmented reality tools, printers, scanners, ICT skills training and application software programme are digital technology resources required to bridge the digital divide in secondary schools in rural communities. This result was confirmed in table 1 by the high mean scores obtained in items 1-15. This result is in agreement with Samure (2023) who remarked that schools of the modern era needs to be well equipped with modern information and communication technologies such as computers, internet connectivity, electronic boards and other digital gadgets. This finding also aligns with Udei (2023) who noted that ICT gadgets and digital literacy are required necessities by all schools regardless of ownership and location. The availability of these digital technologies in rural schools will no doubt bridge the digital divide experienced in rural secondary schools.

The results in table two revealed that the extent to which provision of digital technologies in rural schools could promote sustainable national development is to a high extent. The results obtained showed that all principals accepted that provision of digital technologies in rural schools will help in equipping students with digital and innovative skills to enhance their employability, promoting inclusivity and equality in education, provision of sustainability practices, giving students access to global opportunities, providing students access to diverse information, enhancing teacher's effectiveness, and enhancing administrators data driven decision making. This finding is in line with Ubaji (2023) who advocates that bridging the digital divide is a major panacea for uprooting the learning barriers and inequalities in education and learning. This finding is also supported by that of Nnaji et al. (2024) whose findings showed that the provision of information and communication



technology tools in schools has the potential of enhancing capabilities of teachers and students and transforming the entire education system. When the education system is transformed and capability of students and teachers are enhanced, then these individuals can contribute meaningfully to sustainable national development.

The results in table three revealed that principal all agreed that the extent to which introduction of values and ethical education in rural schools could promote sustainable national development is to a high extent in terms of inculcating strong moral and ethical character in the students, developing tolerance and respectful attitude in students, instilling love for hard work in students, equipping students with ethical decision making skills, developing students to become patriotic citizens, instilling honesty and transparency in students and developing empathy resilience and adaptability in students. These are virtues that individuals need to imbibe in order to contribute very meaningfully to the development of their society. This finding is in tandem with Udogu (2020) who noted that it is only through values and ethical education that a country can raise responsible citizens that will drive the economy with patriotism and moral conscience. This finding also agrees with Udoh (2022) who stated that as a component of values and ethical education, teachers build the character and behaviour of students to become responsible through counseling, teaching and advising. This results are an indication that when individuals have good value system acquired through values and ethical education, they are motivated to engage in worthwhile endeavors that will contribute to sustainable national development.

Conclusion

The study has established that various unsustainability practices exist in rural communities especially among youths. This study therefore concludes that provision of digital technologies and introduction of ethical and values education in secondary school in rural communities would equip youths in rural communities with requisite skills, ethical values and strong character needed for them to contribute to sustainable national development.

Recommendations

The following recommendations were made based on the findings of the study. They are;

1. Government should ensure the adequate provision of digital technology tools to rural secondary schools for use in teaching and learning.
2. Ethical and values education should be included as a subject in the curriculum of secondary schools.
3. Teachers in rural schools should be provided with digital skills training to enable them engage well with students.

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