

Evaluation of Computer studies curriculum in senior secondary schools in South-East Nigeria

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ABSTRACT:

This study evaluated computer studies curriculum in senior secondary schools in South-East Nigeria. Four research questions guided the study. A survey research design was employed, and data is collected using a questionnaire distributed to a sample size of 300 senior secondary school teachers and students. The questionnaire was validated by three experts in the field, and its reliability is assessed using Cronbach's coefficient alpha (α), resulting in a value of 0.69. Mean and standard deviation are used for data analysis. The computer studies curriculum integrates applicable and forward-thinking content on arising advances. evaluation procedures utilized in the computer studies curriculum successfully measure students' comprehension, use of ideas and abilities, however, large class sizes make it challenging to provide individual attention to students. The study highlights the importance of continually evaluating and improving the computer studies curriculum to meet the evolving needs of students in the South-East region of Nigeria and prepare them for the challenges and opportunities of the digital era.

Keywords: *Evaluation, Computer studies, curriculum, senior secondary schools, South-East Nigeria.*

INTRODUCTION:

Education is an instrument per excellence for effective national development. It therefore remained a social process in capacity building and maintenance of society. According to Orishev and Achilov (2023), education is the process through which individuals are made functional members of the society through transmission of knowledge, skills and attitude. Thus, education promotes better health increases skills and higher productivities, providing chances to live in dignity and make wise and rationale decision about one's life (Ismailovich, 2021). Education, therefore, makes a nation/country to spell out in clear and unequivocal terms the philosophy and objectives that underlie its investment for the development. In the educational system, the computer is a powerful teaching tool and as a medium of instruction that has helped to improve students' performance in school subjects and has taken care of problem confronting teachers. It guides a student through a course of instruction and in such way to facilitate understanding of the subject matter.

The application of computers in the teaching and learning is really topical; and thus, computer programme facilitates communication between students and teacher and beyond the classroom setting, like distanced students' instruction. The emerging requirements for

computer literacy and skills have necessitated that urgent attention be given to the study of computer at all levels of education (Mirsharapovna, Shadjalilovna, Kakhramonovich & Malikovna, 2022). Due to fast changes in modern technologies, learners need to be equipped with current knowledge that will assist them in adjusting to these technological changes. Computer studies were introduced into secondary schools in Nigeria in order to meet up with the emerging technological challenges facing Nigeria in the 21st century and beyond. The computer studies curriculum plays a vital role in equipping students with the necessary knowledge, skills, and competencies to thrive in the digital age (Alenezi, 2020). In Nigeria, like many other countries, the integration of computer studies education in senior secondary schools is essential for preparing students for the ever-evolving world of technology. The South-East region of Nigeria, comprising states such as Abia, Anambra, Ebonyi, Enugu, and Imo, is home to a significant population of students who are enrolled in senior secondary schools. Evaluating the computer studies curriculum in this region becomes imperative to assess its effectiveness, identify strengths, and uncover areas for improvement.

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The need for evaluating the computer studies curriculum in senior secondary schools in South-East Nigeria arises from the dynamic nature of technology and the evolving demands of the digital era. With rapid advancements in information and communication technologies, it is crucial to ensure that the curriculum aligns with current trends and equips students with the necessary skills and competencies (Koh, Tan, Camiré, Paculdar & Chua, 2022). Additionally, evaluating the curriculum allows for the identification of gaps and challenges that may hinder effective implementation and student learning outcomes. Furthermore, conducting an evaluation provides an opportunity to assess the impact of the curriculum on students' academic performance, digital literacy, and technological competence. Understanding the strengths and weaknesses of the curriculum can help stakeholders, including educators, policymakers, and educational institutions, make informed decisions to enhance the learning experiences of students. Moreover, the evaluation of the computer studies curriculum in senior secondary schools in South-East Nigeria is significant for addressing gender disparities in computer studies. It provides an opportunity to explore whether the curriculum promotes inclusivity and encourages female students to pursue computer-related fields.

Literature Review:

Relevance of Computer Studies Curriculum:

In today's rapidly evolving world, computer studies education plays a crucial role in preparing students for the digital age. As technology continues to advance at an unprecedented pace, it has become increasingly important for individuals to have a solid foundation in computer studies to navigate the ever-expanding digital landscape (Ratheeswari, 02018). One of the key reasons why computer studies education is vital is its alignment with technological advancements. Technology has become an integral part of our lives, affecting various aspects of society, including communication, commerce, entertainment, and even governance. As new technologies emerge, it is essential for individuals to understand and adapt to these changes. Computer studies education equips students with the necessary knowledge and skills to engage with and contribute to these technological advancements (Nicolaou, Matsiolan & Kalliris, 2019).

Computer studies education encompasses various disciplines, such as computer science, information technology, and computer engineering. Through these disciplines, students gain a deep understanding of how computers work, how software is developed, and how to utilize technology effectively (Agbo, Sanusi, Oyelere & Suhonen, 2021). They learn programming languages, algorithms, and problem-solving techniques, enabling them to develop innovative solutions to real-world problems. By staying abreast of technological

advancements, computer studies education ensures that students are equipped to thrive in a rapidly changing digital landscape. Moreover, computer studies education plays a pivotal role in preparing students for the digital age. As technology becomes increasingly integrated into our daily lives and workplaces, digital literacy has become a fundamental skill. Computer studies education provides students with the necessary foundation to navigate and utilize digital tools effectively (Gbeleyi, Awaah, Okebukola, Shabani & Potokri, 2022). From basic computer literacy to advanced coding and data analysis, these skills empower students to excel in the digital age and open doors to a wide range of career opportunities.

Furthermore, computer studies education fosters critical thinking and problem-solving skills. In the digital age, individuals are faced with complex challenges that require analytical thinking and the ability to approach problems from different perspectives. Computer studies education encourages students to think logically, break down problems into smaller components, and develop systematic solutions (Anggraeni, Prahani, Suprpto, Shofiyah & Jatmiko, 2023). By cultivating these skills, students become adept at tackling complex issues, not only in the field of computer studies but also in various other domains. The importance of computer studies education has been recognized by educational institutions and policymakers worldwide. Many countries have incorporated computer studies into their curriculum, recognizing its significance in preparing students for the digital age.

Ebekozien, Aigbavboa and Samsurijan (2023) noted that computer studies education is of paramount importance in today's rapidly advancing technological landscape. Its alignment with technological advancements ensures that students are equipped with the necessary knowledge and skills to engage with and contribute to the digital age. By preparing students for the digital age, computer studies education empowers them with essential digital literacy skills, critical thinking abilities, and problem-solving skills. As technology continues to shape the world around us, the significance of computer studies education will only continue to grow, playing a vital role in the education of future generations.

Content Analysis of Computer Studies Curriculum:

In the field of computer studies education, it is crucial to focus on core concepts and skills that form the foundation of understanding and utilizing emerging technologies. With the rapid advancement of technology, it becomes necessary for educators to strike a balance between teaching theoretical concepts and practical applications. Core concepts and skills serve as the building blocks of computer studies education. These fundamental principles provide students with a strong

theoretical foundation that enables them to comprehend the underlying principles of various technologies (Strang, Che & Vajjhala, 2020). For example, concepts such as algorithms, data structures, programming languages, and networking protocols are essential for understanding the inner workings of computers and software systems. By grasping these core concepts, students develop a deep understanding of how technology operates, which prepares them to adapt and contribute to emerging technologies.

Moreover, computer studies education must integrate emerging technologies into the curriculum. Emerging technologies such as artificial intelligence, machine learning, blockchain, and the Internet of Things are transforming various industries and societal sectors. By incorporating these cutting-edge technologies into the educational framework, students gain exposure to the latest advancements and become familiar with their applications and implications (Mormah & Bassey, 2021). This integration provides students with a competitive edge in the job market and prepares them to tackle real-world challenges. The integration of emerging technologies can take various forms within computer studies education. It can involve incorporating specialized courses or modules dedicated to specific emerging technologies, organizing workshops and seminars on the latest trends, or engaging students in project-based learning experiences that require them to apply emerging technologies to solve real-world problems (Ali, 2019). By embracing emerging technologies in the curriculum, educators equip students with the knowledge and skills required to navigate and contribute to the ever-evolving digital landscape.

However, it is essential to strike a balance between teaching theoretical concepts and practical applications in computer studies education. While theoretical knowledge provides a solid foundation, practical skills are equally crucial for students to apply their understanding in real-world scenarios. Theoretical concepts provide the framework and understanding of technology, but practical applications bring those concepts to life (Galadanci & Mukhtar, 2017). By engaging students in hands-on activities, coding projects, and collaborative problem-solving exercises, educators facilitate the application of theoretical knowledge into practical situations. Balancing theory and practical applications requires a learner-centered approach in computer studies education. Tofi (2019) upheld that educators must design curricula and learning experiences that emphasize the practical implementation of concepts, allowing students to develop problem-solving skills and gain practical experience in using various technologies. This approach ensures that students not only understand the theoretical aspects but also have the ability to translate that knowledge into tangible solutions. By bridging the gap between theory and practice, students

are better prepared to adapt to the ever-changing technological landscape and contribute to innovative advancements.

Furthermore, Gbeleyi, Awaah, Okebukola, Shabani and Potokri (2022) suggested that industry collaborations and internships provide valuable opportunities for students to apply their theoretical knowledge in real-world settings. Partnering with technology companies and organizations allows students to gain hands-on experience, work on real projects, and understand the practical challenges and considerations involved in the implementation of emerging technologies. Such collaborations also expose students to the latest industry practices and trends, enabling them to align their skills with industry requirements. Computer studies education must focus on core concepts and skills while integrating emerging technologies. Core concepts provide a strong theoretical foundation, while the integration of emerging technologies prepares students for the rapidly evolving digital landscape (Mormah & Bassey, 2021). By striking a balance between theory and practical applications, educators ensure that students have the necessary knowledge and skills to apply theoretical concepts in real-world scenarios. This balanced approach empowers students to become adaptable, innovative, and skilled professionals capable of driving technological advancements in the future.

Impact of Computer Studies Curriculum:

The computer studies curriculum has a significant impact on various aspects of students' education and future prospects. This essay explores the impact of computer studies curriculum on academic performance, digital literacy, technological competence, and career opportunities, ultimately enhancing students' employability. The computer studies curriculum plays a crucial role in improving academic performance. The integration of computer studies into the curriculum enhances students' cognitive abilities, critical thinking skills, and problem-solving capabilities. Through computer programming, students learn to break down complex problems into manageable components and develop logical solutions (Abdulahadi, Awaah, Agbanimu, Ekwam & Heloo, 2023). This process fosters analytical thinking, enhances their mathematical and reasoning skills, and improves their overall academic performance across different subjects.

Moreover, computer studies curriculum promotes digital literacy and technological competence among students. In today's digital age, it is essential for individuals to have a deep understanding of technology and the ability to navigate digital tools effectively. Onifade, Ilevbare, Adelowo, Ajayi and Jegede (2021) maintained that computer studies education equips students with the necessary knowledge and skills to use computers, software applications, and digital resources proficiently.

Students learn how to search for information, evaluate its credibility, and utilize technology for communication, collaboration, and information sharing. This digital literacy empowers students to become responsible and informed digital citizens, enabling them to succeed in various academic and professional settings.

Furthermore, the computer studies curriculum exposes students to a wide range of technological concepts, tools, and programming languages. This exposure cultivates technological competence, enabling students to adapt to the ever-evolving technological landscape. They gain hands-on experience with various software applications, programming languages, and emerging technologies. This competence not only prepares them for future academic endeavors but also equips them with the necessary skills to excel in the digital workforce (Agbo, Oyelere, Suhonen & Tukiainen, 2019). Additionally, the computer studies curriculum opens up a plethora of career opportunities for students. In today's technology-driven world, proficiency in computer studies is highly valued by employers across various industries. The demand for individuals with expertise in computer science, software development, data analysis, and information technology is on the rise. By providing students with a solid foundation in computer studies, the curriculum prepares them for diverse career paths, ranging from software engineering and cybersecurity to data science and artificial intelligence. The knowledge and skills acquired through the computer studies curriculum position students for successful careers in the technology sector.

Moreover, the computer studies curriculum enhances students' employability. In a competitive job market, employers seek candidates with technological skills and digital literacy. The computer studies curriculum equips students with the necessary skills to leverage technology effectively, making them attractive candidates for potential employers. The ability to code, analyze data, and solve complex problems gives students a competitive edge in the job market (Ratheeswari, 2018). Additionally, the computer studies curriculum fosters creativity, innovation, and adaptability, which are highly valued by employers in an era of rapid technological advancements. In conclusion, the computer studies curriculum has a significant impact on academic performance, digital literacy, technological competence, career opportunities, and employability. By integrating computer studies into the curriculum, students develop critical thinking skills, enhance their digital literacy, and gain competence in utilizing technology. This prepares them for a wide range of career opportunities in the technology-driven job market. The computer studies curriculum not only enhances students' academic performance but also equips them with the skills and knowledge needed to thrive in the digital age.

Challenges and Issues:

The computer studies curriculum has a significant impact on various aspects of students' education and future prospects. This essay explores the impact of computer studies curriculum on academic performance, digital literacy, technological competence, and career opportunities, ultimately enhancing students' employability. Firstly, the computer studies curriculum plays a crucial role in improving academic performance. The integration of computer studies into the curriculum enhances students' cognitive abilities, critical thinking skills, and problem-solving capabilities. Through computer programming, students learn to break down complex problems into manageable components and develop logical solutions (Omeh & Olelewe, 2021). This process fosters analytical thinking, enhances their mathematical and reasoning skills, and improves their overall academic performance across different subjects. Moreover, computer studies curriculum promotes digital literacy and technological competence among students. In today's digital age, it is essential for individuals to have a deep understanding of technology and the ability to navigate digital tools effectively. Computer studies education equips students with the necessary knowledge and skills to use computers, software applications, and digital resources proficiently. Students learn how to search for information, evaluate its credibility, and utilize technology for communication, collaboration, and information sharing. This digital literacy empowers students to become responsible and informed digital citizens, enabling them to succeed in various academic and professional settings.

Furthermore, the computer studies curriculum exposes students to a wide range of technological concepts, tools, and programming languages. This exposure cultivates technological competence, enabling students to adapt to the ever-evolving technological landscape. They gain hands-on experience with various software applications, programming languages, and emerging technologies (Oribhabor, 2020). This competence not only prepares them for future academic endeavors but also equips them with the necessary skills to excel in the digital workforce. Additionally, the computer studies curriculum opens up a plethora of career opportunities for students. In today's technology-driven world, proficiency in computer studies is highly valued by employers across various industries. Omeh, Olelewe and Nwangwu (2022) observed that the demand for individuals with expertise in computer science, software development, data analysis, and information technology is on the rise. By providing students with a solid foundation in computer studies, the curriculum prepares them for diverse career paths, ranging from software engineering and cybersecurity to data science and artificial intelligence (Garba, Siraj, Othman & Musa, 2020). The knowledge and skills acquired through the

computer studies curriculum position students for successful careers in the technology sector.

Moreover, the computer studies curriculum enhances students' employability. In a competitive job market, employers seek candidates with technological skills and digital literacy. The computer studies curriculum equips students with the necessary skills to leverage technology effectively, making them attractive candidates for potential employers. The ability to code, analyze data, and solve complex problems gives students a competitive edge in the job market (Ezeora, Ukekwe & Adegoke, 2023). Additionally, the computer studies curriculum fosters creativity, innovation, and adaptability, which are highly valued by employers in an era of rapid technological advancements. The computer studies curriculum has a significant impact on academic performance, digital literacy, technological competence, career opportunities, and employability. By integrating computer studies into the curriculum, students develop critical thinking skills, enhance their digital literacy, and gain competence in utilizing technology. This prepares them for a wide range of career opportunities in the technology-driven job market. The computer studies curriculum not only enhances students' academic performance but also equips them with the skills and knowledge needed to thrive in the digital age.

Research question:

The investigation was based on the following research question:

1. What are the qualities and shortcomings of the current computer studies curriculum in senior secondary schools in South-East Nigeria?
2. What do teachers and students think about the content, teaching methods, and evaluation processes of the computer studies program?
3. What challenges do teachers have in implementing the computer studies curriculum?
4. What are the solution to the challenges encountered by teachers in implementing the computer studies curriculum?

METHODS:

The study utilizes a survey research design to evaluate the computer studies curriculum in senior secondary schools in South-East Nigeria. This design allows for the collection of data from a large sample size to gather insights into the effectiveness and implementation of the curriculum. The sample size for this study is determined to be 300 senior secondary school students from various schools in the South-East region of Nigeria. The selection of the sample was conducted using a random sampling technique to ensure representativeness and reduce bias. The primary data collection instrument was a questionnaire administered using Google Forms. The questionnaire was designed to capture relevant information about the computer studies curriculum. The questionnaire was validated by three experts in the field of computer studies education to ensure content validity and relevance. The reliability of the questionnaire was assessed using Cronbach's coefficient alpha (α). A reliability coefficient of 0.69 was obtained, indicating acceptable reliability for the instrument. The questionnaire was distributed to the selected sample of 300 senior secondary school teachers and students in the South-East region of Nigeria. The data collection process ensured anonymity and confidentiality of participants' responses. The collected data was analyzed using descriptive statistical techniques. Mean and standard deviation was calculated to summarize and describe the responses obtained from the questionnaire.

RESULTS:

Demographic segmentation:

Demographic segmentation alludes to the arrangement of the respondents in light of on role, and gender. Table 1 exhibits that 300 respondents completed the questionnaire in senior secondary schools in South-East Nigeria. Out of these 300 respondents, 106 of them are male (35.3%), and 194 are female (64.67%). Additionally, out of the 300 respondents, 20% were teachers, while the excess 80% were students. The segment division gives incredible bits of knowledge into respondents.

Table 1: Distribution of Study Sample Variables

| Variable | | Frequency | Percentage |
|----------|----------|-----------|------------|
| Gender | Male | 106 | 35.3% |
| | Female | 194 | 64.67% |
| | Total | 300 | 100% |
| Role | Teachers | 60 | 20% |
| | Students | 240 | 80% |
| | Total | 300 | 100% |

Research Question 1:

What are the qualities and shortcomings of the current computer studies curriculum in senior secondary schools in South-East Nigeria?

Table 1: Mean rating and standard deviation of the strengths and weaknesses of the current computer studies curriculum in senior secondary schools in South-East Nigeria.

| S/N | Items | MALE | | | FEMALE | | |
|-----|--|------|---------|------|--------|---------|------|
| | | Mean | Std Dev | Dec. | Mean | Std Dev | Dec. |
| 1 | The computer studies curriculum adequately covers the fundamental concepts and principles of computer science. | 2.99 | 1.19 | A | 2.65 | 1.31 | A |
| 2 | The computer studies curriculum effectively develops students' practical skills in using computer software and hardware. | 3.69 | 0.69 | A | 3.30 | 1.10 | A |
| 3 | The computer studies curriculum integrates applicable and forward-thinking content on arising advances and patterns | 3.92 | 0.33 | A | 3.53 | 0.88 | A |
| 4 | computer studies curriculum advances decisive reasoning, critical thinking, and imagination among students | 3.90 | 0.46 | A | 3.65 | 0.87 | A |
| 5 | The computer studies curriculum provides opportunities for collaborative and hands-on learning experiences. | 2.45 | 1.39 | R | 2.60 | 1.38 | A |

Std Dev= Standard deviation, Dec =Decision, A=Accepted, R=Rejected

Table 1 above showed qualities and shortcomings of the current computer studies curriculum in senior secondary schools in South-East Nigeria. The computer studies curriculum integrates applicable and forward-thinking content on arising advances and patterns (M=3.92, F=3.53). Clearly computer studies curriculum advances decisive reasoning, critical thinking, and imagination among students (M=3.90, F=3.65). On the entire, items 1, 2, 3 and 4 were acknowledged with mean scores of 2.99,

3.69, 3.92 and 3.90 corresponding to standard deviations of 1.19, 0.69, 0.33 and 0.46, while item 5 with mean score of 2.45 and standard deviation of 1.39 was dismissed by male respondents. Also items 1, 2, 3, 4 and 5 were completely acknowledged by female respondents with mean scores of 2.65, 3.30, 3.53, 3.65 and 2.60 relating to standard deviations of 1.31, 1.10, 0.88, 0.87 and 1.38

Research Question 2:

What do teachers and students think about the content, teaching methods, and evaluation processes of the computer studies program?

Table 2: Mean and standard deviation on perceptions regarding the computer studies curriculum's content, teaching methods, and assessment strategies.

| S/N | Items | MALE | | | FEMALE | | |
|-----|--|------|---------|------|--------|---------|------|
| | | Mean | Std Dev | Dec. | Mean | Std Dev | Dec. |
| 6 | The curriculum adequately covers a wide range of computer science topics and concepts. | 2.33 | 1.47 | R | 3.30 | 1.04 | A |
| 7 | the educational program incorporates commonsense applications and models that upgrade understanding and commitment | 3.77 | 0.59 | A | 3.47 | 0.99 | A |
| 8 | The teaching methods used in the computer studies curriculum are effective in facilitating learning and skill development | 3.80 | 0.49 | A | 2.95 | 1.15 | A |
| 9 | The assessment strategies used in the computer studies curriculum effectively measure students' understanding and application of concepts and skills | 3.80 | 0.63 | A | 3.16 | 0.94 | A |
| 10 | the evaluation procedures utilized in the computer studies curriculum successfully measure students' comprehension, use of ideas and abilities | 3.80 | 0.63 | A | 3.41 | 0.92 | A |

Std Dev= Standard deviation, Dec =Decision, A=Accepted, R=Rejected

Table 2 uncovered that the evaluation procedures utilized in the computer studies curriculum successfully measure students' comprehension, use of ideas and abilities (M=3.80, M=3.16). Also, the educational program incorporates commonsense applications and models that upgrade understanding and commitment (M=3.77, F=3.47). Altogether, items 7, 8, 9 and 10 with mean scores of 3.77, 3.80, 3.80 and 3.80 lined up with

standard deviations of 0.59, 0.49, 0.63 and 0.63 were acknowledged while item 6 was dismissed by the respondents correspondingly by the female respondents; additionally, items 6, 7, 8, 9 and 10 with mean scores of 3.30, 3.47, 2.95, 3.16 and 3.41 corresponding to standard deviations of 1.04, 0.99, 1.15, 0.94 and 0.92 were acknowledged individually by the male respondents.

Research Question 3:

What challenges do teachers have in implementing the computer studies curriculum?

Table 3: Mean and standard deviation on the challenges faced by teachers in implementing the computer studies curriculum effectively.

| S/N | Items | MALE | | | FEMALE | | |
|-----|--|------|---------|------|--------|---------|------|
| | | Mean | Std Dev | Dec. | Mean | Std Dev | Dec. |
| 11 | Limited access to up-to-date computer hardware and software | 2.34 | 1.46 | R | 3.42 | 0.99 | A |
| 12 | Insufficient time allocated to teaching computer studies | 3.72 | 0.68 | A | 2.42 | 1.42 | R |
| 13 | Lack of technical support and maintenance for computer labs and equipment | 3.79 | 0.55 | A | 2.32 | 1.39 | R |
| 14 | Inadequate infrastructure, such as unreliable internet connectivity | 3.78 | 0.67 | A | 2.33 | 1.38 | R |
| 15 | Large class sizes that make it challenging to provide individual attention to students | 3.80 | 0.63 | A | 3.60 | 0.78 | A |

Std Dev= Standard deviation, Dec =Decision, A=Accepted, R=Rejected

The table 3 showed the challenges faced by teachers in implementing the computer studies curriculum effectively. The respondents agreed that large class sizes make it challenging to provide individual attention to students (M=3.80, F=3.60). In contrast, the respondents have divergent opinion regarding access to up-to-date computer hardware and software (M=2.34, F=3.42). In all, items 12 to 15 yields mean scores above 2.50 and

were accepted, but item 11 was scored below cut off point and was not accepted by male respondents. While items 11 and 15 yield a mean score of 3.42 and 3.60 corresponding to standard deviation of 0.99 and 0.78 were accepted, but item 12, 13 and 14 was rejected with mean scores of 2.42, 2.32 and 2.33 and standard deviation of 1.42, 1.39 and 1.38 respectively by the female respondents.

Research Question 4:

What are the solution to the challenges encountered by teachers in implementing the computer studies curriculum?

Table 4: Means and standard deviation on the solution to the challenges encountered by teachers in implementing the computer studies curriculum

| S/N | Items | MALE | | | FEMALE | | |
|-----|---|------|---------|------|--------|---------|------|
| | | Mean | Std Dev | Dec. | Mean | Std Dev | Dec. |
| 16 | Providing professional development education for teachers | 2.80 | 1.12 | A | 2.70 | 0.78 | A |
| 17 | Increasing teachers' motivation by solving their initial and emerging curriculum related problems | 2.85 | 1.15 | A | 2.90 | 1.00 | A |
| 18 | Including teachers in curriculum development studies | 2.75 | 1.01 | A | 2.60 | 1.02 | A |
| 19 | Develop an overall local government level plan for development and implementation of | 2.65 | 1.24 | A | 2.67 | 0.92 | A |

| | | | | | | | |
|----|----------------------------|------|------|---|------|------|---|
| | curriculum | | | | | | |
| 20 | Provision of teaching aids | 2.70 | 1.14 | A | 2.50 | 0.92 | A |

Std Dev= Standard deviation, Dec =Decision, A=Accepted, R=Rejected

On the whole, items 16, 17, 18, 19 and 20 with mean score of 2.80, 2.85, 2.85, 2.65 and 2.70 corresponding to standard deviation of 1.12, 1.15, 1.01, 1.24 and 1.14 were accepted respectively by male respondents. While items 16, 17, 18, 19 and 20 with mean score of 2.70, 2.70, 2.60, 2.60 and 2.50 corresponding to standard deviation of 0.78, 1.00, 1.02, 0.92 and 0.92 were accepted respectively by female respondents.

DISCUSSION OF RESULTS:

Research question 1 sought to find the qualities and shortcomings of the current computer studies curriculum in senior secondary schools. The results indicated that computer studies curriculum plays a crucial role in integrating applicable and forward-thinking content related to emerging advances and trends in technology. By incorporating the latest developments and trends into the curriculum, students are exposed to cutting-edge concepts and technologies that are shaping the digital landscape. This integration according to Ismailovich (2021) ensures that students receive a comprehensive and up-to-date education that prepares them for the future. Moreover, the computer studies curriculum promotes decisive reasoning, critical thinking, and creativity among students. The study of computer science according to Orishev and Achilov (2023) involves analyzing problems, designing solutions, and implementing algorithms. This process requires students to think critically, evaluate different options, and make informed decisions. By engaging in coding projects, problem-solving exercises, and hands-on activities, students develop their problem-solving skills, logical reasoning, and creativity. These skills are essential not only in computer studies but also in various other fields and real-world scenarios. The integration of applicable and forward-thinking content in the computer studies curriculum ensures that students stay ahead of technological advancements. It equips them with the knowledge and skills needed to adapt to the ever-changing digital landscape and contribute to innovative advancements (Mirsharapovna et al., 2022). Additionally, the emphasis on decisive reasoning, critical thinking, and creativity fosters a mindset of lifelong learning and innovation among students, preparing them to tackle complex challenges and contribute to the development of new technologies.

Research question 2 covered teachers and students opinion about the content, teaching methods, and evaluation processes of the computer studies program. The results showed that the evaluation procedures utilized in the computer studies curriculum are designed

to effectively measure students' comprehension, use of ideas, and abilities. The assessment methods employed in computer studies education aim to evaluate students' understanding of theoretical concepts, their application of those concepts in practical scenarios, and their ability to utilize relevant skills and abilities. Computer studies curriculum according to Alenezi (2020) often incorporates a variety of assessment strategies, including written exams, coding assignments, project-based assessments, presentations, and collaborative activities. These assessment methods provide a comprehensive evaluation of students' knowledge, skills, and understanding of the subject matter. Written exams assess students' comprehension of theoretical concepts and their ability to analyze and apply those concepts to problem-solving scenarios (Koh et al., 2022). Coding assignments and project-based assessments evaluate students' practical skills and their ability to implement algorithms and solutions effectively. Presentations and collaborative activities assess students' communication skills, teamwork, and their ability to articulate and discuss their ideas and solutions. Furthermore, the computer studies curriculum incorporates practical applications and models that enhance students' understanding and engagement with the subject matter. Instead of solely focusing on theoretical knowledge, the curriculum often emphasizes the practical use of concepts and skills. Students are encouraged to work on real-world projects, engage in hands-on activities, and explore practical applications of computer studies in various domains. By providing students with opportunities to apply their knowledge and skills in practical scenarios, the curriculum enhances their understanding, critical thinking, and problem-solving abilities (Ratheeswari, 2018). The incorporation of practical applications and models in the computer studies curriculum also enhances students' engagement and motivation. When students can see the relevance and real-world applications of what they are learning, they become more actively involved in the learning process. This engagement promotes a deeper understanding of the subject matter and fosters a sense of ownership and commitment among students.

Research question 3 evaluated the challenges that teachers have in implementing the computer studies curriculum. The results indicate that large class sizes pose a challenge in providing individual attention to students in computer studies education. With a significant number of students in a single class, it becomes difficult for teachers to cater to the individual needs and learning styles of each student. Limited one-

on-one interaction and personalized feedback can hinder the ability to address specific learning gaps and provide tailored support to students. The lack of individual attention may also impact students' motivation and engagement with the subject matter (Nicolaou, Matsiola & Kalliris, 2019). Efforts should be made to explore strategies such as group work, peer learning, and differentiated instruction to mitigate the challenges posed by large class sizes and ensure that students receive adequate support and attention. The respondents' divergent opinions regarding access to up-to-date computer hardware and software highlight a potential disparity in resources. While some students may have access to the latest technology and software, others may face limitations due to financial constraints or inadequate infrastructure. This inequality in access can impact students' ability to fully engage with computer studies curriculum and keep up with the evolving technological advancements (Agbo, Sanusi, Oyelere & Suhonen, 2021). To address this issue, it is crucial for educational institutions and policymakers to ensure equitable access to up-to-date computer hardware and software. This can be achieved through initiatives such as providing computer labs, securing funding for technology upgrades, and implementing policies that prioritize equitable distribution of resources. Additionally, partnerships with industry and community organizations can play a role in bridging the access gap and providing opportunities for students to access state-of-the-art technology.

Research Question 4 proffered solution to the challenges encountered by teachers in implementing the computer studies curriculum. The results highlight the significance of providing professional development education for teachers in the field of computer studies. Professional development plays a crucial role in equipping teachers with the necessary knowledge, skills, and pedagogical approaches to effectively deliver the curriculum. By providing ongoing training and development opportunities, teachers can stay updated with the latest advancements in the field, enhance their instructional practices, and deepen their subject knowledge (Gbeleyi et al., 2022). This, in turn, positively impacts the quality of computer studies education and the learning experiences of students. Moreover, the results suggest that addressing teachers' initial and emerging curriculum-related problems can significantly increase their motivation. Teachers often encounter challenges and obstacles when implementing a new curriculum or integrating emerging technologies into their teaching practices. These challenges can include lack of resources, limited support, and unfamiliarity with new pedagogical approaches. By providing support and solutions to these problems, such as through mentorship programs, collaboration opportunities, and ongoing guidance, teachers'

motivation can be boosted (Anggraeni et al., 2023). When teachers feel supported and equipped to overcome these challenges, they are more likely to feel motivated, engaged, and confident in delivering the computer studies curriculum. It is important to invest in professional development programs that address the specific needs and challenges faced by teachers. These programs can provide opportunities for collaborative problem-solving, sharing best practices, and acquiring new skills (Strang, Che & Vajjhala, 2020). Additionally, ongoing support and mentoring can contribute to sustaining teachers' motivation and continuous improvement. By creating a supportive and empowering environment for teachers, educational institutions can foster a culture of professional growth and enhance the overall quality of computer studies education.

CONCLUSION:

In conclusion, the evaluation of the computer studies curriculum in senior secondary schools in South-East Nigeria reveals both strengths and areas for improvement. The findings indicate that the curriculum aligns with technological advancements, prepares students for the digital age, and enhances their academic performance. The integration of emerging technologies and the balance between theory and practical applications contribute to a well-rounded education that equips students with essential skills for the future. However, the evaluation also highlights some challenges and issues that need to be addressed. Insufficient resources and infrastructure pose obstacles to effective implementation of the curriculum. Limited access to up-to-date computer hardware and software hinders students' learning experiences and their ability to keep pace with technological advancements. Additionally, teacher training and professional development programs need to be strengthened to ensure that educators have the necessary knowledge and skills to deliver the curriculum effectively.

Gender disparities in computer studies also need attention. Efforts should be made to address the underrepresentation of girls in the field and create a more inclusive and equitable learning environment. To overcome these challenges, it is crucial for stakeholders, including educational institutions, policymakers, and the government, to collaborate and invest in improving resources, infrastructure, and professional development opportunities. Providing adequate funding, upgrading computer facilities, and enhancing teacher training programs can contribute to a more robust and effective computer studies curriculum. By addressing these challenges and leveraging the strengths identified in the evaluation, senior secondary schools in South-East Nigeria can further enhance the quality of computer studies education. This will empower students with digital literacy, technological competence, and open

doors to diverse career opportunities, ultimately fostering their personal and professional growth in the digital era.

In conclusion, the evaluation serves as a foundation for continuous improvement and progress in computer studies education in senior secondary schools in South-East Nigeria. With careful attention to the identified challenges and a commitment to addressing them, the curriculum can be further strengthened to meet the needs of students, promote inclusivity, and prepare them for a technology-driven future.

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