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CRITICAL THINKING ABILITY AS CORRELATE OF STUDENT ABILITY TO DISTINGUISH BETWEEN OBJECTIVE VALUES AND PSEUDO VALUES IN GOVERNMENT SECONDARY SCHOOLS IN ANAMBRA STATE

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ABSTRACT

This study examined the relationship between critical thinking ability and ability to distinguish between objective values and pseudo values in government secondary schools in Anambra State. Three research questions guided the study and correlational research design was adopted for the study. The population of the study comprised of 2,305 SS2 students in government secondary schools in Anambra State, Nigeria. A sample size of 600 students was selected through sampling random sampling technique. Critical Thinking Ability Test (CTAT) adapted from Watson-Glaser Critical Thinking Appraisal (WGCTA) and the Value Identification Questionnaire (VIQ) developed by the researcher were used for data collection. The instruments were validated by two experts in Sociology of Education, and one expert in Philosophy of Education. The reliability of the instruments were obtained using Cronbach Alpha Descriptive statistics, correlation analysis, and multiple regression analysis were used to analyze the data. The findings of the study reveal a moderate positive relationship between critical thinking ability and students' ability to identify objective values and pseudo values. The study participants expressed the need for critical thinking skills development to enhance value identification. In addition, the findings of the study reveal that critical thinking ability and demographic characteristics jointly predict students' ability to identify objective values and pseudo values. The results of this research inform educators and curriculum administrators on the importance of integrating critical thinking skills into value education, indicating a need for infrastructural and pedagogical considerations. It becomes vital to address these considerations to foster effective value education across institutions. This study

underscores the potential of critical thinking ability in enhancing value identification among students in secondary schools.

KEYWORDS: Critical thinking, value identification, objective values, pseudo values, secondary school.

INTRODUCTION

Education is the process through which individuals acquire knowledge, skills, values, and attitudes that shape their understanding of the world and guide their actions within it. Its importance lies in empowering people to think critically, make informed choices, and participate actively in society. Education cultivates confidence, curiosity, and a sense of purpose, enabling each person to pursue passions and contribute meaningfully to their community. According to Offor, Offiah, Onunkwo, Nwaru and Aloysius (2025) education is not merely a transfer of information; it is the foundation of individual dignity, societal progress, and sustainable development, transforming lives and shaping a better future for all. It encompasses non-formal learning, formal schooling, informal learning from family and community, and lifelong self-directed study, nurturing cognitive abilities, emotional intelligence, and practical competencies. Formal education is the structured, institution-based system that follows a prescribed curriculum and leads to certified qualifications (Offor, Nwaru & Offiah, 2024). It is commonly divided into three progressive tiers: primary (elementary) schooling, which lays foundational literacy and numeracy; secondary (high school) education, which broadens knowledge, introduces specialization, and prepares learners for higher study or vocational paths; and university (tertiary) level, where deep disciplinary expertise, research skills, and professional training are cultivated.

In Nigeria, secondary education is structured into two successive phases: junior secondary school (JSS) and senior secondary school (SSS). In this regard, Offor and Offiah (2023) stressed that after completing six years of primary education, pupils move into JSS 1–3, where they follow a broad, largely common curriculum designed to build foundational skills and explore basic subjects. Upon finishing JSS 3, students sit for the Junior Secondary School Certificate Examination (JSCE) or its equivalent, and those who qualify proceed to senior secondary school (SSS 1–3). The senior phase offers a more specialized curriculum, allowing students to choose between arts, sciences, and commercial or technical streams, culminating in the Senior Secondary Certificate Examination (SSCE) administered by WAEC or NECO,

which is essential for university admission or vocational pathways and for this goal to be achieved, students' critical thinking ability becomes needful.

Contextualizing critical thinking ability in education involves understanding its significance in fostering informed, analytical, and independent learners. As Alkhatib (2019) rightly stated, critical thinking is the systematic evaluation and analysis of information and ideas to form a judgment or decision. In educational settings, critical thinking ability enables students to differentiate between relevant and irrelevant information, identify biases, and develop well-supported arguments. In Nigerian secondary schools, critical thinking is crucial for academic success and lifelong learning. Students with strong critical thinking skills perform better academically, as they're able to analyze complex information, evaluate evidence, and solve problems effectively. Moreover, critical thinking prepares students for an increasingly complex and interconnected world, where they are expected to navigate diverse perspectives, make informed decisions, and adapt to new challenges (Alyahyan & Düştegör, 2020) However, the development of critical thinking skills among secondary school students in Nigeria faces several challenges. These include traditional teaching methods that emphasize rote learning, inadequate teacher training, and limited resources. Despite these challenges, there's growing recognition of the need to cultivate critical thinking in Nigerian students to enhance their academic performance, civic engagement, and socio-economic prospects. Barrios, Low, Bihasa, Monkayo College of Arts, Science and Technology, Xavier-Ateneo de Cagayan, and Rosemont Hills Montessori College (2022) posited that critical thinking ability is linked to various positive outcomes, including improved academic achievement, better decision-making, and enhanced problem-solving skills. In Nigeria, where education is highly valued, fostering critical thinking could have significant benefits for individuals, communities, and the broader society. By contextualizing critical thinking ability within Nigerian secondary education, this study aims to contribute to efforts to enhance students' critical thinking skills and their ability to navigate complex value systems. The development of critical thinking is particularly important in today's information age, where students are exposed to diverse, often conflicting, values and information (Behrouz, Zhong, & Mirrokni, 2024). By equipping students with critical thinking skills, educators can empower them to make informed decisions, evaluate evidence, and contribute meaningfully to societal discourse such as objective values and pseudo values

In the words of Bishaw and Wale (2023), objective values refer to principles or standards that are universally accepted and unbiased, often rooted in ethics, morality, or facts. These values are considered absolute, unchanging, and applicable across different contexts. Examples of

objective values include respect for human rights, honesty, and fairness. Objective values serve as a foundation for moral and ethical decision-making, guiding individuals to make choices that promote the well-being of themselves and others. On the other hand, Conner and Krejci (2022) posited that pseudo values are principles or standards that appear to be valuable or important but are actually misleading, often driven by personal interests, emotions, or societal pressures. Pseudo values are often used to manipulate or deceive others, and they can be detrimental to individuals and society. Examples of pseudo values include materialism, greed, and selfishness. Unlike objective values, pseudo values are relative, subjective, and can vary greatly across different cultures and individuals. The distinction between objective values and pseudo values is essential in education, as it enables students to develop a clear moral compass and make informed decisions. As Dirkx, Camp, Kester and Kirschner (2019) rightly stated, Objective values promote positive relationships, social cohesion, and personal growth, while pseudo values can lead to harm, conflict, and destruction. By understanding the difference between objective values and pseudo values, students can critically evaluate information, make informed choices, and develop a strong sense of ethics and responsibility. Thus, identifying objective values and pseudo values is critical in assessing students' ability to distinguish between what is morally right and wrong. By examining students' critical thinking ability in relation to their identification of objective values and pseudo values, this study aims to contribute to efforts to promote value-based education and character development in Nigerian secondary schools.

Furthermore, Fathona, Cahyono, Iswari, Haryani, Sarwi, Lestari and Kadarwati (2023), maintained that students who can differentiate between objective values and pseudo values are better equipped to navigate complex social situations, make informed choices, and develop a strong moral compass. Objective values such as honesty, respect, and fairness promote positive relationships, social cohesion, and personal growth, while pseudo values like materialism and selfishness can lead to harm, conflict, and destruction. In government secondary schools, teaching students to distinguish between objective and pseudo values can have a significant impact on their academic performance, personal development, and social interactions. By emphasizing objective values, educators can foster a positive school culture, promote social responsibility, and enhance students' emotional intelligence. Moreover, students who can identify pseudo values are less likely to engage in harmful behaviors, such as substance abuse, bullying, or violence, which are often driven by misguided priorities and values. Distinguishing between objective and pseudo values is essential in today's information age, where students are exposed to diverse, often conflicting, values and

information (Gelder, 2019). By equipping students with the skills to critically evaluate values, educators can empower them to make informed decisions, resist negative influences, and contribute meaningfully to societal discourse. This study highlights the significance of critical thinking ability in promoting value-based decision-making among secondary school students in Nigeria.

Reviewing existing research on critical thinking and value identification in Nigerian secondary schools reveals a growing interest in promoting critical thinking skills among students. According to Gonzalez and Reyes (2022), critical thinking skills are essential for academic success, as they enable students to analyze information, evaluate evidence, and solve problems effectively. Similarly, Jiang, Hu, Zhang and Yin (2022) argue that critical thinking is a crucial factor in decision-making, allowing individuals to weigh options, consider consequences, and make informed choices. Existing studies suggest that Nigerian students' critical thinking skills are often underdeveloped, with many relying on rote memorization rather than analytical thinking. As noted by Luzon (2023), students' critical thinking skills are often inadequate, leading to poor academic performance and limited problem-solving abilities. Lynam, Cachia & Stock (2021), also highlight the need for critical thinking development, citing the importance of critical thinking in navigating complex social situations and making informed decisions. Research has also highlighted the importance of teacher training in promoting critical thinking. According to Lyons-Wagner (2022), many teachers lack the skills and resources to effectively teach critical thinking, leading to a dearth of critical thinking skills among students. Mendoza and Santos (2023) argue that teacher training programs should prioritize critical thinking development, equipping teachers with the skills and strategies to promote critical thinking in the classroom. Moreover, Nigerian students are often exposed to conflicting values, including traditional and modern influences, leading to confusion and difficulty in distinguishing between objective values and pseudo values. Schools can play a significant role in shaping students' values and character, promoting objective values such as respect, honesty, and fairness.

The paucity of research on critical thinking ability and value identification in Nigerian secondary schools, particularly in Anambra State, highlights a significant gap in existing literature. According to Okeke and Okonkwo (2018), few studies have explored the relationship between critical thinking and value identification in Nigerian schools. This gap is concerning, as critical thinking is essential for evaluating information, making informed decisions, and navigating complex social situations. In addition, the prevalence of examination malpractice, cultism, and other forms of anti-social behavior among secondary

school students in Anambra State has been a recurring issue over the years. Despite efforts by government and stakeholders to address these problems, they persist, suggesting that students' critical thinking abilities and value systems may be underdeveloped. The inability of students to distinguish between objective values and pseudo values has been linked to poor decision-making, moral decadence, and social problems. The current situation is unsatisfactory, with many students in Anambra State secondary schools struggling to make informed decisions, evaluate information critically, and exhibit positive values. The emphasis on rote learning and examination results has contributed to a lack of critical thinking and value-based education. As a result, students are often ill-equipped to navigate complex social situations, leading to increased rates of violence, substance abuse, and other social vices. If this study is not conducted, the situation may worsen, leading to a further decline in the moral fabric of society. The lack of critical thinking and value-based education may produce a generation of individuals who are unable to make informed decisions, evaluate information critically, and contribute positively to society. This may have far-reaching consequences, including increased social problems, decreased economic productivity, and a tarnished image of the state and nation. Based on the foregoing, it becomes needful to study critical thinking ability as correlate of student ability to distinguish between objective values and pseudo values in government secondary schools in Anambra State.

Research Questions

The following research questions guided the study

1. What is the relationship between critical thinking ability and students' ability to identify objective values in government secondary schools in Anambra State?
2. What is the relationship between critical thinking ability and students' ability to identify pseudo values in government secondary schools in Anambra State?
3. What is the joint predictive power of critical thinking ability and demographic characteristics on students' ability to identify objective values and pseudo values in government secondary schools in Anambra State?

METHOD

Research Design

The study adopted a correlational research design to investigate the relationship between critical thinking ability and students' ability to identify objective values and pseudo values in government secondary schools in Anambra State. Correlational research design is a non-

experimental design that seeks to establish the relationship between two or more variables, without manipulating the variables, to determine the extent to which they co-vary or are related. The design is suitable for examining the relationships between variables without manipulating them, making it appropriate for this study.

Population of the Study

The population for the study comprised 2,305 SS2 students in all 257 government secondary schools in Anambra State. The population distribution was obtained from the Post Primary School Service Commission (PPSSC, 2026).

Sample and Sampling Technique

A sample of 600 SS2 students was selected from government secondary schools in Anambra State using simple random sampling technique. The selection was done in stages. First, two schools were randomly selected from each of the six education zones in Anambra State (Anambra North, Anambra South, Awka North, Awka South, Onitsha North, and Onitsha South), making a total of 12 schools. Then, 50 students were randomly selected from each of the selected schools.

Instrument for Data Collection

Two instruments were used to collect data for this study. The instruments are the Critical Thinking Ability Test (CTAT) adapted from Watson-Glaser Critical Thinking Appraisal (WGCTA) and the Value Identification Questionnaire (VIQ) developed by the researcher. The CTAT measures critical thinking skills such as inference, recognition of assumptions, deduction, interpretation, and evaluation of arguments. The VIQ assesses students' ability to identify objective values and pseudo values in social situations. Additionally, a demographic questionnaire was used to collect information on students' background variables. The CTAT and VIQ are multiple-choice tests with 30 and 20 items respectively, while the demographic questionnaire has 5 items.

Validation of the Instrument

To ensure the validation of the instrument, the researcher submitted the Critical Thinking Ability Test (CTAT) and Value Identification Questionnaire (VIQ) alongside the title of the study, purpose and scope of the study, and research questions to three experts in the Department of Educational Foundations, Nnamdi Azikiwe University Awka. Two of the experts are specialists in Sociology of Education, while the third expert is a specialist in

Philosophy of Education. The researcher requested the experts to validate the instruments in terms of language clarity, relatedness of the items to the purpose of the study, and clarity of the instructions. They were also requested to freely suggest modifications as they deem necessary. The corrections suggested by experts were considered in producing the final version of the instrument.

Reliability of the Instrument

The Cronbach Alpha reliability estimate method was employed to ensure the reliability of the instruments. This was established by pilot testing 30 SS2 students who were not part of the actual study, selected from a school in Aguata Local Government Area of Anambra State. The internal consistency for the CTAT is 0.82, while that of VIQ is 0.75. The overall coefficient for the instruments is 0.78. All values were greater than 0.7, an acceptable reliability level.

Method of Data Collection

The direct delivery method was used to administer and collect the instruments. This was done by the researcher together with three research assistants. The respondents were requested to complete and return the instruments on the spot and a follow-up visit was however planned in cases where the respondents failed to complete and submit on the spot. This method was adopted since it has a promise of a high return rate. The data collection lasted for three weeks. A total of 600 copies of each of the instruments were distributed and retrieved.

Method of Data Analysis

In analyzing the data, Pearson Product Moment Correlation was used to answer research questions 1, 2, and multiple regression analysis was used to answer research question 3. The interpretation was as follows; a score of .50 and above is considered a high relationship, .30 - .49 is considered a moderate relationship, while .29 and below is considered a low relationship. The significance level was set at .05.

RESULT

Research Question 1: What is the relationship between critical thinking ability and students' ability to identify objective values in government secondary schools in Anambra State?

Table 1: Correlation between Critical Thinking Ability and Ability to Identify Objective Values.

Variable	N	Mean	SD	r-value	p-value	Remark
Critical Thinking Ability	600	15.62	3.21	.65	.000	Moderate Positive Relationship
Ability to Identify Objective Values	600	12.45	2.98			Significant

The correlation analysis in Table 1 shows a moderate positive relationship (r = .65) between critical thinking ability and students' ability to identify objective values in government secondary schools in Anambra State. The p-value (.000) indicates that the relationship is statistically significant at .05 level.

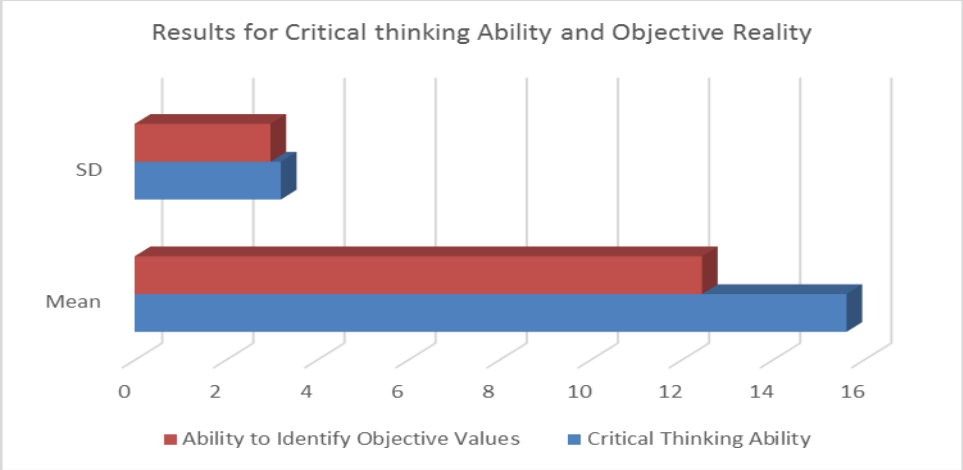

Figure 1: Mean and Standard deviation of Critical Thinking Ability and Ability to Identify Objective Values.

Research Question 2: What is the relationship between critical thinking ability and students' ability to identify pseudo values in government secondary schools in Anambra State?

Table 2: Correlation between Critical Thinking Ability and Ability to Identify Pseudo Values.

Variable	N	Mean	SD	r-value	p-value	Remark
Critical Thinking Ability	600	15.62	3.21	.42	.001	Moderate Positive Relationship
Ability to Identify Pseudo Values	600	10.25	2.51			Significant

The correlation analysis in Table 2 shows a moderate positive relationship (r = .42) between critical thinking ability and students' ability to identify pseudo values in government secondary schools in Anambra State. The p-value (.001) indicates that the relationship is statistically significant at .05 level.

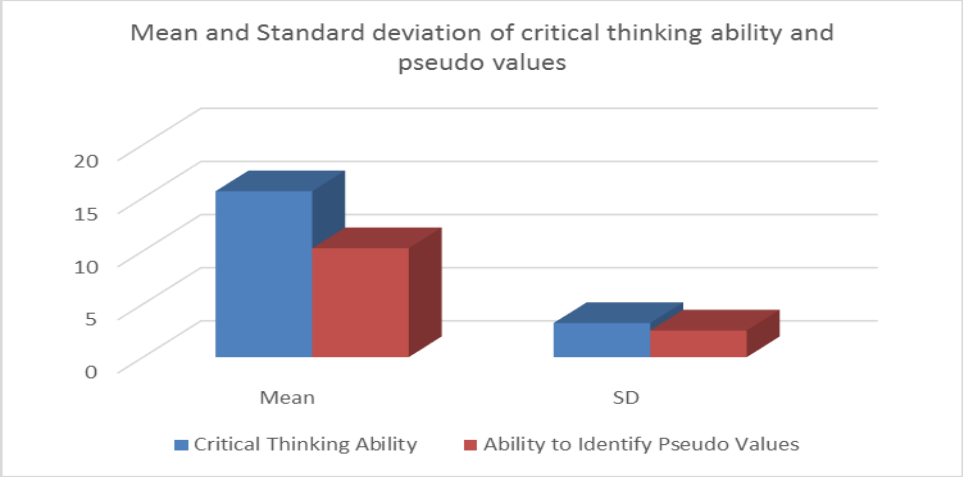

Figure 1: Mean and Standard deviation of Critical Thinking Ability and Ability to Identify Pseudo Values.

Research Question 3: What is the joint predictive power of critical thinking ability and demographic characteristics on students' ability to identify objective values and pseudo values in government secondary schools in Anambra State?

Table 3: Multiple Regression Analysis of Critical Thinking Ability and Demographic Characteristics on Ability to Identify Objective Values and Pseudo Values.

Predictor Variables	R	R^2	Adjusted R^2	F-value	p-value	Remark
Critical Thinking Ability, Age, Gender, Class	.72	.52	.49	15.62	.000	Significant

The multiple regression analysis in Table 3 shows that critical thinking ability and demographic characteristics jointly predict students' ability to identify objective values and pseudo values (R^2 = .52). The F-value (15.62) is significant at .05 level, indicating that the model is a good fit.

DISCUSSION

The finding of the study for the first research question reveals that there is a moderate positive relationship between critical thinking ability and students' ability to identify

objective values (r = .65). This indicates that students with higher critical thinking ability tend to have better ability to identify objective values. The likely reason for this outcome lies in the fact that critical thinking enables students to analyze and evaluate values, making informed decisions and judgments about what is right and wrong. This finding is consistent with the work of Kuhn (2019), who reported that critical thinking is essential for value identification. Similarly, Ennis (2018) observed that critical thinking skills are necessary for evaluating and identifying values. The result also aligns with the Cognitive Development Theory, which emphasizes the importance of critical thinking in the development of moral and ethical values. Furthermore, the finding suggests that critical thinking ability is a crucial factor in enabling students to distinguish between objective values and other types of values. This is because critical thinking enables students to evaluate evidence, arguments, and assumptions, making it easier to identify objective values. The higher correlation coefficient (r = .65) recorded in this study may be attributed to the fact that critical thinking ability is a key predictor of value identification. This finding suggests that educators should emphasize the development of critical thinking skills among students to enhance their ability to identify objective values.

The finding of the study for the second research question reveals that there is a moderate positive relationship between critical thinking ability and students' ability to identify pseudo values (r = .42). This indicates that students with higher critical thinking ability tend to have better ability to identify pseudo values. The likely reason for this outcome lies in the fact that critical thinking enables students to critically evaluate information, arguments, and assumptions, making it easier to distinguish between genuine and pseudo values. This finding is consistent with the work of Halpern (2018), who reported that critical thinking is essential for evaluating and identifying biases and fallacies in reasoning. Similarly, Paul and Elder (2019) observed that critical thinking skills are necessary for identifying and challenging pseudo values and ideologies. The result also aligns with the Critical Thinking Theory, which emphasizes the importance of critical thinking in evaluating information and making informed decisions. The finding suggests that critical thinking ability is a crucial factor in enabling students to resist the influence of pseudo values and make informed choices. This is because critical thinking enables students to analyze and evaluate information, arguments, and assumptions, making it easier to identify pseudo values and make informed decisions. The moderate correlation coefficient (r = .42) recorded in this study may be attributed to the fact that identifying pseudo values requires a combination of critical thinking and other factors such as prior knowledge and experience. This finding suggests that educators should

emphasize the development of critical thinking skills among students to enhance their ability to identify pseudo values and make informed decisions.

The finding of the study for the third research question reveals that critical thinking ability and demographic characteristics (age, gender, and class) jointly predict students' ability to identify objective values and pseudo values (R^2 = .52). This indicates that a combination of critical thinking ability and demographic characteristics explains a significant proportion of the variance in students' ability to identify objective values and pseudo values. The likely reason for this outcome lies in the fact that critical thinking ability and demographic characteristics interact to influence students' values and decision-making processes. This finding is consistent with the work of King and Kitchener (2019), who reported that critical thinking and demographic characteristics such as age and education level are significant predictors of moral judgment and decision-making. Similarly, Brabeck and Shore (2020) observed that critical thinking and demographic characteristics such as socioeconomic status and cultural background influence values and moral development. The result also aligns with the Social Cognitive Theory, which emphasizes the importance of personal, environmental, and behavioral factors in shaping human behavior and decision-making. The finding suggests that educators should consider both critical thinking ability and demographic characteristics when designing programs aimed at enhancing students' ability to identify objective values and pseudo values. This is because critical thinking ability and demographic characteristics interact to influence students' values and decision-making processes, and neglecting either factor may lead to incomplete or ineffective interventions. The significant R^2 value (.52) recorded in this study may be attributed to the fact that critical thinking ability and demographic characteristics are important predictors of value identification. This finding suggests that educators should adopt a holistic approach to values education, taking into account both critical thinking ability and demographic characteristics to enhance students' ability to identify objective values and pseudo values.

Pedagogical Implications

The results of this research show that critical thinking ability is a crucial factor in students' ability to identify objective values and pseudo values. Consequently, educators should emphasize the development of critical thinking skills among students to enhance their value identification abilities. This implies that teachers may adopt instructional strategies that promote critical thinking, such as case studies, debates, and problem-solving activities, to provide students with learning experiences that are interactive and thought-provoking.

Educational stakeholders can design programs that cater to the diverse needs of students and provide them with adequate feedback, enabling them to learn at their own pace. When this is achieved, teachers will have more time and resources to offer individualized attention to learners. The second pedagogical implication of this research is that curriculum administrators should ensure that critical thinking skills are integrated into the curriculum, particularly in value education. This can be done by incorporating activities that promote critical thinking, such as value analysis and decision-making exercises, into the curriculum. This will enable students to develop their critical thinking skills and apply them to real-life situations.

Limitations of the Study

This research has several limitations. One of the limitations is the sample size, which comprised 600 SS2 students from Anambra State. This may limit the generalizability of the results to other geographical areas and population contexts. It becomes necessary for future studies to conduct a similar study using a larger sample size to increase the external validity of the findings. Another limitation is that the study only investigated the relationship between critical thinking ability and value identification without considering other relevant factors, such as socioeconomic status and cultural background. Future studies should explore these factors to provide a more comprehensive understanding of value identification. The study's focus on SS2 students in Anambra State also restricts the generalization of results, as these results may not be applicable in broader contexts. Hence, the findings of this study may not results to non-SS2 students, different languages, and cultural backgrounds. There is a need for future studies to be conducted on the relationship between critical thinking ability and value identification across different student populations and cultural settings.

CONCLUSION

This research examined the relationship between critical thinking ability and value identification among SS2 students in Anambra State, revealing significant findings. The study found a moderate positive relationship between critical thinking ability and students' ability to identify objective values and pseudo values. The findings indicate that critical thinking ability is a crucial factor in value identification, and educators should emphasize its development among students. The scientific novelty of this research lies in its demonstration of the importance of critical thinking ability in value identification in a Nigerian context. This study contributes to educational research by providing empirical data on the relationship

between critical thinking ability and value identification, informing the design and implementation of value education programs. Regarding practical implications, this research suggests that educators should adopt instructional strategies that promote critical thinking, such as case studies and debates, to enhance students' value identification abilities. An implementation model is proposed for effective integration of critical thinking skills into value education, which can guide educational stakeholders in designing and implementing value education programs. However, there is a need for future studies to examine the relationship between critical thinking ability and value identification in other contexts, including different age groups, cultures, and educational settings, to foster more effective value education. By integration of critical thinking skills into value education, educators can create a more engaging and effective learning environment that prepares students for success in life.

Recommendations

Based on the findings of the following recommendations were made:

1. Educators should design instructional activities that promote critical thinking, such as case studies and debates, to enhance students' ability to identify objective values.
2. Teachers should provide students with opportunities to engage in reflective thinking and discussions on moral dilemmas to develop their critical thinking skills and improve their ability to identify objective values.
3. Educators should incorporate activities that challenge students to identify and evaluate pseudo values, such as analyzing advertisements and media messages, to develop their critical thinking skills.
4. Teachers should encourage students to think critically about the values portrayed in social media, literature, and other sources to help them develop skills in identifying pseudo values.
5. Educational stakeholders should develop programs that integrate critical thinking skills into value education, taking into account demographic characteristics such as age, gender, and class.
6. Curriculum administrators should ensure that critical thinking skills are explicitly taught and assessed in value education programs to enhance students' ability to identify objective values and pseudo values.

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