EFFICACY OF TWO MODES OF METACOGNITIVE TEACHING STRATEGIES ON JUNIOR SECONDARY SCHOOL STUDENTS' INTEREST IN CULTURAL AND CREATIVE ARTS IN BENUE STATE, NIGERIA

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Abstract

The study investigated the effect of two metacognitive teaching strategies on Junior Secondary School Students' interest in Cultural and Creative Arts (CCA) in Benue State, North-Central Nigeria. Guided by three research questions and corresponding null hypotheses, the study adopted a quasi-experimental design. The population comprised all Junior Secondary School II students offering CCA in Benue State, from which a sample was drawn using a multi-stage sampling procedure. Two intact classes were assigned to experimental group I (Think-Aloud Problem-Solving Strategy), and experimental group II (Elaboration Strategy). An instrument titled "Cultural and Creative Arts Interest Inventory (CCAII) designed by the researchers was used for data collection. The instrument was validated by three experts in Department of Art Education (Cultural and Creative Arts), Department of Science Education (Measurement and Evaluation) and Department of Educational Foundations (Educational Psychology), and its reliability established using Cronbach's Alpha, yielding a coefficient of 0.76. Data were analyzed using mean and standard deviation to answer the research questions, while Analysis of Covariance (ANCOVA) was employed to test the hypotheses at a 0.05 level of significance. Findings of the study revealed that think-aloud problem solving strategy significantly enhancing students' interest more than both the Elaboration Strategy. However, gender did not significantly influence students' interest in CCA, and the interaction effect of teaching strategies and gender on students' interest was not significant. It was recommended, among others, that Cultural and Creative Arts teachers should adopt metacognitive teaching strategies such as the think-aloud problem solving strategy to enhance students' sustained interest and participation in the subject. Teacher education programs and curriculum planners should also emphasize the integration of metacognitive pedagogy in art instruction to promote creativity, inclusiveness, and reflective learning among students.

Keywords: Metacognitive Strategies, Think-aloud problem-solving, Elaboration strategy, Cultural and Creative Arts, Students' interest, Gender

Introduction

Cultural and Creative Arts (CCA) is a core subject at the junior secondary level in Nigeria designed to promote creativity, cultural appreciation, and practical artistic skills among learners (Federal Ministry of Education, 2014). As a discipline, CCA nurtures aesthetic awareness, visual

literacy, and creative thinking, which are essential for personal development and future careers in design, media, craft, and cultural industries. Despite its relevance, students' interest in CCA in many Nigerian secondary schools has remained low, often reflected in poor engagement, lack of enthusiasm, and negative attitudes toward practical artistic tasks (Ogunlade & Afuwape, 2022). In Benue State, anecdotal evidence and school reports suggest that many junior secondary students perceive CCA as less academically demanding and therefore show limited commitment and persistence during lessons. This trend presents a challenge to the realization of national creative education goals and the development of creative competencies among adolescents.

Research in educational psychology has emphasized the importance of metacognitive processes in enhancing learner engagement, motivation, and achievement (Wang & Wu, 2022; Lai, 2023). Metacognitive strategies enable students to plan, monitor, and evaluate their learning, thereby fostering deeper understanding, perseverance, and interest in tasks (Dignath & Büttner, 2018). Within art-related and problem-solving environments, applying metacognition is particularly beneficial as students constantly make creative decisions, evaluate outcomes, and refine ideas (Marron & Cummings, 2023). However, artistic subjects in many Nigerian schools continue to rely heavily on teacher-centered instruction, with limited use of learner-driven strategies that stimulate reflective and self-regulated learning (Adejoh & Apagu, 2021). This pedagogical limitation may contribute to the waning interest students demonstrate in CCA.

Among the numerous metacognitive strategies available, think-aloud problem solving strategy and elaboration strategy have shown promise in fostering student engagement and interest in learning. The Think-Aloud Problem-Solving Strategy is a metacognitive instructional approach in which teachers' model cognitive processes by verbalizing their thoughts while solving a task. In Cultural and Creative Arts (CCA), where learning involves creative exploration, interpretations, and decision-making, think-aloud instruction provides students with access to the invisible cognitive processes behind artistic production. Scholars note that when teachers intentionally verbalize their planning, reasoning, evaluation of options, and problem-solving steps, students develop clearer understanding of how experts think and approach creative tasks, which increases learning confidence and motivation (Smetana et al., 2022; Sharma & Singh, 2023).

Interest in learning is strongly influenced by students' perceptions of competence and task value. Think-aloud support these motivational constructs by reducing ambiguity in learning processes and demonstrating that creative skills can be learned rather than being innate talents (Hartwig & Dunlosky, 2023). In CCA classes, many learners struggle with fear of failure or lack of artistic self-belief, which often results in withdrawal from practical activities. By observing the teacher narrate artistic decisions such as experimenting with colours, evaluating balance in a design, or correcting mistakes, students realize that challenges are normal and creativity involves iterative reflection. This demystification of the creative process enhances persistence and interest (Cummings & Marron, 2023).

Furthermore, think-aloud promote active engagement. Instead of passively receiving information, students mentally participate in the teacher's reasoning, anticipate solutions, and compare strategies with their own thinking. This interactive cognitive involvement stimulates curiosity and strengthens intrinsic interest, especially in visually stimulating subjects like CCA (Wang & Wu, 2022). Research in arts education has shown that modeling thinking enhances students' creative confidence and willingness to explore new ideas because they internalize

reflective habits that make art-making meaningful and personally relevant (Marron & Cummings, 2023).

In the Nigerian junior secondary especially in Benue State, where art instruction often remains teacher-directed and skill demonstration is rarely accompanied by explicit cognitive explanation, adopting the think-aloud strategy can transform pedagogical practice. It shifts classroom culture from procedural imitation to reflective inquiry, making CCA lessons more supportive, interactive, and stimulating. Thus, the think-aloud strategy is theoretically and empirically justified as a powerful mechanism for improving students' interest, engagement, and positive attitude toward Cultural and Creative Arts.

On the other hand, the elaboration strategy requires learners to expand on new ideas by generating explanations, relating concepts to prior knowledge, and making connections to real-world contexts (Stentoft & Sørensen, 2021). Elaboration not only deepens comprehension but also enhances intrinsic interest by enabling students to view learning as meaningful and personally relevant (Hartwig & Dunlosky, 2023). The elaboration strategy is a metacognitive learning approach in which learners expand new information by linking it with prior knowledge, generating explanations, identifying real-life applications, and making meaningful associations. In Cultural and Creative Arts (CCA), elaboration strengthens conceptual understanding by enabling students to explore cultural themes, materials, artistic processes, and expressive forms beyond surface-level memorization. Through elaboration, CCA learners are encouraged to explain artistic ideas in their own words, connect creative tasks to personal experiences, and justify artistic choices, thereby deepening engagement and interest (Hartwig & Dunlosky, 2023; Stentoft & Sørensen, 2021).

Interest in learning is enhanced when students view content as personally relevant and cognitively stimulating. The elaboration strategy fosters this relevance by prompting learners to relate artistic concepts such as colour symbolism, pattern motifs, or indigenous crafts to cultural heritage, daily life, and community practices. Such connections make CCA meaningful and emotionally resonant, promoting intrinsic motivation and sustained interest (Adejoh & Apagu, 2021). When students elaborate on artistic ideas, they not only understand *what* they are learning but *why it matters*, which scholars argue is a critical component of persistent interest and creative engagement (Hartwig & Dunlosky, 2023).

Elaboration also promotes creative thinking, a fundamental skill in the arts. By encouraging students to brainstorm, justify artistic decisions, and explore multiple perspectives, the strategy supports divergent thinking and imaginative exploration processes associated with enjoyment and curiosity in creative environments (Marron & Cummings, 2023). This intellectual challenge stimulates deeper emotional and cognitive involvement, leading to increased interest in CCA tasks. Furthermore, elaboration helps students overcome the misconception that artistic ability is innate; instead, it positions creativity as a process strengthened through reflective thinking and purposeful connection-making. By engaging students in explaining, connecting, and reflecting on CCA content, elaboration aligns with contemporary curriculum goals that emphasize creativity, cultural relevance, and experiential learning. Consequently, the strategy holds strong pedagogical value in stimulating students' interest in CCA and promoting positive attitudes toward artistic learning and cultural appreciation.

Although research has explored the impact of metacognitive strategies in core academic subjects like Mathematics, English, and Science (Dignath & Veenman, 2021; Lai, 2023), limited

empirical evidence exists regarding their effectiveness in improving students' interest in arts-related subjects in Nigeria. Specifically, studies examining the use of think-aloud and elaboration strategies in CCA classrooms in Benue State are scarce. Given the importance of rekindling interest in creative education and the potential of metacognitive instructional techniques to support meaningful engagement, a comparative investigation on how these strategies affect students' interest in CCA becomes crucial. This study, therefore, seeks to determine the effect of think-aloud problem-solving strategy and elaboration strategy on junior secondary school students' interest in Cultural and Creative Arts in Benue State, North-Central Nigeria. The findings are expected to provide evidence-based guidance for CCA teachers, curriculum planners, and policymakers on effective instructional approaches that can enhance learners' interest, participation, and creative development.

Purpose of the Study

The general purpose of the study was to determine the efficacy of two modes of metacognitive teaching strategies on junior secondary school students' interest in Cultural and Creative Arts in Benue state, Nigeria. Specifically, the study determined the;

1. mean interest ratings of students taught Cultural and Creative Arts using a think-aloud problem-solving strategy and those taught using an elaboration strategy;
2. influence of gender on students' mean interest ratings in Cultural and Creative Arts;
3. interaction effect of teaching strategies and gender on students' mean interest ratings in Cultural and Creative Arts.

Research Questions

The following research questions guided the study;

1. What are the mean interest ratings of students taught Cultural and Creative Arts using a think-aloud problem-solving strategy and those taught using an elaboration strategy?
2. What is the influence of gender on students' mean interest ratings in Cultural and Creative Arts?
3. What is the interaction effect of teaching strategies and gender on students' mean interest ratings in Cultural and Creative Arts?

Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance;

1. There is no significant difference in the mean interest ratings of students taught Cultural and Creative Arts using a think-aloud problem-solving strategy and those taught using an elaboration strategy.
2. There is no significant difference in the mean interest ratings of male and female students in Cultural and Creative Arts.
3. There is no significant interaction effect of teaching strategies and gender on students' mean interest ratings in Cultural and Creative Arts.

Methods and Procedure

The study adopted a quasi-experimental design, specifically, pretest posttest the non-equivalent group design. This design was considered appropriate because random assignment of individual students to experimental and control groups was not possible, as intact classes were used for the

treatment. A sample size of 241 (111 males and 130 female) JSS11 students offering Cultural and Creative Arts was used for this study out of 3500 JSS II students in Benue State, Nigeria. Data were collected using a researcher-developed instrument titled the Cultural and Creative Arts Interest Inventory (CCAII). The CCAII consisted of 20 items designed to measure students' interest in CCA. The CCAII was subjected to face validation by three experts: one in in Department of Art Education (Cultural and Creative Arts), Department of Science Education (Measurement and Evaluation) and Department of Educational Foundations (Educational Psychology) all from Faculty of Education, University of Nigeria, Nsukka. Their corrections and suggestions were incorporated to improve the clarity, relevance, and alignment of items with research objectives. The content validation was established using table of specifications. The reliability of the CCAIS was established through a pilot test involving 30 JSS II students from a school outside the sampled area but with similar characteristics. The responses were analyzed using Cronbach Alpha method, which yielded a reliability coefficient of 0.76, indicating that the instrument was internally consistent and reliable for data collection.

Experimental Procedure

The experimental procedure lasted for six weeks, divided into three phases; pre-treatment, treatment, and post-treatment. Meanwhile, before the commencement of the treatment, the researchers trained the CCA teachers who served as research assistants.

Phase I: Pre-treatment (Week 1)

Before the commencement of the treatment, all groups (Experimental Groups I and II) were administered the pre-test version of the instrument which was used to determine the students' baseline interest levels in Cultural and Creative Arts. The pre-test results were used to ensure group equivalence before the intervention.

Phase II: Treatment Stage (Week 2-5)

Each group received instruction in selected CCA topics (such as drawing, design, craft, and performance art) for four weeks, from the approved Junior Secondary School CCA curriculum.

- *Experimental Group I (Think-Aloud Problem-Solving Strategy)*: The teacher modeled metacognitive thinking by verbalizing every step of the creative process. For example, during an art design task, the teacher thought aloud about color choices, composition, and problem-solving decisions. Students were encouraged to verbalize their own reasoning as they worked, promoting reflection and self-regulation.
- *Experimental Group II (Elaboration Strategy)*: Students were guided to connect new CCA concepts with prior knowledge. They explained ideas in their own words, used analogies, discussed examples, and elaborated on artistic processes. The teacher prompted deeper thinking with questions like *"Why did you choose this design?"* or *"How does this technique relate to what we learned earlier?"* Each lesson lasted 40 minutes, taught three times a week under similar classroom conditions.

Phase III: Post-treatment (Week 6)

At the end of the treatment, the post-test version of the instrument was administered to all groups to measure changes in students' interest. The scores obtained at various stages were analyzed to determine the effects of the two metacognitive strategies, as well as the moderating influence of gender.

Method of Data Analysis

Data collected were analyzed using both descriptive and inferential statistics. Specifically, mean and standard deviation were used to answer researchers while Analysis of Covariance (ANCOVA) was used to test the null hypotheses at 0.05 level of significance, with pre-test scores serving as covariates to control for initial group differences.

Experimental Control Measures

To ensure the validity of the experiment, the following control measures were applied:

1. *Teacher Training:* The researcher trained the participating CCA teachers for one week on the use of the Think-Aloud and Elaboration Strategies.
2. *Lesson Uniformity:* Identical lesson plans and instructional materials were used across groups, except for the treatment variation.
3. *Time Control:* All groups received the same number of lessons and duration.
4. *Testing Effect:* The same instrument (CCAIS) was used for pre-test and post-test to ensure comparability.
5. *Observer Monitoring:* The researcher supervised each class at least twice weekly to ensure fidelity of implementation.

Results

Research Question One: What are the mean interest ratings of students taught Cultural and Creative Arts using a think-aloud problem-solving strategy and those taught using an elaboration strategy?

Table 1: Mean and standard deviation of students' interest in Cultural and Creative Arts when exposed to think-aloud strategy and those exposed to elaboration strategy

Groups		Pre-test		Post-test		Mean Gain Scores	Mean Gain Difference
	N	Mean	SD	Mean	SD		
Think-aloud problem-solving Strategy	112	26.64	7.79	56.22	7.35	29.58	15.49
Elaboration Strategy	129	26.41	5.39	40.55	5.42	14.14	

The mean interest ratings of students who were taught the Cultural and Creative Arts using the think-aloud problem-solving strategy and those who were taught the elaboration strategy are displayed in Table 1. According to the results, mean interest ratings for students who used the think-aloud problem-solving approach were 26.64 with a standard deviation of 7.79 for the pre-test and 56.22 with a standard deviation of 7.35 for the post-test. Students who were exposed to the think-aloud problem-solving strategy had a mean gain score of 29.58. However, mean interest ratings for students exposed to the elaboration technique were 40.55 with a standard deviation of 5.42 on the post-test and 26.41 with a standard deviation of 5.39 on the pre-test. Students exposed to the elaboration strategy had mean gain scores of 14.14. For the two groups, a mean gain difference of 15.49 was noted, with students exposed to the think-aloud problem-solving strategy doing better. Students in the two groups did, however, yield relatively small standard deviations, suggesting a minimal deviation from the mean.

Research Question Two: What is the influence of gender on students' mean interest ratings in Cultural and Creative Arts?

Table 2: Mean and standard deviation of male and female students' interest in Cultural and Creative Arts

Gender		Pre-test		Post-test		Mean Gain Scores	Mean Gain Difference
	N	Mean	SD	Mean	SD		
Male	111	26.49	6.75	48.59	9.96	22.10	1.46
Female	130	26.55	6.49	47.19	10.21	20.64	

Table 2's results showed that, in the pre-test, male students scored 26.49 on the interest scale with a standard deviation of 6.75, while female students scored 26.55 on the same scale with a standard deviation of 6.49. Male students scored 48.59 on the post-test with a standard deviation of 9.96, whereas female students scored 47.19 on the same test with a standard deviation of 10.21. Male students had a mean growth score of 22.10, while female students had a mean gain score of 20.64. Accordingly, the findings indicated that male students' mean interest ratings were somewhat greater than those of their female counterparts. A very small mean gain score differential of 1.46 in favour of the male pupils indicated this.

Research Question Three: What is the interaction effect of teaching strategies and gender on students' mean interest ratings in Cultural and Creative Arts?

Table 3: Mean and standard deviation of the interaction effect of teaching strategies and gender on students' interest in Cultural and Creative Arts

Metacognitive Strategies	Gender	N	Mean	Std. Dev.
Think-Aloud Problem-solving Strategy	Male	52	57.13	6.85
	Female	60	55.43	7.72
Elaboration Strategy	Male	59	41.05	4.85
	Female	70	40.13	5.85

In contrast to their male counterparts exposed to elaboration strategy, who had mean interest ratings of 41.05 with standard deviations of 4.85, male students exposed to think-aloud problem-solving strategy had a higher mean interest rating of 57.13 and a standard deviation of 6.85 (Table 3). Conversely, female students exposed to the think-aloud problem-solving strategy rated their mean interest at a greater rate 55.43 with a standard deviation of 7.72, compared to 40.13 with a standard deviation of 5.85 for their counterparts exposed to the elaboration strategy. The findings do not point to an ordinal interaction impact between gender and instructional tactics on students' interest in the Cultural and Creative Arts. This was because students exposed to the think-aloud problem-solving strategy had mean interest ratings that were higher than those of students exposed to the elaboration strategy across all gender levels.

Hypothesis One: There is no significant difference in the mean interest ratings of students taught Cultural and Creative Arts using a think-aloud problem-solving strategy and students taught using an elaboration strategy.

Table 4: Summary of Analysis of Covariance (ANCOVA) of Students' Mean Interest Ratings in Cultural and Creative Arts Using the think-aloud problem-solving strategy and those taught using the elaboration strategy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	15544.265[a]	4	3886.066	102.641	.000	.635
Intercept	24085.004	1	24085.004	636.150	.000	.729
PretestInt	710.385	1	710.385	18.763	.000	.074
Strategy	14549.815	1	14549.815	384.300	.000	.620
Gender	104.439	1	104.439	2.759	.098	.012
Strategy * Gender	6.667	1	6.667	.176	.675	.001
Error	8935.096	236	37.861			
Total	575910.000	241				
Corrected Total	24479.361	240				

The study in Table 4's result indicated that students' interest in the Cultural and Creative Arts is significantly influenced by the teaching strategy; F (1, 236) = 384.300, P =.000. The null hypothesis that there was no substantial change was thus disproved. This is a result of the precise probability value (.000) being less than the 0.05 level of significance. Consequently, the researchers concluded that there is a remarkable distinction between students who were taught Cultural and Creative Arts using the think-aloud problem-solving strategy and those who were taught using the elaboration strategy in terms of mean interest ratings.

Hypothesis Two: There is no significant difference in the mean interest ratings of male and female students in Cultural and Creative Art.

The second hypothesis was also tested using the results of the analysis in Table 4. Table (F (1, 236) = 2.759, P =.098) demonstrated that gender has little or no effect on students' performance in the Cultural and Creative Arts. Since the precise probability level of.098 is higher than the significance threshold established at 0.05, the null hypothesis that there is no significant change was thus accepted. As a result, the researchers concluded that there is no significant distinction between male and female students' mean interest ratings in the Cultural and Creative Arts. The findings showed that there is no significant difference between male and female students' mean interest ratings in the Cultural and Creative Arts based on gender.

Hypothesis Three: There is no significant interaction effect of teaching strategies and gender on students' mean interest ratings in Cultural and Creative Arts.

The third hypothesis was also tested using the outcome of the analysis presented in Table 4. According to the table, there is a greater than 0.05 level of significance for the exact probability value of.298 related to gender and instructional strategies (F (1, 236) =.167, P =.675). As a result, the null hypothesis that there is no apparent connection between gender and teaching methods and students' mean interest ratings in the Cultural and Creative Arts was accepted. Thus, the researchers concluded that there is no substantial interaction between gender, teaching methodologies, and students' interest in the Cultural and Creative Arts. As seen in Figure 1 below, the interaction effect result was also analysed using a screen plot.

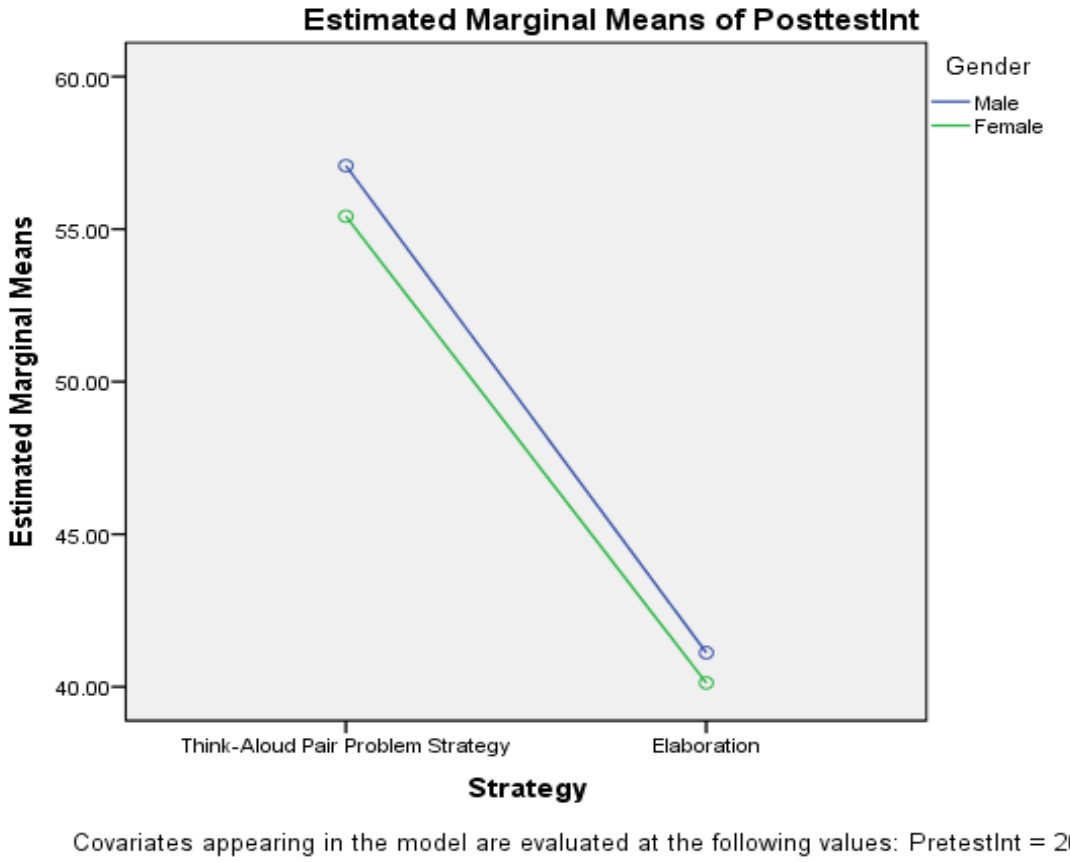

Figure 1: Graph of the interaction effect of two metacognitive teaching strategies and gender on students' interest in Cultural and Creative Arts

Figure 1 shows that there was no interaction effect of teaching strategies and gender on students' interest in Cultural and Creative Arts. This is indicated by the separate lines for the male and female students' interest in the two teaching strategies (think-aloud pair problem strategy and elaboration strategy).

Discussion of Findings

Effect of two modes of metacognitive instructional strategies on secondary school students' interest in Cultural and Creative Arts

The findings of the study revealed that teaching strategy is a significant factor in students' interest in cultural and creative arts. The result implies that the think-aloud problem-solving strategy motivated the students and sustained their interest, thereby evoking a greater understanding of Cultural and Creative Arts. This suggests that students become more motivated and emotionally engaged when teachers make their thinking processes visible during creative problem-solving. The result affirms the position of metacognitive learning theorists such as Flavell (1979), who argue that learners' awareness and control of cognitive processes play a crucial role in sustaining interest and motivation. When teachers demonstrate how they plan, analyze, and evaluate creative tasks through think-aloud, students gain insight into expert thinking patterns, thereby reducing anxiety and increasing curiosity about artistic activities.

The positive effect of the think-aloud strategy on students' interest aligns with previous studies that have shown metacognitive instruction to foster learner engagement and self-

regulated learning. Wang and Wu (2022) reported that metacognitive modeling promotes students' persistence and enthusiasm by making the learning process transparent. Similarly, Smetana et al. (2022) found that when teachers verbalize their reasoning, learners mirror these reflective behaviors, which in turn increases motivation and confidence. In the context of CCA, where students are expected to make aesthetic judgments, experiment with ideas, and reflect on outcomes, this strategy helps demystify creative processes and cultivates an active learning climate that sustains attention and enjoyment.

Furthermore, the result corroborates findings by Hartwig and Dunlosky (2023), who demonstrated that students' interest improves when instruction emphasizes how knowledge is constructed rather than merely transmitted. The think-aloud strategy transforms traditional teacher demonstrations into interactive learning episodes, allowing students to connect emotionally and cognitively with the art-making process. This aligns with constructivist learning principles, which posit that interest develops when learners are actively engaged in constructing meaning rather than passively observing (Lai, 2023). The finding also reflects the views of Marron and Cummings (2023), who emphasized that "creative metacognition", the ability to monitor and evaluate one's creative process is central to sustaining motivation in arts education. By modeling reflective thinking, the think-aloud strategy nurtures this capacity among learners, helping them to appreciate the process of creation as intellectually and emotionally rewarding. As a result, students perceive CCA as a dynamic and thought-provoking subject rather than as a routine or peripheral course.

Influence of gender on students' interest mean ratings in Cultural and Creative Arts

The findings of the study revealed that gender did not significantly influence students' interest in Cultural and Creative Arts. This indicates that both male and female students exhibited comparable levels of motivation, curiosity, and engagement when exposed to metacognitive instructional strategies such as the Think-Aloud Problem-Solving Strategy. In other words, students' interest in CCA was shaped more by the quality of instructional methods than by their gender. This finding suggests that interest in creative learning experiences is not inherently determined by biological or gender-based factors but rather by how inclusive, participatory, and cognitively stimulating the classroom environment is. The absence of gender influence may also reflect the integrative nature of Cultural and Creative Arts, which combines music, visual arts, drama, and crafts activities that appeal to diverse interests across genders. Contemporary perspectives in art education emphasize that creativity, aesthetic judgment, and cultural expression are universal human capacities not confined to one gender (Marron & Cummings, 2023). Therefore, when instructional strategies such as Think-Aloud engage learners cognitively and emotionally, both male and female students are equally inspired to participate and explore their creative potential.

This outcome aligns with the position of social constructivist theorists who argue that learning interest is a function of experience and interaction rather than innate ability (Vygotsky, 1978; Bandura, 1997). When teachers provide equal opportunities for all learners to express ideas, reflect, and participate actively as facilitated by metacognitive teaching approaches; gender disparities in learning attitudes tend to diminish. The finding also corroborates the results of Ogunlade and Afuwape (2022), who reported no significant gender difference in students' attitude and interest toward Cultural and Creative Arts in Nigerian junior secondary schools.

Similarly, Adejoh and Apagu (2021) found that when teachers employ interactive and learner-centered strategies, both male and female students display comparable enthusiasm and commitment toward artistic tasks.

The interaction effect of teaching strategies and gender on students' means interest ratings in Cultural and Creative Arts

The findings of the study revealed that the interaction effect of teaching strategies and gender on students' interest in Cultural and Creative Arts is not significant. This implies that the influence of the teaching strategies on students' interest operated independently of gender. In other words, the positive impact of the Think-Aloud Problem-Solving and Elaboration Strategies on students' interest in CCA was consistent across both male and female students. Regardless of gender, students responded similarly to the instructional strategies employed, demonstrating that metacognitive approaches to teaching CCA are equally effective for all learners. The non-significant interaction effect may also be attributed to the integrative nature of CCA, which provides multiple entry points for learner engagement; music, drama, visual art, and craft appealing equally to the interests and abilities of all students. When students are exposed to active, participatory learning through metacognitive strategies, the environment becomes more inclusive and equitable, allowing both genders to express their creative potential without bias or limitation (Marron & Cummings, 2023).

This outcome reinforces the argument that effect pedagogical approaches transcend gender boundaries when they are grounded in sound learning principles such as metacognition, learner-centeredness, and reflective engagement. According to Flavell (1979), metacognitive strategies develop learners' self-awareness and self-regulation in ways that are universal to human cognition rather than gender-specific. Thus, the teaching method's structure, which encourages students to think aloud, reflect, and elaborate on learning tasks, supports both genders equally by stimulating intrinsic motivation and ownership of the learning process.

The finding aligns with those of Ogunlade and Afuwape (2022), who found no significant interaction between teaching methods and gender in influencing students' interest and attitude in creative subjects in Nigerian schools. Similarly, Adejoh and Apagu (2021) reported that when interactive and inclusive pedagogical strategies are adopted, both male and female students benefit equally, leading to comparable levels of motivation and classroom engagement. From a theoretical standpoint, this result also supports bandura's (1997) social cognitive theory, which posits that self-efficacy and motivation are influenced more by environmental and instructional factors than by gender differences.

Conclusion

Based on the findings of the study, the study concludes that think-aloud problem-solving strategy is an effective metacognitive approach for enhancing students' interest in Cultural and Creative Arts. By encouraging reflection, participation, and deeper understanding, this strategy transforms CCA lessons from routine skill demonstrations into dynamic and interactive learning experiences. Consequently, it emphasizes the need for CCA teachers to adopt metacognitive and learner-centered approaches to make lessons more interactive and inspiring. The study therefore reinforces the idea that when instruction stimulates thinking and self-reflection, students become more motivated, attentive, and connected to creative learning experiences.

Recommendations

Based on the findings the study, the following recommendations are made:

1. Teachers of Cultural and Creative Arts at the junior secondary school level should integrate the Think-Aloud Problem-Solving Strategy into their instructional practices. By verbalizing thought processes during demonstrations, teachers can make the cognitive aspects of creative work visible, thereby motivating learners and sustaining their interest in artistic tasks.
2. Ministries of Education, curriculum developers, and educational agencies should organize regular workshops and in-service training for CCA teachers on the use of metacognitive strategies, particularly the Think-Aloud approach. Such capacity-building programs will enable teachers to design lessons that foster reflection, engagement, and self-regulated learning among students.
3. The Nigerian Educational Research and Development Council (NERDC) and other curriculum planners should incorporate metacognitive instructional techniques especially, Think-Aloud Problem-Solving Strategy into the CCA curriculum. Embedding these strategies will promote a shift from teacher-centered to learner-centered practices that cultivate creative thinking and sustained interest.
4. School administrators should provide adequate instructional materials, art resources, and time allocation that support interactive and reflective CCA lessons. A conducive environment enhances the effectiveness of metacognitive strategies and encourages learners to actively participate in creative activities.
5. Since the study found no significant gender differences in students' interest, teachers should continue to apply inclusive instructional approaches that provide equal opportunities for both male and female students to explore creativity and develop confidence in CCA. Stereotypes that associate arts with particular genders should be consciously discouraged.
6. Future studies should replicate this investigation across other states and school levels to validate the effectiveness of the Think-Aloud Problem-Solving Strategy in diverse contexts. Researchers may also examine how combining Think-Aloud with other metacognitive or collaborative learning strategies influences students' creativity, self-efficacy, and long-term interest in the arts.

Implication for Curriculum Experts

The findings of this study have significant implications for curriculum experts, planners and developers in Nigeria, particularly in the area of Cultural and Creative Arts and other skill-oriented subjects in the Junior Secondary School curriculum. First, the study established that the Think-Aloud Problem-Solving Strategy significantly enhanced students' interest in CCA compared to the elaboration and conventional strategies. This finding implies that curriculum experts should emphasize metacognitive instructional practices in the design and implementation of the CCA curriculum. Curriculum frameworks should go beyond prescribing content knowledge and include explicit guideline for teaching processes that promote reflection, self-monitoring, and active learner engagement. By embedding metacognitive strategies such as Think-Aloud and Elaboration into the curriculum, students can develop greater self-awareness in learning, leading to sustained interest and creativity in artistic expression.

Secondly, the finding that gender did not significantly influence students' interest in CCA suggests that well-designed curricula, when supported by interactive and reflective teaching strategies, can minimize gender-related differences in students' motivation and participation. Therefore, curriculum experts should design inclusive learning experiences that encourage equal

participation of both male and female students. Such inclusiveness can be reinforced through gender-neutral examples, collaborative learning activities, and equitable assessment practices within the curriculum.

Finally, since metacognitive strategies promote creativity, self-expression, and lifelong learning skills, curriculum experts should view this approach as a model for improving other creative and performing art subjects. Integrating metacognitive pedagogy into the national curriculum will not only sustain students' interest in CCA but also advance the broader educational goal of producing creative, reflective, and self-regulated learners capable of contributing meaningfully to Nigeria's cultural and creative industries.

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