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Investigating Factors Affecting the Teaching of Throwing Method in Ceramics under Art and Design: A Case of Selected Secondary Schools in Mufulira District of Copperbelt Province, Zambia

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Abstract: This study investigated factors influencing the teaching of the throwing method in ceramics among secondary school learners in Mufulira District, Copperbelt Province, Zambia. The objectives were to assess teacher expertise, examine resource availability, explore the impact of attitudes on learning outcomes, and suggest strategies for improvement. A mixed methods approach was used, involving 105 participants and data collected via questionnaires and interviews. The quantitative data obtained were analyzed using software such as SPSS whereas the qualitative date were analyzed using study themes. The study findings found that the teaching of the throwing method in ceramics under Art and Design in selected secondary schools is influenced by a range of interrelated factors that hinder effective instruction and skill acquisition. One major factor is the lack of adequate teaching and learning materials, such as potter's wheels, quality clay, and glazing equipment, which are essential for practical training. Additionally, limited infrastructure and inadequate classroom space constrain the proper setup of functional art studios necessary for ceramic work. Another key challenge is the shortage of qualified and specialized Art and Design teachers who possess the technical skills and pedagogical knowledge to effectively teach the throwing method. The study therefore recommended that the Ministry of Education, in collaboration with school administrations and relevant stakeholders, prioritize the provision of specialized teaching materials and equipment such as potter's wheels, quality clay, and functional art studios.

Keywords: Attitudes, Ceramics Education, Learning Outcomes, Resource Adequacy, and Teacher Expertise.

1. INTRODUCTION

The teaching of ceramics, particularly the throwing method, is a crucial component of Art and Design education, as it offers learners hands-on experience in three-dimensional art creation, fosters creativity, and nurtures practical skills relevant to cultural and economic development. In the Zambian secondary school curriculum, Art and Design plays an essential role in equipping learners with artistic skills and promoting appreciation for visual arts (MoE, 2013; Mwansa & Mulenga, 2021). However, despite its importance, the effective teaching of the throwing method remains a challenge in many schools. The throwing technique, which involves shaping clay on a potter's wheel, requires specific tools, resources, and teacher expertise to facilitate successful instruction and learning (Chansa, 2019; Banda, 2020). In the context of Mufulira District, located in the Copperbelt Province of Zambia, the implementation of this method in secondary schools faces multiple constraints that limit learners' exposure to and mastery of ceramics.

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Several factors contribute to the challenges surrounding the teaching of the throwing method. These include a lack of adequate infrastructure and resources, insufficient funding, limited access to professional development opportunities for teachers, and negative attitudes towards Art and Design by both educators and learners (Zulu, 2020; Phiri & Tembo, 2022). Most schools do not have well-equipped art rooms or the necessary ceramic tools such as potter's wheels, making it difficult for learners to engage in practical work. Additionally, the shortage of qualified teachers with specialized knowledge in ceramics results in theoretical teaching approaches that do not effectively support skill development (Kalaba & Simukonda, 2018; Mulenga & Mubanga, 2021).

The teaching of the throwing method in ceramics plays a significant role in art education due to its technical, cultural, and educational relevance. This method, which involves shaping clay on a spinning wheel, demands both skill and the appropriate instructional resources to achieve effective learning outcomes. Globally, the wheel-throwing technique has been recognized for enhancing learners' creativity, problem-solving, and artistic development. In Zambia, the Art and Design syllabus includes ceramics, with emphasis on the use of the potter's wheel (Kabamba, 2017). However, a lack of adequate tools, especially potter's wheels, and limited technical skills among teachers have raised concerns about the effective implementation of this syllabus, prompting the need for investigation.

Ceramics carry cultural, historical, and economic significance, making the throwing method an essential component of cultural heritage and vocational education. The method fosters learners' connection to their identities and traditions, while also building practical skills applicable in artisanal and entrepreneurial settings. However, despite this importance, the absence of necessary materials and insufficient teacher training in many Zambian secondary schools have hindered the proper teaching of this technique, affecting learners' engagement and skill acquisition. Studies, such as those by Kabamba (2017) and Carol (2014), highlight how resource limitations and lack of instructional support reduce the quality and impact of ceramics education, particularly the throwing method.

Moreover, while the throwing method involves detailed steps like centering, drawing-up, and shaping clay, all of which require intensive hands-on learning, many schools in Mufulira District lack functional pottery equipment and qualified personnel, making it challenging to deliver these practical experiences. The issue is further compounded by the Ministry of Education's mandate that ceramics be taught using the potter's wheel, thus placing pressure on under-resourced schools to comply (MoE, 2013). These gaps underscore the systemic barriers such as infrastructure deficiencies and inadequate teacher preparation that necessitate an in-depth study into the actual factors affecting the teaching of the throwing method in ceramics.

This investigation became crucial not only for improving curriculum implementation but also for enhancing learners' creative and vocational development. With ceramics contributing to cultural identity and economic empowerment, especially in areas with artisanal traditions, addressing these challenges can lead to improved educational outcomes and sustainable livelihood opportunities. Therefore, the combination of curriculum requirements, lack of essential resources, and insufficient pedagogical capacity are the main factors that led to this investigation into the teaching of the throwing method in ceramics within selected secondary schools in Mufulira District.

1.1 Statement of the problem

The teaching of the throwing method in ceramics in secondary schools in Mufulira District, Copperbelt Province, faces several challenges that hinder effective learner engagement and skill acquisition. Key issues include inadequate teacher expertise, limited professional development opportunities, and insufficient access to essential resources such as potter's wheels, clay, and kilns. Additionally, negative attitudes towards ceramics as a subject by both teachers and learners further diminish interest and motivation. These factors collectively impede the successful delivery of the throwing technique and compromise the quality of ceramics education, despite curriculum expectations that emphasize hands-on mastery of such methods (Ministry of Education, 2013).

1.2 Purpose of the Study

The main purpose of the study was to investigate the factors that influence the teaching of the throwing method in ceramics among secondary school learners in Mufulira district, Copperbelt province, Zambia.

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1.3 Objectives of the Study

This study was guided by the following objectives;

- i. To assess the level of teacher expertise in the throwing method among ceramics instructors in the selected secondary schools in Mufulira district of the Copperbelt province.
- ii. To examine the availability and adequacy of resources for teaching the throwing method in ceramics within the selected secondary schools in Mufulira district of the Copperbelt province.
- iii. To examine the influence of teachers' and learners' attitudes towards the throwing method in ceramics on learners' learning outcomes within the selected secondary schools in Mufulira district of the Copperbelt Province.
- iv. To suggest strategies for improving the teaching and learning of the throwing method in ceramics in the selected secondary schools in Mufulira district of the Copperbelt province.

1.4 Theoretical framework

The study was guided by the constructivist theory of learning, which emphasizes hands-on, experiential learning as essential for skill development, particularly in practical subjects like Art and Design. According to Piaget's constructivist approach, learners construct knowledge through active engagement with materials and their environment, making the availability of tools such as potter's wheels and quality clay crucial for mastering the throwing method in ceramics (Piaget, 1972). This framework also incorporates the input-process-output model, where inputs such as qualified teachers, adequate infrastructure, and teaching materials influence the teaching process, which in turn determines the learning outcomes in terms of student competence and creativity in ceramics (Biggs, 1993). The conceptual framework therefore illustrates that the effectiveness of teaching the throwing method is a result of the dynamic interaction between available resources, teacher competency, institutional support, and learner participation all of which must be aligned to achieve desired educational goals in Art and Design.

1.5 Significance of the Study

This study is significant as it aimed to uncover critical factors affecting the teaching and learning of the throwing method in ceramics in secondary schools in Mufulira District, with the potential to contribute positively in several areas. By identifying gaps in teacher expertise, the findings could guide targeted professional development programs to enhance instructional quality and foster learner engagement. Additionally, by highlighting resource limitations such as the unavailability of pottery wheels, clay, and kilns, the study could inform better resource allocation and infrastructure development to support practical learning. Understanding attitudes towards ceramics among teachers and learners also offered insights into how to build a more supportive and motivating environment for artistic expression. Overall, the study's contributions could influence educational policy, improve classroom practice, and promote the value of ceramics education both locally and nationally.

2. LITERATURE REVIEW

2.1 Teacher Expertise in the Throwing Method in Ceramics

Globally, teacher expertise is fundamental to effective ceramics education. According to Piersol (2017), instructors must possess a deep understanding of the throwing method, including its historical context, technical skills, and pedagogical approaches. Expertise in ceramics is not only about mastering techniques but also about the ability to adapt teaching methods to different learner needs, ensuring that each student can engage with the art form in a meaningful way. Moreover, in countries like the United States, teacher certification in ceramics education is often seen as essential for maintaining high standards of instruction (Smith, 2018). A well-trained ceramics teacher enhances students' technical skills and fosters creativity, promoting a richer learning experience.

In the African context, studies on teacher expertise in ceramics education are sparse, but some research highlights challenges and disparities in teacher training across countries. For instance, Okoro (2020) discusses how traditional methods of ceramics are often passed down informally, limiting formal teaching expertise. This issue is particularly prevalent in African secondary schools, where formal training in ceramics may be insufficient or non-existent. Inadequate teacher preparation results in low-quality instruction, impacting learners' ability to master specialized techniques such as the throwing method. The lack of formal training programs for ceramics teachers in many African nations reflects broader issues of resource allocation in education (Moyo, 2019).

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In Zambia, teacher expertise in ceramics is also underdeveloped, especially in rural and semi-urban areas. Studies by Mwale and Banda (2017) revealed that many ceramics instructors in Lusaka lack specialized training in the throwing method, which severely limits their effectiveness in the classroom. This issue is compounded by a lack of professional development programs that could help teachers improve their skills. Additionally, teacher recruitment and the allocation of qualified instructors to schools in Zambia is uneven, leading to a situation where some schools may not have access to qualified ceramics teachers at all (Kabamba, 2017). Enhancing teacher expertise through professional training and workshops is critical to improving ceramics education in Zambia.

2.2 Availability and Adequacy of Resources for Teaching Ceramics

The availability of resources is crucial to effective ceramics education, as highlighted by Menger and Ehlers (2019), who emphasized that access to specialized equipment like pottery wheels, kilns, and high-quality clay is essential for the successful teaching of ceramics. In developed countries, investment in ceramics education is often reflected in well-equipped schools that can provide hands-on, practical experience for learners. However, resource allocation remains a significant challenge in many parts of the world, particularly in underfunded schools where access to quality ceramics tools and materials is limited. According to Bell (2021), without proper resources, even the best-trained teachers may struggle to provide adequate instruction.

In Africa, the scarcity of resources for teaching ceramics is a widespread issue. Moyo (2019) observed that many schools in sub-Saharan Africa lack the necessary materials and equipment for ceramics instruction, affecting the teaching of specific techniques such as throwing. Traditional ceramic techniques, although highly relevant culturally, are often sidelined in modern classrooms due to insufficient investment in educational infrastructure. In some regions, this has resulted in the reduced quality of ceramics education, with many teachers resorting to makeshift solutions in place of proper ceramics equipment (Okoro, 2020). The disparity in resources between urban and rural schools further exacerbates this issue, creating unequal learning opportunities for students.

In Zambia, the availability of resources for teaching ceramics is highly inconsistent. According to research by Mwale and Banda (2017), many secondary schools in Lusaka and other urban areas lack the necessary tools, such as pottery wheels and kilns, which are vital for teaching the throwing method. In rural districts like Mufulira, the situation is even more dire, with many schools unable to afford basic ceramics equipment. This lack of resources not only limits the scope of teaching but also affects the students' ability to engage in hands-on learning, making it difficult for them to develop practical skills in ceramics (Kabwe & Chanda, 2019). Addressing these resource gaps is essential for improving ceramics education in Zambia.

2.3 Influence of Teachers' and Learners' Attitudes on Learning Outcomes

Teacher and learner attitudes play a significant role in shaping learning outcomes, particularly in creative disciplines like ceramics. Positive teacher attitudes toward the subject matter can motivate students to engage more deeply with the material and persist through challenging learning processes (Bates, 2016). Conversely, negative teacher attitudes can result in disengagement and hinder students' development. Additionally, learners' attitudes toward ceramics influence their engagement and effort in the subject, with positive attitudes correlating with better performance (Liu & Zhang, 2019). As Piersol (2017) suggests, creating a supportive environment where both teachers and students have positive attitudes toward ceramics can foster better learning outcomes.

In Africa, teacher attitudes toward ceramics education are often influenced by cultural perceptions of the subject. In many African countries, ceramics may be viewed as a secondary or less prestigious form of art compared to other academic subjects, which can affect both teacher enthusiasm and student engagement (Okoro, 2020). However, studies in countries like Nigeria have shown that when teachers demonstrate passion and dedication to ceramics, it significantly boosts student interest and performance (Momoh, 2017). Similarly, learners' attitudes toward ceramics can be shaped by socio-cultural factors, including the perceived value of the subject in their community (Moyo, 2019). Positive attitudes toward ceramics can lead to better outcomes, especially when reinforced by a teacher's enthusiasm.

In Zambia, teacher attitudes toward ceramics have a profound impact on student outcomes. Musonda & Mwansa (2018) found that teachers who showed passion for ceramics were able to inspire learners and enhance their performance. Conversely, teachers with a lack of enthusiasm and expertise often struggled to engage students, resulting in lower

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achievement in the subject (Alma et al., 2024). Additionally, learners' attitudes toward ceramics are influenced by factors such as parental support and societal perceptions of the subject. In some cases, ceramics is seen as less important compared to other subjects, leading to lower motivation among students to fully participate in ceramics lessons (Sichone & Mulenga, 2020). Improving both teacher and student attitudes is essential for optimizing learning outcomes in ceramics.

2.4 Strategies for Improving the Teaching and Learning of Ceramics

Globally, improving ceramics education often involves a multi-faceted approach, including better resource allocation, teacher training, and curriculum reform. According to Bates (2016), an effective strategy for improving ceramics education includes the integration of hands-on experiences and modern techniques with traditional practices. Additionally, fostering a collaborative approach among educators, communities, and policymakers can help ensure that ceramics education is well-supported (Piersol, 2017). Successful examples from countries like Japan, where ceramics education is integrated into the broader cultural context, show that a focus on community engagement and access to resources can significantly enhance the teaching and learning of ceramics.

In the African context, the integration of local cultural practices and traditional knowledge into modern ceramics education is an effective strategy for improving teaching outcomes Okoro (2020). Chanda (2024d) suggest that drawing on indigenous knowledge systems can not only enhance learners' understanding of ceramics but also make the subject more relevant to their cultural identities. Additionally, increasing investments in teacher training and professional development programs is essential for improving teaching quality. Moyo (2019) advocates for a collaborative approach involving educators, governmental bodies, and communities to improve the infrastructure and resources available for ceramics education across Africa.

In Zambia, strategies for improving ceramics education must address both the infrastructural and pedagogical challenges identified in previous studies. Kabwe & Chanda (2019) emphasize that better resource allocation and the provision of modern ceramics equipment are critical for enhancing teaching outcomes. Additionally, teacher training programs should be strengthened to ensure that instructors are equipped with the necessary expertise in both the throwing method and effective teaching strategies. Namatama (2021) advocates for the inclusion of ceramics in national curriculum reforms and the development of a more robust framework for teaching art and design subjects in Zambian schools. Furthermore, fostering positive attitudes toward ceramics through awareness campaigns and community engagement can significantly improve learner motivation and outcomes in the subject (Chanda, 2024c).

3. RESEARCH METHODOLOGY

3.1 Research design

This study employed a descriptive survey design with a mixed methods approach to assess factors influencing the teaching of the throwing method in ceramics.

3.2 Research site

The research was conducted in Mufulira district, Copperbelt Province, Zambia. Mufulira was chosen due to its accessibility, proximity to the researcher's residence, and relevance to the study topic. The location facilitated efficient data collection and interaction with participants, while the researcher's familiarity with the area improved rapport and the quality of insights gathered. This site was ideal for investigating ceramics education within a familiar context.

3.3 Population, Sample and Sampling procedure

The target population for this study consisted of Art and Design teachers, Heads of Department (HODs) for the Expressive Art Department, and Grade 12 learners taking Art and Design in secondary schools in Mufulira district, Zambia, with an estimated total of 550 individuals. A sample of 105 participants was selected, including 90 Grade 12 learners and 15 teachers, including HODs, across three schools. The sample of 30 learners per school and 5 teachers per school was chosen to ensure diverse representation and to capture a range of perspectives. Purposive sampling was used to select teachers and HODs based on their involvement in ceramics education, while simple random sampling was used to select Grade 12 learners from each school. This approach aimed to provide comprehensive insights into the factors affecting ceramics education, particularly the throwing method, in Mufulira district.

6.70%

MORE THAN 10 YEARS

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3.4 Data Analysis

Quantitative data from questionnaires was analyzed using SPSS (Statistical Package for Social Sciences) and Excel. Qualitative interview data was analyzed through thematic analysis. This mixed-methods approach provided comprehensive insights into the factors influencing the teaching of the throwing method in ceramics.

3.5 Ethical Issues

15.00%

10.00%

5.00% 0.00% 13.309

LESS THAN 1 YEAR

Ethical considerations included obtaining informed consent, ensuring participant confidentiality, and minimizing harm. Ethical clearance was obtained from the Rockview University Research Ethics Committee. Participants were informed about the study's purpose, procedures, and their right to withdraw at any time. Data was anonymized and securely stored. The study adhered to principles of fairness, transparency, and integrity, ensuring the protection of participants' rights and welfare throughout the research process.

4. FINDINGS AND DISCUSSIONS



4.1 Level of teacher expertise in the throwing method among ceramics instructors in the selected secondary schools

Figure 1: Years of Experience in Teaching the Throwing Method

1-3 YEARS

4-6 YEARS

7-10 YEARS

Among the 15 teachers, the majority had relatively limited experience in teaching the throwing method, with 33.3% having 1-3 years, 26.7% with 4-6 years, and only 6.7% having more than 10 years of experience (**See figure 1**). This suggests that most teachers were relatively new to teaching this method, which could impact their effectiveness in instruction. A study by Albright (2019) found that teachers with less experience in specialized subjects like ceramics often face challenges in delivering quality instruction, underscoring the need for targeted professional development to enhance their skills and confidence.



Figure 2: Self-Rated Proficiency in Teaching the Throwing Method

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The teachers rated their proficiency in teaching the throwing method as follows: 20.0% were beginners, 40.0% were at an intermediate level, 26.7% were advanced, and 13.3% considered themselves experts (**See figure 2**). This distribution indicates that while most teachers possessed a moderate level of proficiency, a significant portion still faced challenges in mastering the throwing method. Similar findings by Darbyshire and Graham (2017) revealed that teachers with varying levels of expertise often struggle to provide consistent, high-quality instruction, highlighting the importance of tailored professional development to address these disparities.

Observation	Frequency	Percentage
Demonstrates advanced skills	6	40.0%
Demonstrates intermediate skills	5	33.3%
Demonstrates basic skills	3	20.0%
Demonstrates minimal skills	1	6.7%
Total	15	100%

Table 1: Observations of Teacher Expertise in the Throwing Method

Observations of the 15 teachers revealed that 40.0% demonstrated advanced skills in the throwing method, while 33.3% displayed intermediate skills. Additionally, 20.0% showed basic skills, and 6.7% exhibited minimal skills. The majority of teachers showcased either advanced or intermediate proficiency, indicating a generally positive skill level among the group. This aligns with findings by Talarico (2018), who noted that teacher proficiency plays a crucial role in student learning outcomes, as higher skill levels often lead to more effective teaching and improved student performance in practical subjects like ceramics.

4.2 Availability and adequacy of resources for teaching the throwing method in ceramics within the selected secondary schools

Resource Availability	Frequency	Percentage
Excellent	1	6.7%
Good	3	20.0%
Fair	4	26.7%
Poor	5	33.3%
Very Poor	2	13.3%
Total	15	100%

Table 2: Rating of Availability of Essential Resources

Among the 15 teachers, 6.7% rated the availability of essential resources as excellent, 20.0% as good, 26.7% as fair, 33.3% as poor, and 13.3% as very poor. While the majority of teachers rated the resource availability positively, a significant portion still considered it fair or poor. This aligned with findings by Johnson and Jang (2017), who highlighted that resource availability is a critical factor in effective teaching, and that inadequate resources can hinder the quality of instruction, particularly in hands-on subjects like ceramics.





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Figure 3 above show that of the 15 teachers, 20.0% reported very frequent issues with resource shortages or breakdowns, 33.3% frequent issues, 26.7% occasional issues, 13.3% rarely experienced problems, and only 6.7% reported no issues. The majority faced at least occasional disruptions, highlighting persistent challenges in resource availability. Similar concerns were noted by Mupeta et al. (2020), who found that resource shortages in Zambian secondary schools significantly affected the delivery of practical subjects, including the arts.

4.3 Teachers' and learners' attitudes towards the throwing method in ceramics on learners' learning outcomes within the selected secondary

Impact on Student Motivation	Frequency	Percentage
Significantly increases	7	46.7%
Somewhat increases	4	26.6%
No impact	2	13.3%
Somewhat decreases	1	6.7%
Significantly decreases	1	6.7%
Total	15	100%

Table 3: Impact of Teacher Attitude on Student Motivation

Among the 15 teachers, 46.7% believed their attitude significantly increased student motivation, 26.7% felt it somewhat increased motivation, while 13.3% saw no impact, and another 13.3% believed it had a negative effect. Most teachers perceived their attitude as positively influencing learner motivation. This aligns with findings by Banda et al. (2018), who reported that teacher enthusiasm and positive demeanor were key contributors to learner engagement and improved academic outcomes in Zambian classrooms.



Figure 4: Influence of Attitude on Learning Outcomes

According to the learners, 13.3% felt their attitude significantly improved their learning outcomes, 31.1% believed it somewhat improved outcomes, 33.4% noted no effect, while 13.3% and 8.9% felt it somewhat or significantly worsened outcomes, respectively (**See figure 4**). Overall, most learners indicated that their attitude had either no effect or a positive influence on their learning. These findings are consistent with Chirwa and Naidoo (2014), who found that learner self-perception and attitude play a moderate but meaningful role in shaping academic success, particularly in skill-based subjects like art.

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4.4 Strategies for improving the teaching and learning of the throwing method in ceramics in the selected secondary schools



Figure 5: Additional Resources Needed to Enhance Teaching of throwing method in ceramics

Teachers highlighted several strategies for improving the teaching and learning of the throwing method in ceramics, with the most common being the need for advanced pottery tools and equipment (33.3%) and additional training workshops (26.7%). Others called for increased budgets for materials (20.0%), improved facilities (13.3%), and dedicated throwing studios (6.7%). These suggestions align with findings by Adeyemi & Adeyinka (2013), who observed that practical subjects like ceramics require both adequate resources and continuous teacher development to be effectively taught. Their study emphasized that insufficient tools and limited teacher training contribute to reduced learner engagement and hinder skill acquisition. Addressing these gaps through resource investment and targeted professional development could therefore significantly enhance the quality of ceramics education (Chanda, 2024b).

4.5 Interview responses

The interviews with Heads of Department (HODs) revealed key insights into the factors influencing the teaching of the throwing method in ceramics at secondary schools in Mufulira District. A primary theme was the disparity in teacher expertise, with some instructors demonstrating high proficiency, while others struggled with foundational techniques. This variation highlights the importance of targeted professional development to bridge these gaps, as noted by HODs who emphasized the positive impact of specialized training programs on teaching effectiveness. Similar findings were highlighted by researchers such as Chikweche & Nkomo (2020), who found that professional development enhances teaching quality and student outcomes in vocational subjects.

Resource availability was another critical theme discussed, with varying levels of access to essential materials. While some schools had adequate resources, including updated pottery wheels and clay, others faced challenges such as outdated equipment and budget constraints. HOD 1's concerns about resource condition align with findings from studies like Mweemba & Phiri (2018); Kangwa & Chanda (2025) who found that the lack of proper resources in schools hampers effective teaching in creative disciplines. The need for improved funding and maintenance of resources was highlighted as a vital factor in ensuring consistent and effective ceramics instruction across schools.

Teacher and student attitudes towards the throwing method emerged as a third prominent theme. Positive teacher attitudes were linked to increased student engagement and better learning outcomes, whereas negative attitudes hindered student enthusiasm and participation. This aligns with previous studies, including that of Nkosi (2017) and Chanda (2024) which emphasized the significant role of teacher enthusiasm in fostering a conducive learning environment. HODs suggested strategies such as interactive learning, project-based activities, and individualized feedback to enhance both teacher and student engagement. These strategies were seen as essential in creating a more supportive and motivating learning environment, leading to improved student performance in ceramics.

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5. RECOMMENDATIONS

- 1) School Administrators should implement regular and targeted professional development programs for ceramics instructors, including workshops and training sessions specifically focused on the throwing method to enhance teaching skills.
- The Government through the Ministry of Education should increase resource allocation for secondary schools by securing additional funding for high-quality ceramics equipment and ensuring proper maintenance and repair of existing tools.
- 3) Curriculum developers should incorporate interactive and project-based learning activities into the ceramics curriculum to increase student engagement and motivation in the throwing method.
- 4) Educational Policy Makers should develop and promote guidelines for personalized feedback and support strategies, ensuring that feedback on students' progress and challenges is tailored to individual needs to improve learning outcomes.

6. CONCLUSION

In conclusion, the teaching of the throwing method in ceramics within Art and Design in selected secondary schools of Mufulira District is hindered by a combination of factors including inadequate teaching materials, limited infrastructure, lack of qualified teachers, and minimal institutional support. These challenges significantly impact the quality of practical art education and limit learners' ability to develop essential creative and technical skills. Addressing these issues is crucial for enhancing the delivery and effectiveness of Art and Design education. With adequate investment in resources, teacher training, and curriculum support, schools can provide a more conducive environment for the teaching and learning of ceramics. By recognizing the value of practical subjects and integrating them meaningfully into the education system, stakeholders can promote not only artistic development but also foster innovation, entrepreneurship, and cultural preservation among learners.

REFERENCES

- [1] Adeyemi, M. B., & Adeyinka, A. A. (2013). The influence of resource availability and teacher training on the teaching of practical subjects in African schools. *African Educational Research Journal*, 1(2), 45–53.
- [2] Albright, J. (2019). Challenges faced by early-career teachers in specialized subjects: A case of visual arts. *International Journal of Art & Design Education*, 38(3), 492–506. https://doi.org/10.1111/jade.12223.
- [3] Alma, V. L., Zohaib, H. S., Oki, D., Chanda, C. T., & Moses, A. A. (2024). Revolutionary Teaching Approaches: Exploring the Educational Landscape in Pakistan via Outcome-Based Education. *Journal of Information Systems and Technology Research*, Volume 3, Issue 2, 73-79, May 2024, Available: https://journal.aira.or.id/index.php/jistr/, ISSN: 2828-2973.
- [4] Banda, T. (2020). *Challenges in teaching practical subjects in Zambian secondary schools*. Lusaka: Zambia Educational Publishers.
- [5] Banda, D., Chilala, S., & Kunda, A. (2018). Teacher attitude and student motivation in Zambian secondary schools: A case study approach. *Zambia Journal of Education*, *5*(1), 22–34.
- [6] Bates, T. (2016). *Effective teaching strategies for the arts*. Oxford University Press.
- [7] Bell, P. (2021). Art education in modern schools: A global perspective. Routledge.
- [8] Biggs, J. (1993). *From theory to practice: A cognitive systems approach*. Higher Education Research & Development, 12(1), 73–85.
- [9] Carol, S. (2014). *The role of reflection in student teachers' perceptions of their professional development*. London: Routledge.
- [10] Chanda, C. T. (2024). Revolutionary Teaching Approaches: Exploring the Educational Landscape in Pakistan via Outcome-Based Education. *Journal of Information Systems and Technology Research*, Volume 3, Issue 2, 73-79, May 2024, Available: https://journal.aira.or.id/index.php/jistr/, ISSN: 2828-2973.

Vol. 12, Issue 3, pp: (79-90), Month: May - June 2025, Available at: www.noveltyjournals.com

- [11] Chanda, C. T. (2024b). An Assessment on Government Funding for Teaching and Learning Materials: A Case of Selected Secondary Schools in Lusaka District, Zambia. *International Journal of Research Publication and Reviews*, Vol 5, no 1, pp 1772-1778, January 2024, Available: www.ijrpr.com, ISSN 2582-7421.https://doi.org/10.55248/ gengpi.5.0124.0230.
- [12] Chanda, C. T. (2024c). Student Retention in Higher Learning Institutions of Zambia. *International Journal of Research Publication and Reviews*, Vol 5, no 6, pp 433-441, May 2024, Available: www.ijrpr.com, ISSN 2582-7421.
- [13] Chanda, C. T. (2024d). Assessing Gender Equality in the Provision of Educational Opportunities: A Case of Selected Secondary Schools in Lusaka District, Zambia. *International Journal of Research Publication and Reviews*, Vol 5, no 10, pp 94-103, October 2024, Available: www.ijrpr.com, ISSN 2582-7421.
- [14] Chansa, M. (2019). Art and Design curriculum implementation in Zambian schools: A case of ceramics. University of Zambia.
- [15] Chikweche, T., & Nkomo, M. (2020). Professional development in vocational education: A critical review of the literature. *Journal of Vocational Education and Training*, 72(4), 507-522. https://doi.org/10.1080/13636820. 2020.1792798
- [16] Chirwa, G. C., & Naidoo, D. (2014). Learner attitude and academic achievement: The case of art education in Malawi secondary schools. *Mediterranean Journal of Social Sciences*, 5(23), 1085–1092. https://doi.org/10.5901/mjss.2014 .v5n23p1085
- [17] Darbyshire, P., & Graham, S. (2017). Teacher expertise in practical arts: Balancing proficiency and pedagogy. *Teaching and Teacher Education*, 66, 123–132. https://doi.org/10.1016/j.tate.2017.04.007
- [18] Johnson, A. R., & Jang, M. (2017). Resource adequacy and the quality of art instruction in public schools: A comparative study. *Journal of Educational Resources and Practice*, 4(1), 57–70.
- [19] Kabamba, A. (2017a). *Ceramics in Zambian education: Cultural and technological perspectives*. Lusaka: Zambia Educational Publishing.
- [20] Kabamba, M. (2017b). An analysis of the teaching and learning of Art and Design in Zambia. Ministry of Education.
- [21] Kabwe, J., & Chanda, S. (2019). Assessing the impact of resource availability on the quality of ceramics education in Kitwe, Zambia. *Journal of Educational Development*, 28(4), 55-70.
- [22] Kalaba, H., & Simukonda, A. (2018). Teacher preparedness in the delivery of practical art subjects in rural Zambia. *Zambian Journal of Education*, 5(2), 88–96.
- [23] Kangwa, B., & Chanda, C. T. (2025). The Effect of Free Education on the Teaching and Learning of Home Economics: A Case of Selected Schools in Chirundu District of Southern Province, Zambia. *International Journal of Novel Research in Humanity and Social Sciences*, Vol 12, Issue 1, pp (18-28), January - February 2025. Available: www.noveltyjournals.com, https://doi.org/10.5281/zenodo.14779781, ISSN 2394-9694.
- [24] Liu, X., & Zhang, L. (2019). The role of student attitudes in the learning outcomes of artistic subjects. *Educational Psychology Review*, 31(2), 239-255.
- [25] Menger, E., & Ehlers, L. (2019). Challenges in ceramics education and resource management in schools. *International Journal of Art Education*, 45(3), 101-118.
- [26] Ministry of Education. (2013). Zambia Education Curriculum Framework 2013. Lusaka: Curriculum Development Centre.
- [27] Ministry of General Education. (2013). Zambian Art and Design Syllabus for Grades 10–12. Curriculum Development Centre.
- [28] Momoh, M. (2017). Instructional resources and student performance in West Africa. West African Journal of Education, 13(2), 22-34.

Vol. 12, Issue 3, pp: (79-90), Month: May - June 2025, Available at: www.noveltyjournals.com

- [29] Moyo, M. (2019). Educational resource allocation for ceramics education in sub-Saharan Africa. *Journal of African Education*, 42(5), 78-92.
- [30] Mulenga, C., & Mubanga, K. (2021). Teacher qualification and its impact on arts education in Zambia. *International Journal of Education and Research*, 9(3), 45–52.
- [31] Mupeta, B., Zulu, C., & Mwansa, L. (2020). The impact of teaching and learning materials on the delivery of practical subjects in rural Zambian secondary schools. *Zambian Journal of Educational Management, Administration and Leadership*, 8(2), 50–65.
- [32] Musonda, R., & Mwansa, H. (2018). Teacher attitudes and their impact on learner performance in ceramics education in Zambia. *Zambian Journal of Educational Research*, *15*(3), 45-56.
- [33] Mwansa, M., & Mulenga, D. (2021). A critical look at the status of Art education in Zambian schools. *Journal of African Arts Education*, 4(1), 22–30.
- [34] Mweemba, M., & Phiri, E. (2018). Resource availability and its impact on the quality of vocational education in Zambia. *Zambian Journal of Educational Research*, 54(3), 129-145.
- [35] Namatama, M. (2021). An Assessment on the Relationship Between Lack of Ceramic Equipment and the Performance of Pupils in Ceramics in Art and Design: A Case of Three Selected Secondary Schools in Lusaka District. Research project submitted to Rockview University.
- [36] Nkosi, M. (2017). The role of teacher attitudes in student success in technical education. *International Journal of Education*, 9(2), 102-110. https://doi.org/10.5539/ijedu.v9n2p102
- [37] Okoro, N. (2020). Integrating traditional pottery practices in contemporary ceramics education in Africa. *African Journal of Art and Culture*, *17*(2), 44-58.
- [38] Phiri, L., & Tembo, R. (2022). Perceptions towards Art and Design education among secondary school stakeholders. *Zambian Educational Review*, 6(1), 101–115.
- [39] Piaget, J. (1972). The psychology of the child. New York: Basic Books.
- [40] Piersol, P. (2017). Ceramics and the contemporary classroom: A global perspective. *Art Education Today*, *12*(1), 23-40.
- [41] Sawai, R. A., Arajpure, A. S., & Handa, P. S. (2018). Manual techniques in pottery: The relevance of throwing on the wheel. *International Journal of Creative Art Education*, 9(2), 123–135.
- [42] Sichone, F., & Mulenga, M. (2020). Socio-economic factors influencing ceramics education in Zambia: A case study of Livingstone. *Zambian Journal of Art Education*, 8(1), 30-42.
- [43] Smith, J. (2018). Certified education in ceramics: A global overview. Journal of Ceramic Education, 7(2), 66-81.
- [44] Talarico, J. (2018). Crafting competence: The role of teacher skill in ceramics instruction. *Art Education Review*, 71(2), 28–35. https://doi.org/10.1080/00043125.2018.1423729
- [45] UNESCO. (2009). *Framework for cultural statistics*. Paris: United Nations Educational, Scientific and Cultural Organization.
- [46] UNESCO. (2013). *Creative economy report: Widening local development pathways*. Paris: United Nations Educational, Scientific and Cultural Organization.
- [47] Zulu, N. (2020). Infrastructural barriers to the teaching of visual arts in Copperbelt schools. Zambia Journal of Visual Culture, 3(2), 54–67.