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Role of Teacher Understanding about Instructional Visual Aids in Developing National and International Student Learning Experiences

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ABSTRACT

We investigated the understanding of the role of instructional visual aids in shaping the learning experiences of both national and international children among early childhood education teachers. To achieve this objective, a meticulously crafted questionnaire incorporating visual elements such as pictures and drawings was administered to a randomly selected sample of 220 participants. The instrument underwent rigorous validation procedures to ensure its reliability. The finding of the study highlights a prevalent misinterpretation among early childhood education teachers concerning the nuanced functions of visual aids in children's learning. Many educators mistakenly perceive visual aids merely as conduits of knowledge, overlooking their broader potential as instruments for nurturing children's knowledge, skills, and attitudes. Results show that although no statistically significant differences were observed in participants' responses based on their academic qualifications, a noteworthy disparity

emerged in relation to training experience. Teachers lacking specific training on the role of visual aids demonstrated a more nuanced understanding, implying that formal training may impede rather than enhance the recognition of the potential of visual aids in children's learning. These findings underscore the necessity for targeted professional development initiatives aimed at fostering a comprehensive understanding of the multifaceted contributions of instructional visual aids in educational settings.

Keywords: Instructional visual aids, Early childhood education teachers, Teaching and learning, Effective, National and international students.

INTRODUCTION

Visual aids have been essential in communication since ancient times, as seen with hieroglyphics. Their enduring significance, especially in the educational sector, is notable. Visual aids are critical in engaging and aiding comprehension for both national and international young students. These aids enhance learning by pairing visual elements with text, making content more accessible and easier to grasp. They overcome language barriers and accommodate diverse learning styles, proving invaluable in inclusive education. Visual aids effectively simplify complex concepts, aiding in understanding and retention. This visual context enriches educational material, deepening understanding and memory retention.

The cognitive processes of comprehension and meaning acquisition in young students, both domestically and internationally, are substantially dependent on the utilization of instructional visual aids. The incorporation of visual aids within educational textbooks tailored for these students assumes considerable significance, facilitating the construction of new cognitive experiences, especially given their constrained exposure to real-world encounters during the initial phases of their education (Kelly-Ware & Daly, 2019). The importance of visual aids in the learning processes of young students, both domestically and internationally, is underscored by Tursunmurotovich (2020), who posits that such aids enhance children's comprehension of objects more effectively than reading or receiving information verbally. This assertion accentuates the idea that the primary mode of learning for young students, whether national or international, is grounded in concrete experiences, as they encounter challenges in constructing meaning solely through abstract concepts (Pantaleo, 2016). Expanding on this, AlAli and Al-Barakat (2023a) observed that the utilization of instructional visual aids in the educational context of young children is construed as a sensory experience, seamlessly integrating into their mental imagery and functioning as fundamental building blocks in their cognitive processes. As a result, the pivotal role of visual aids in early education is justified, necessitating teachers to discern their instructional potential as an active component in shaping the cognitive frameworks of both young national and international students. Bruner (1966a)

underscores this point by highlighting that children, in alignment with their cognitive development, possess the capacity to visually represent information. Consequently, young students, whether of national or international origin, may encounter difficulties in comprehending material directly in the absence of the physical object itself or a representative visual depiction, such as an illustration (Al-Barakat et al., 2022; Donovan, 2021). Additionally, Gagné's (1977) theoretical framework emphasizes that the integration of visual aids within an instructional environment aids learners in the encoding of events or objects, thereby facilitating the processing of specific knowledge. This finding substantiates the proposition that visual aids play a crucial role in augmenting the learning experience by assisting learners in the organization and retention of information. Furthermore, they highlighted the essential role of visual aids in developing the concepts of both young national and international students. Through visual representations, educators can enhance understanding, facilitate idea formation, and simplify complex concepts, making information more accessible for effective learning.

Building upon this notion, Al-Hiinai (2021) emphasizing the nuanced functions of visual aids in the educational context, this perspective underscores their multifaceted role in shaping the learning experiences of children. In addition to their instructional utility, visual aids play a pivotal role in fostering the cognitive, emotional, and attitudinal development of both young national and international students. By utilizing visual cues, these aids possess the capacity to evoke emotional responses, stimulate curiosity, and engross learners at a profound level. They have the potential to instill a sense of wonder and ignite imagination, thereby augmenting the overall learning experience and cultivating a positive disposition toward the educational process. Moreover, AlAli and Al-Barakat (2023a) emphasized that visual aids are integral in facilitating learners' visualization and comprehension of ideas through the visual medium. By observing and interpreting these aids, learners can establish connections, infer meaning, and enhance their understanding of the subject matter. By serving as tools that assist in constructing mental images and conceptualizing abstract concepts, visual aids contribute to more meaningful and enduring learning outcomes.

The scholarly literature underscores the significant role of visual aids in nurturing the knowledge and attitudes of young children, as previously discussed. Furthermore, it asserts that visual aids assume a pivotal role in molding the personalities of both young national and international students, thereby preparing them to function as proficient members of society (Ali A Al-Barakat et al., 2023; AlAli & Al-Barakat, 2023c; Feathers & Arya, 2012; Fraihat et al., 2022). Expanding on this, Pike et al. (2010) observed that visual aids have a profound impact on personality development for young nationals and international students, exerting psychological influence by guiding them through life challenges and shaping behavior in adulthood. These aids expose children to diverse scenarios and characteristics, serving as role models and imparting valuable lessons.

Observing actions and behaviors in visual aids in internalizing social norms, values, and ethical principles, contributing to individuality and personal growth. Furthermore, visual aids serve as potent tools for modeling positive behaviors, fostering empathy, and promoting social and emotional development. Through visual aids, children explore different perspectives, understand consequences, and cultivate self-awareness and empathy toward others (Al-Barakat et al., 2022; AlAli & Al-Barakat, 2023b; Irshid et al., 2023; Khasawneh et al., 2022).

THE PROBLEM STUDY

The extensive literature underscores the importance of visual aids in facilitating the learning experiences of young children. Nevertheless, the efficacy of these aids as instructional tools is contingent upon the comprehensive understanding of their role by educators. AlAli and Al-Barakat (2023a) and Irshid et al. (2023) emphasized the potential enhancement of the instructional process, and it is crucial to recognize that the impact of visual aids is intricately tied to their judicious utilization within the classroom context. Present viewpoints regarding the incorporation of visual aids in instruction predominantly center on the child as the focal point of learning, thereby diverting attention from the role of the teacher. As a result, it becomes imperative to afford young children abundant opportunities to explore and actively engage with a diverse array of visual aids. Despite the paramount importance of visual aids, Ali Ahmad Al-Barakat et al. (2023) and Al-Hassan et al. (2022) reported that a considerable number of early childhood education teachers inadequately integrate visual aids into their classroom environments. This deficiency may be ascribed to a misconstrued understanding of the substantive role that visual aids fulfill in the pedagogical and learning milieu. Consequently, the present study endeavours to examine the extent to which teachers understand the function of visual aids in facilitating the learning and developmental processes of children.

Through an investigation into teachers' perceptions and practices related to the utilization of visual aids, this study aimed to elucidate the disparity between the potential advantages associated with visual aids and their practical application in the classroom. This research endeavours to provide insights into the determinants shaping teachers' comprehension of the instructional utility of visual aids and propose effective integration approaches to augment children's learning experiences. Ultimately, the study aspires to narrow the schism between theoretical understanding and practical implementation by delving into teachers' viewpoints, thereby contributing to a more profound understanding of the pivotal role of visual aids in children's learning.

Despite the abundance of published studies elucidating the role and importance of visual aids in the instructional process, this study highlights the inaugural endeavor, to the authors' knowledge, to scrutinize teachers' understanding of the efficacious instructional role of visual aids in children's

learning. The principal aim of this study is to address the following research questions:

1. To what degree do early childhood education teachers discern the overarching instructional efficacy of visual aids in shaping the learning experiences of both young national and international students?
2. To what extent, if at all, does the training of a teacher impact their perception of the effective role of visual aids?
3. To what degree, if any, do qualifications influence teachers' perception of the effective role of visual aids?
4. To what degree are the learning experiences through visual aids comparable or distinct among young national and international students?

By addressing these research inquiries, this study endeavours to address a notable research lacuna by exploring teachers' viewpoints regarding the instructional efficacy of visual aids in the learning experiences of young national and international students. This study aimed to ascertain the degree to which teachers acknowledge and value the role of visual aids as effective instructional tools. Additionally, the research probes the potential influence of teachers' professional training and qualifications on shaping their comprehension of the instructional capabilities of visual aids.

METHODOLOGY

This study employed a descriptive analytical approach, a research methodology designed to explore and furnish a comprehensive depiction of the prevailing state or characteristics of a specific phenomenon or system. This method facilitated the careful observation, documentation, and analysis of various facets pertaining to the effective instructional role of visual aids in children's learning. By adopting this approach, the researchers systematically examined and delineated the existing conditions and dynamics surrounding the role of visual aids in the learning experiences of young national and international students within the specific context of the study. This methodology permitted a thorough exploration of teachers' perspectives, contributing to a comprehensive understanding of their current level of awareness and utilization of visual aids as instructional tools.

Study population and sample

The research concentrated on the cohort of first-grade educators in all public and international schools within the Irbid Directorate of Education during the initial semester of the 2022/2023 academic year. This particular demographic group was chosen as the target group due to the accessibility of diverse visual aids provided by Jordanian school administrations. Additionally, considering that textbooks are primarily designed with visual aids in consideration of the early reading

proficiency of many young children, this demographic information is particularly pertinent. The study included a total of 527 first-grade teachers in the population of interest. To ensure representative sampling, a random sampling approach was adopted, resulting in the selection of 220 teachers—comprising 105 male teachers and 115 female teachers—from the overall population. This method was implemented to afford every individual within the population an equal opportunity for inclusion in the study sample. The selection of a random sample aimed to capture a diverse representation of first-grade teachers, specifically in terms of gender. This approach was employed to mitigate bias and enhance the generalizability of the findings, as the sample is anticipated to mirror the characteristics and perspectives of the broader population.

Procedures

To uphold ethical standards throughout the study, requisite approval was secured from the University's Committee on the Ethics of Scientific Research. This approval process involved rigorous scrutiny of the research design, data collection methods, and participant protection measures. Additionally, permission was obtained to administer the research instrument within the selected study population. After the necessary ethical and administrative procedures were completed, the data collection phase commenced. The study population was intentionally chosen to align with the research objectives and provide a representative sample. This selection process considered specific contextual factors, such as the first primary grade teachers in designated public schools during the specified academic semester.

Research instrument development

The instrument development process began with a preliminary survey of 28 teachers. They were asked to answer three key questions:

1. Do visual aids improve learning for young national and international students? If yes, how?
2. Are visual aids effective teaching resources? If yes, in what ways?
3. Can visual aids enhance cognitive skills in young students? If so, explain the mechanisms.
4. Are there differences in how national and international young students learn with visual aids? If yes, describe these differences.

The teachers' responses provided crucial insights that shaped the questionnaire items for the research instrument.

Furthermore, the formulation of the instrument was guided by a comprehensive examination of the pertinent literature. Prominent sources influencing the questionnaire design included the research studies of AlAli and Al-Barakat (2023a), Mahasneh and Abdelal (2022), Majdi (2017), Wahiba and Rabiha (2016), and Ali Ahmad Al-Barakat et al. (2023). The authors ensured the questionnaire's alignment with contemporary perspectives on the instructional role of visual aids in national and international young students' learning by integrating insights from relevant studies. Additionally, the authors' field expertise played a pivotal role in enabling the instrument to capture nuanced aspects and accurately assess teachers' understanding of the potential impact of visual aids on children's learning processes.

In the preliminary design stage, the research instrument comprised 34 items utilizing a five-point Likert scale. The scale ranged from 1 to 5, where values corresponded to Strongly Agree = 5, Agree = 4, Undecided = 3, Disagree = 2, and Strongly Disagree = 1. The primary emphasis of the instrument centered on evaluating teachers' comprehension of the role of visual aids in diverse facets of classroom settings. Specifically, the instrument sought to gauge the extent to which teachers perceived the role of visual aids in the following areas:

- Focusing on children as the focal point of classroom environments: This facet examined the extent to which teachers acknowledged the importance of visual aids in directing attention and involving children in the learning process.
- Using visual aids for activities: This aspect assessed teachers' awareness of the potential of visual aids as prompts for various learning activities in the classroom.
- Employing visual aids as a source of teaching methods: This dimension examined teachers' comprehension of the effective utilization of visual aids in diverse instructional methods, encompassing facilitating discussions, individual tasks, or group activities.
- Harnessing visual aids to foster children's knowledge, skills, and attitudes: This dimension aimed to assess teachers' acknowledgment of the role of visual aids in fostering the development of children's cognitive knowledge, practical skills, and positive attitudes toward learning.

By exploring these four pivotal domains, the research instrument aspired to encapsulate a thorough comprehension of teachers' perspectives concerning the instructional efficacy of visual aids. The Likert-type format afforded teachers the opportunity to articulate their degree of agreement or disagreement with each item, thereby offering valuable insights into their viewpoints on the aforementioned aspects.

Reliability and validity of the instrument

The validity and reliability of the research instrument were evaluated in

detail through a comprehensive set of procedures. Initially, ten experts from distinguished Jordanian universities and educational supervisory roles were engaged in assessing the instrument's items and providing expert opinions. The invaluable feedback from these experts informed necessary modifications and reformulations of certain items, enhancing the instrument's quality. Additionally, based on the experts' recommendations, seven items were removed from the instrument. To further test the instrument's validity and reliability, a pilot test involving 27 teachers, selected from a population similar to the study's target group, was conducted. Participants completed the instrument, and their responses and feedback were scrutinized. This pilot test served as a valuable opportunity to identify potential issues or areas for improvement in the instrument. The authors used feedback to refine the final version of the instrument, ensuring its clarity and effectiveness in capturing the intended constructs. For the data analysis, SPSS version 26 and Amos statistical software version 25 were used. These widely recognized statistical tools facilitated thorough data processing and analysis, enabling the authors to derive meaningful insights and draw valid conclusions from the study.

To ascertain the construct validity of the measurement instrument, a thorough examination of multiple indicators was conducted. MacDonald's omega and composite reliability served as measures of internal consistency. Additionally, the study scrutinized both convergent and discriminant validity to ensure that the instrument adequately captured the intended constructs. Confirmatory factor analysis (CFA), a statistical technique based on the purview of structural equation modeling (SEM), was employed to establish factor validity. This analytical approach facilitates the identification and analysis of underlying patterns within the data by assessing relationships between latent constructs. It plays a pivotal role in various stages, including the development of measurement tools, evaluation of construct validity, and analysis of methodological influences. CFA assumes a foundational role during the instrument's development process by validating the latent structure of the measurement tool. This finding verifies the primary dimensions and factor loadings inherent in the instrument, furnishing evidence for the validity of the underlying constructs. Therefore, CFA has emerged as an indispensable analytical technique that contributes significantly to other aspects of psychometric assessment (AlAli & Al-Barakat, 2022; AlAli & Saleh, 2022).

Indicators and Coefficients of Construct Validity

We present the outcomes of the analysis conducted for construct validity, encompassing the indicators and coefficients utilized for assessing the reliability and validity of the scales. Commonly employed measures such as MacDonald's omega and composite reliability (CR) were utilized to appraise the reliability of the scales. The findings for these indicators are detailed in Table 2. The results indicate that the values of MacDonald's omega and the CR range from 0.897 to

0.956 and from 0.899 to 0.959, respectively. These values align with the recommended threshold (>0.7), signifying a high level of internal consistency for the scales. This implies that the items within each scale consistently measure the intended constructs. In addition to evaluating reliability, the study scrutinized the average variance extracted (AVE) to assess convergent validity. The AVE values, ranging from 0.673 to 0.795, surpass the minimum threshold of 50% (Abunasser & AlAli, 2022). This implies that a significant portion of the variance in the observed indicators can be ascribed to the underlying constructs, affirming the convergent validity of the scales. Discriminant validity was also scrutinized by contrasting the square roots of the AVE values with the intercorrelations among the latent variables or factors. To satisfy the stipulation for discriminant validity, the square root of the AVE should surpass the intercorrelations. A comparison of the last column in the results reveals that this criterion is fulfilled, as the square root of the AVE values exceeds the minimum factor loading.

Table 2: Some indicators and coefficients of construct validity.

Instrument	Macdonald's Omega	Cr	Ave	$\sqrt{AVE}$
The Instructional Visual Aids	0.950	0.947	0.673	0.820

Confirmatory Factor Analysis

In the context of the research study, CFA was employed as a statistical technique to evaluate the factorial construct validity of the scale. CFA is typically applied when researchers have a predefined theoretical model or hypothesis regarding the underlying structure of the measurement instrument. The final iteration of the instrument, comprising 27 items, was administered to the study sample, with these items designed to measure the construct of interest in the research. During CFA, statistical software such as SPSS or AmoS was used to analyze the interrelationships among the scale items within their respective dimensions. The adopted model, grounded in the authors' theoretical framework, specified the expected relationships among the items and their respective dimensions.

As previously stated, Figure 1 visually represents the model employed in the CFA. It offered a graphical portrayal of the anticipated relationships among the 27 items, aiding in comprehending the structure of the scale and the interactions between the items. The primary aim of incorporating CFA in this study was to validate the underlying structure of the scale and ensure the effective measurement of the instrument in its entirety. Through a meticulous examination of the correspondence between the observed data and the hypothesized model, the authors could assess the appropriateness of the model, determining its accuracy in reflecting the relationships among the items and the entire instrument. This rigorous analysis enabled the authors to gauge the extent to which the scale adhered to the theoretical framework, yielding valuable insights into the measurement instrument's validity and reliability.

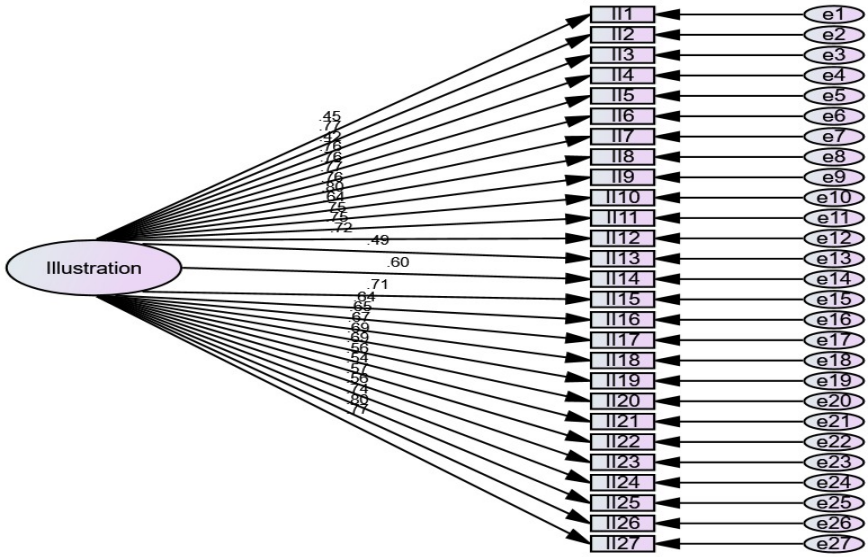

Figure 1. Results of the Confirmatory Factor Analysis of the Model Adopted for the Relationship of the Items to Its Instrument as a Whole.

In Figure 1, the loading factors of each item with respect to the overall instrument are illustrated. The analysis revealed that each item exhibited a considerable degree of loading, signifying a strong association between the items and the entire instrument. The elevated loading factors imply that the items proficiently measure the intended constructs within the instrument. The observed alignment between the model and the collected data indicated that all the indicators satisfied the predetermined criteria established for the study. This alignment furnishes evidence that the model faithfully represents the relationships among the instrument items, affirming its stability.

RESULTS

This section unveils the outcomes of the study and is structured into three discrete sections corresponding to the research questions. The aim of this study was to perform a thorough analysis of participants' viewpoints regarding the efficacious educational role of visual aids.

The initial section addresses the following question: "To what extent do childhood education teachers acknowledge the effective educational role of visual aids?" In this segment, participants were solicited for their opinions and perspectives on the role of educational visual aids. The analysis encompassed the examination of response distribution within the sample, considering both agreement and disagreement, along with the degree of agreement or disagreement.

The objective of this analysis was to discern prevalent trends and patterns in teachers' perceptions of the role of visual aids in education. The analysis yields valuable insights into teachers' awareness and recognition levels regarding the benefits and significance of employing visual aids to support learning and instruction in first-grade classrooms. To summarize the analysis and enhance the accessibility of the findings, Table 3 was devised. This table provides a comprehensive overview of sample responses related to teachers' comprehension of the role of educational visual aids.

Table 3: Analysis of Data Pertaining to Teachers' Perception of the Role of Visual Aids: Means and Degrees of Agreement or Disagreement.

No	Items	Degree of Agree	Degree of Disagree	Mean
1	Facilitate the success of teachers in imparting knowledge to children.	98.4	0.8	4.63
2	Do not have a fundamental role in carrying out learning activities in the classroom.	94.2	0.8	4.57
3	Assist teachers in teaching abstract concepts.	91	2.5	4.48
4	Aid teachers in clarifying and explaining information.	94.2	3.3	4.48
5	Assist teachers in smoothly conducting instructional sessions.	86.1	5.8	4.38
6	Foster classroom discussions between teachers and children.	27	61.4	2.48
7	Enhance children's ability to engage in discussions with their peers.	28.7	61.5	2.46
8	Support the implementation of cooperative work activities.	25.4	64.7	2.41
9	Help children infer and derive knowledge.	32	59.8	2.41
10	Assist children in organizing their cognitive structures and ideas.	24.6	65.6	2.38
11	Contribute to the development of social interaction among children.	29.5	70.5	2.37
12	Cultivate positive attitudes in children.	23.7	63.9	2.36
13	Help children connect prior knowledge with new information.	28.7	66.4	2.31
14	Contribute to the growth of children's existing ideas.	27	62.3	2.30
15	Assist in the development of children's everyday concepts.	27.9	68.1	2.29
16	Support children in carrying out individual work activities.	20.5	67.2	2.25
17	Aid children in completing homework assignments.	21.3	67.2	2.23
18	Contribute to the success of children in their roles as active participants in the classroom.	25.4	68.1	2.23
19	Assist teachers in the process of assessing children's progress.	28.7	66.4	2.21
20	Stimulate children's curiosity.	23	65.6	2.16
21	Help develop questioning skills in children.	25.4	68.1	2.12
22	Regarded as a source for encouraging children to ask questions.	26.2	66.4	2.06
23	Contribute to the development of process skills in children.	2.4	91	1.60
24	Foster inquiry skills in children.	1.6	90.9	1.59

25	Aid in the development of children's creative thinking abilities.	1.6	90.2	1.58
26	Develop observation skills in children.	3.3	89.4	1.48
27	Considered a critical tool for addressing misconceptions in children's learning.		93.5	1.36

Table 3 above presents the outcomes of the data analysis, providing insights into the perceptions of childhood education teachers regarding the role of visual aids in education. Notably, the analysis hinges on the initial five items in the table, garnering the highest levels of agreement among participants. The degree of agreement ranged from 98.4% to 86.1%, with corresponding means ranging from 4.63 to 4.38. These results indicate that a majority of teachers acknowledge the importance of visual aids in facilitating effective knowledge acquisition among children. Elevated levels of agreement and favorable means signify that teachers comprehend and recognize the role of visual aids in supporting learning outcomes.

Furthermore, a meticulous examination of Items 1-5 in Table 3 reveals a noteworthy pattern. These items exhibit mutual reinforcement, indicating that teachers possess a clear understanding of their pivotal role in fostering child-centered learning through the integration of visual aids in the classroom. This alignment among the items underscores teachers' awareness of the significance of their role in cultivating a student-centered learning environment. However, 68.1% of the participants expressed disagreement with the proposition that visual aids contribute to the success of child-centered learning, as denoted by Item 18 in the table. This finding suggests a divergence of opinions among teachers regarding the efficacy of visual aids in promoting child-centered learning approaches.

Moreover, Table 2 underscores an additional noteworthy aspect concerning teachers' comprehension of the role of visual aids in fostering children's learning. Specifically, a substantial portion of the study participants (61.4% for Item 6, 61.5% for Item 7, 64.7% for Item 8, and 70.5% for Item 11) expressed disagreement with these items, which pertain to the utilization of visual aids as a facilitator of discussion and group work. These outcomes signify a considerable misunderstanding among teachers regarding the potential of visual aids to stimulate meaningful discussions and collaborative activities in the classroom. The findings suggest that a significant number of teachers do not fully grasp the value of visual aids as a tool for involving students in interactive learning experiences.

Additionally, Table 3 sheds light on teachers' misconceptions regarding the ability of young children to generate and develop ideas through the use of visual aids. Item 9 revealed that 59.8% of the respondents disagreed with the proposition that visual aids assist children in making inferences and acquiring knowledge. Similarly, item 10 indicates that 65.6% of the participants disagreed with the notion that visual aids help children organize their ideas within their cognitive structures.

Furthermore, upon close examination of Table 2, with particular attention given to Items 13, 14, and 15, it becomes apparent that a substantial

portion of the study participants expressed disagreement regarding the role of visual aids in developing children's prior and everyday knowledge. Specifically, 66.4% of the respondents disagreed with Item 13, 62.3% disagreed with Item 14, and 68.1% disagreed with Item 15. These findings indicate that teachers do not fully acknowledge the potential of visual aids in enhancing children's understanding and building upon their existing knowledge. There appears to be a lack of awareness among teachers concerning the capacity of visual aids to effectively convey and reinforce crucial concepts and information to young learners.

Moreover, the data analysis revealed that teachers tend to overlook the role of visual aids as a central element in both classroom and home activities for young children. Items 16 and 17 demonstrated that 67.2% of the participants expressed disagreement regarding the significance of visual aids as a focal point for engaging children in educational activities within and beyond the classroom. This finding suggested that teachers may not fully harness the interactive and stimulating nature of visual aids to enhance children's learning experiences.

Additionally, the respondents seemed to be unaware of the pivotal role that visual aids play in the classroom setting. The authors expressed disagreement regarding the use of visual aids for children's assessments, as indicated by Item 19. A significant 66.4% of the participants disagreed with the idea that visual aids can be effectively utilized for evaluating children's progress and understanding.

Regarding teachers' understanding of the role of visual aids in promoting the thinking and processing skills of young children, the outcomes illustrated in Table 3 reveal the highest levels of disagreement within the surveyed sample. This implies a general disagreement among participants regarding the idea that visual aids play a role in developing these skills. The specific results from the data analysis are as follows:

- • Item 25, which investigates the proposition that visual aids contribute to the development of children's thinking, elicited disagreement from 90.2% of the respondents.
- In a parallel manner, Item 23 revealed that 91% of the participants expressed disagreement with the notion that visual aids contribute to the enhancement of children's processing skills.

The outcomes derived from Item 26 correspond with the aforementioned results, with 89.9% of the responses demonstrating disagreement regarding the proposition that visual aids in the development of observation skills in children.

Furthermore, the data analysis provided insights into the participants' perceptions regarding the role of visual aids as a source of questioning. Specifically, for Items 20, 21, and 22, 65.6%, 68.1%, and 66.4%, respectively, disagreed with the notion that visual aids can serve as a foundation for questioning. These findings suggest that the surveyed teachers may lack awareness of the potential of visual aids in fostering children's inquiry skills. This observation is reinforced by the data analysis, which indicated that 90.9% of the respondents disagreed with the idea that visual aids contribute to the development of inquiry skills in children.

The second section of the study is dedicated to presenting the data analysis related to the following query: "To what extent, if any, do academic

qualifications influence teachers' comprehension of the effective role of visual aids?" To investigate the potential impact of academic qualifications on teachers' understanding of the role of visual aids, a one-way analysis of variance (ANOVA) was performed. This statistical analysis aimed to discern whether there was a significant effect of academic qualifications on participants' perceptions of the effectiveness of visual aids. For a lucid depiction of the results, Table 4 was formulated, outlining the outcomes obtained from the ANOVA. This table functions as an elucidative tool for grasping the association between academic qualifications and teachers' understanding of the role of visual aids.

Table 4: Outcomes of One-way Analysis of Variance Examining the Impact of Academic Qualifications on Teachers' Comprehensive Role of Instructional Visual Aids.

Variance Source			Sum of Squares	Df	Mean Square	F	Sig.
Academic Qualifications	Instructional Visual aids	Between Groups	478.985	3	5.208	.333	.801
		Within Groups	56445.736	118	.428		
		Total	61382.941	121			

Table 4 presents the outcomes of the statistical analysis, specifically exploring the potential impact of academic qualifications on the participants' responses in the study. The analysis sought to ascertain whether there were any statistically significant differences among the subjects' responses attributable to their academic qualifications, employing a significance level set at $p<0.05$. The findings indicate that the calculated significance value (p value) linked to the F test surpasses the predetermined significance level of 0.05. This implies the absence of statistically significant differences in the responses of the study subjects based on their academic qualifications. Put differently, the participants' educational backgrounds did not significantly influence their understanding or perceptions of the effective role of visual aids. The results suggest a uniform understanding of the role of visual aids across participants, irrespective of their academic qualifications.

The third section of the study is devoted to presenting the data analysis concerning the following question: "To what extent, if any, does a teacher's training influence their understanding of the role of visual aids?" To explore the potential impact of teacher training programs on teachers' comprehension of the effective role of visual aids, a t test was employed. This statistical analysis aimed to discern whether there was a statistically significant effect of teachers' training programs on their understanding of the role of visual aids. Table 5 offers a concise presentation of the results obtained from the t test analysis. This table functions as a visual aid for comprehending the statistical outcomes and elucidating the connection between teachers' training programs and their understanding of the effective role of visual aids.

Table 5. T Test Findings Assessing the Impact of Training Programs on Teachers' Perception of the Role of Instructional Visual aids.

Variables and Instrument			No.	Mean	Std. Deviation	T Value	Sig.
Training	Instructional Visual aids	Without Training	81	76.32	21.85	5.76	.000
		With Training	41	55.02	12.65		

Based on the outcomes detailed in Table 5, statistically significant differences were detected between teachers who had received training and those who had not, as indicated by the t test's significance level (p value) being less than 0.05. This signifies noteworthy variations in the comprehension of the role of visual aids between these two teacher cohorts. Intriguingly, the results revealed that the mean score of teachers lacking specific training surpassed that of their trained counterparts. In essence, teachers without dedicated training exhibited a more profound understanding of the effective role of visual aids than did their trained counterparts. These findings suggest that the training programs provided to teachers might not have adequately addressed the significance and potential advantages of incorporating visual aids in education. The results underscore the imperative for a meticulous review and enhancement of training initiatives to ensure that teachers receive thorough guidance and knowledge concerning the effective integration of visual aids in their instructional methodologies.

CONCLUSION AND CONCLUSIONS

Notwithstanding the widely acknowledged significance of visual aids as an integral element of the educational curriculum for young learners, the study's results revealed a disconcerting degree of misconception among childhood education teachers concerning the efficacious instructional role of visual aids. This deficiency in comprehension poses a notable obstacle to the achievement of educational objectives, particularly in light of the Ministry of Education's emphasis on the pivotal role of instructional visual aids in realizing the aims of the school curriculum (Jordanian National Center for Curriculum Development, 2023). The ensuing discourse aims to illuminate the misconceptions encompassing the role of visual aids in children's learning. The identified erroneous perceptions among childhood education teachers underscore a significant void in their knowledge and pedagogical methods. This gap potentially impedes the optimal utilization of visual aids as potent facilitators of learning and instruction. Addressing this issue becomes imperative to ensure that teachers possess accurate insights into the instructional potential of visual aids. Rectifying these misconceptions stands to enhance cognitive development, improve comprehension, and foster active engagement in the learning process, thereby contributing to the attainment of educational objectives and facilitating more efficacious teaching and learning encounters for young learners.

The study's findings reveal a prevalent inclination among childhood education teachers toward conventional instructional methods, with a predominant focus on verbal instruction and the teacher assuming a central role in the classroom. This inclination is evident in the heightened agreement levels on specific items, underscoring the teacher's responsibility for elucidating and expounding upon the content conveyed through visual aids. However, such an approach may hinder the learning experiences of young national and international students, as it overly relies on the teacher as the exclusive conduit of information from visual aids to young learners. This outcome diverges from the envisioned role of visual aids in children's teaching and learning. Numerous scholars (Baskin et al., 2017; Carolina, 2019; Hussain & Khan, 2022) contend that teachers should not merely transmit information via visual aids but also regard them as tools for children to actively deduce knowledge on their own. This perspective aligns with the viewpoint of Hussain and Khan (2022), who underscore the importance of visual aids in facilitating interaction among children, enabling them to construct their own comprehension. Consequently, the current practices observed among childhood education teachers diverge from the contemporary understanding of the instructional capabilities of visual aids. To enhance the learning experiences of young national and international students, a transition toward a more student-centered approach is imperative. In this paradigm, visual aids act as catalysts for active engagement, collaboration, and knowledge construction among young learners. Embracing such an approach empowers teachers to optimize visual aids for fostering critical thinking, problem solving, and independent learning among children.

The prevalent misapprehension among teachers concerning the role of visual aids renders the incorporation of visual aids in school textbooks devoid of significance and nonessential. Hussain and Khan (2022) illuminate this concern by underscoring that if the inclusion of visual aids in textbooks merely serves to reiterate and validate textual information, their integration becomes superfluous. Teachers' misconceptions about visual aids undermine their potential as valuable instructional tools. When educators view visual aids solely as supplementary visuals mirroring textual content, they overlook their inherent value in enriching students' learning experiences. Effectively utilized, visual aids possess the capacity to evoke curiosity, bolster comprehension, and facilitate meaningful connections between concepts. Thus, it is imperative for educators to cultivate a nuanced understanding of the multifaceted role of visual aids in educational materials. By acknowledging visual aids as more than redundant replicas of textual information, teachers can unlock their genuine potential to stimulate engagement, foster critical thinking, and deepen understanding among students. This paradigm shift will empower educators to deploy visual aids in ways that authentically enhance the educational process and optimize their impact on

students' learning outcomes.

In light of the preceding details, supplementary findings from the study corroborate the earlier discourse on the misconceptions surrounding the role of visual aids. These additional insights can be succinctly outlined as follows:

- Educators demonstrate a deficiency in recognizing the efficacious role of visual aids in providing learning activities, both within the educational environment and in domestic settings. This points to a proclivity among teachers to adhere to conventional methods wherein the child's role is not transformed to facilitate child-centered learning, as elucidated by Ratnaningsih (2019). Nonetheless, the educational literature underscores the imperative that visual aids occupy a central position in classroom activities (Macwan, 2015; Muliati et al., 2020; Ratnaningsih, 2019) and function as vital tools for evaluating children's comprehension (Ali Ahmad Al-Barakat et al., 2023).
- Another significant finding from this study was the lack of distinction between young national and international students in terms of their learning experience through visual aids. In essence, irrespective of cultural variations, the influence and significance of instructional visual aids remain consistent.
- Teachers exhibit a misinformed and unfavorable perception of the role of visual aids in cultivating the prior knowledge and daily experiences of young national and international students. This finding indicates a prevailing belief among teachers that they serve as the primary conduit for shaping and broadening children's experiences, irrespective of their preexisting ideas. Regrettably, such a perspective contradicts Ausubel's cognitive learning theory, which underscores the significance of building upon learners' existing knowledge (Ausubel, 1968). Ausubel posits that meaningful learning transpires when new concepts, as presented through visual aids, are linked to learners' preexisting understanding. This discovery stands in contrast to the viewpoint of Muliati et al. (2020), who underscore the significance of visual images tied to children's everyday experiences in fostering learning and cognitive development.
- The participants in the study exhibited a deficiency in recognizing the significance of visual aids in fostering classroom interaction, whether within group activities or during class discussions. This deficiency in comprehension is incongruent with contemporary educational paradigms that underscore the pivotal role of cooperative engagement with visual stimuli. Such an approach aims to afford each student the opportunity to articulately convey their thoughts and individual responses (Jatmiko & Jauhari, 2018; Kanwal et al., 2021). These findings, coupled with antecedent discoveries, indicate a lack of awareness among educators regarding the ability of children to assimilate, acquire, and advance their conceptualizations through the utilization of visual aids. This misapprehension stands in contrast to cognitive theories underscoring the pedagogical principle of transitioning from concrete to abstract modes of learning (Bruner, 1966b). Consequently, it is imperative for both domestic and international students of a youthful

demographic to cultivate their conceptualizations through active engagement with visual aids rather than adopting a passive stance in the mere reception of ideas from their instructors.

Moreover, within a distinct section of the survey conducted in this study, the outcomes reveal an absence of awareness among educators regarding the capacity of visual aids to influence the attitudes, cognitive capacities, and thought processes of both national and international youth. This informational deficit detrimentally affects the educational experiences of young learners and diverges from the established understanding of the influential role that visual aids can assume in the realm of education. Notably, the findings underscore teachers' lack of recognition concerning the considerable impact that visual aids can have on the attitudes and mindsets of children, a view incongruent with prevailing educational perspectives. Kanwal et al. (2021) and AlAli and Al-Barakat (2023c), advocating that visual aids possess the capacity to evoke emotional responses in children and influence their attitudes toward particular behaviors or situations, in contrast with the findings of teachers. Furthermore, in the realm of nurturing the cognitive abilities of both domestic and international youthful learners, educators' perspectives diverge from psychological assertions, suggesting a close interconnection between visual perception and cognitive thinking processes. These psychologists posit that cognition is not exclusively an abstract or linguistic process but is intricately associated with sensory perception (Roethler, 1998). Hence, this discovery indicates that teachers are not giving precedence to the incorporation of visual aids in cultivating the thinking skills of both young national and international students. Such a misalignment is incongruous with the overarching objective of the instructional process, which aims to advance the development of cognitive abilities in young learners, whether national or international (Jatmiko & Jauhari, 2018; Kanwal et al., 2021).

The outcomes, which suggest that visual aids are ineffective at nurturing the procedural skills of young national and international students, underscore a notable misunderstanding among educators regarding the function of visual aids in enhancing such skills. This misconception runs counter to the tenets of constructivist learning, which underscore the significance of fostering the procedural skills of both young national and international students through opportunities for questioning, critiquing, and engaging in discussions to construct their viewpoints (Jatmiko & Jauhari, 2018; Kanwal et al., 2021). In line with this perspective, AlAli and Al-Barakat (2023a, 2023c) underscored the crucial role of pictures as illustrative tools, functioning as indispensable wellsprings of inquiry originating from the interests of children. The findings indicate a deficiency in the effective utilization of visual aids by teachers to stimulate critical thinking, problem solving, and active inquiry among both young national and international students. This incongruity stands in opposition to the foundational objective of constructivist methodologies, which prioritize the enhancement of children's procedural skills and their capacity to explore and investigate topics of interest. By underestimating the potential of visual aids to facilitate inquiry-based learning,

educators may inadvertently impede opportunities for cognitive development and independent thinking among both young national and international students.

The authors posit that the misinterpretation among educators concerning the efficacious instructional role of visual aids can be ascribed to various factors, outlined as follows:

1. Lack of guidance: Educators frequently encounter a dearth of guidance regarding the adept integration of visual aids into children's learning experiences. Notably, the authors' observations indicate that teacher guides accompanying students' textbooks often omit instructions and directives concerning the judicious utilization of visual aids. This deficiency in explicit guidance leaves teachers in a state of uncertainty regarding the optimal methods for harnessing visual aids in pedagogical contexts.
2. Insufficient academic preparation: The educators responsible for instructing young children in Jordanian academic institutions have not been sufficiently exposed to dedicated academic coursework elucidating the proficient utilization and role of visual aids within the pedagogical realm. Consequently, the data reveal an absence of a statistically significant correlation between teachers' comprehension of the efficacious role of visual aids and their academic qualifications. This implies that the existing educational curriculum and programs lack adequate emphasis on the integration of visual aids as a pivotal pedagogical tool.
3. Inadequate teacher training programs: Training initiatives for educators have inadequately addressed the advanced utilization and role of visual aids within the instructional framework. As a result, discernible statistical distinctions emerge in favor of teachers devoid of such specialized training. This finding indicates that educators lacking dedicated training in the utilization of visual aids exhibit a heightened comprehension of their efficacy and are more inclined to integrate them proficiently into their pedagogical approaches.

It is imperative to underscore a noteworthy revelation arising from the present study, demanding awareness on the part of educators: instructional visual aids transcend their conventional role of assisting teachers in explicating and elucidating propositional content to young learners. Rather, educators ought to acknowledge that young children possess the capacity to interpret visual aids in accordance with their preexisting knowledge and comprehension. Consequently, visual aids should function as conduits for learning activities, aligning with the constructivist viewpoint that underscores the significance of affording children diverse activities to constructively interpret and contextualize their surroundings (Kitsantas et al., 2001).

RECOMMENDATIONS

Given the insights derived from these findings, the authors ardently advocate for the initiation of additional research endeavours in diverse educational directorates, with a specific focus on addressing the following facets:

- We examined educators' comprehension of the efficacious role of visual aids in the instructional process through comprehensive interviews. Employing a qualitative methodology, this approach holds the potential to yield valuable insights into teachers' convictions, expertise, and misconceptions concerning the integration of visual aids. Interrogating their viewpoints and experiences offers the prospect of attaining a more nuanced understanding of the fundamental factors contributing to the extant misapprehension.
- Determine the proficiency with which educators incorporate visual aids in the instructional context through the application of an observation checklist. Employing a quantitative methodology, this approach entails the systematic observation of teachers' pedagogical practices, encompassing an assessment of the frequency and appropriateness of visual aid utilization. This investigative process aimed to elucidate the practical implementation of visual aids within the classroom setting, facilitating a more precise evaluation of their impact on students' learning experiences.
- Through the execution of these suggested inquiries, a better understanding of educators' viewpoints and methodologies regarding the efficacious role of visual aids can be gained. This acquired knowledge holds the potential to guide the formulation of precise interventions, teacher training initiatives, and educational materials geared toward fostering the judicious and effective integration of visual aids in the instructional context. Ultimately, such endeavours aim to enhance the educational experiences of young children.

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