



# Effectiveness of Satellite Centers in Enhancing School Readiness for Vulnerable Children in Early Childhood Education: Evidence from the Arusha Region, Tanzania

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## Abstract

This study assessed the effectiveness of satellite centers in enhancing school readiness for vulnerable children in early childhood education in Arusha Region, Tanzania. Specifically, the study examined stakeholders' perceptions of the quality of services provided in satellite centers and assessed the extent to which these centers prepare children across major domains of school readiness. The study adopted a quantitative research approach and employed a survey design. Data was collected from teachers, parents and heads of centers drawn from 10 selected satellite centers, using a structured questionnaire. The collected data was analyzed through descriptive statistics, particularly frequencies, percentages and mean scores. The study revealed that the quality of services provided in satellite centers was moderate as instruction was generally rated good and teaching methods were considered effective although professional development opportunities for teachers were largely limited. The study also found that satellite centers partially prepared children for school readiness, since children demonstrated moderate readiness in some areas like counting, storytelling, emotional expression, separation from caregivers, clear speech, listening, dressing independently, curiosity and persistence in tasks. The centers were less effective in preparing children in letter recognition, shape and color recognition, following multi step instructions, independent work, classroom cooperation, expressive curiosity and fine motor control. The study concludes that satellite centers play an important role in supporting early childhood development, but their contribution to school readiness remains uneven across centers and developmental domains. The study recommends strengthening teacher support, improving learning materials and promoting consistent learning experiences to enhance school readiness outcomes among vulnerable children.

**Keywords:** Satellite Centers; school readiness; vulnerable children.

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## Introduction

Early childhood education (ECE) is a key stage in human development, laying the groundwork for children's intellectual, emotional, social and physical growth. The early years (especially from birth to age eight) are marked by unprecedented brain development, during which critical neural connections are formed (Shonkoff & Phillips, 2000). The quality of experiences during this formative period profoundly affects a child's ability to learn, interact socially and regulate emotions. Access to

enriching, supportive learning environments during early childhood is thus essential in fostering holistic development and equipping children with the foundational skills needed for future academic and life success.

Research across diverse settings shows that children who participate in structured pre-primary programs are more likely to perform better in primary school, acquire stronger literacy and numeracy skills and display enhanced emotional and social competence

(Heckman, 2006; UNESCO, 2015). In addition to immediate educational benefits, ECE is linked to broader life outcomes, such as reduced repetition and dropout rates, higher levels of educational attainment and greater economic productivity in adulthood (Barnett, 2011). These outcomes underscore the value of ECE as not only a developmental priority but also a strategic investment in national growth and social equity. For children facing adversity (such as those affected by poverty, disability, displacement or marginalization), ECE plays a particularly vital role. These children are more likely to encounter adverse childhood experiences like malnutrition and neglect, which can impair their developmental trajectories (Engle et al., 2011). Well-designed early education program offers a lifeline, providing safe, structured environments, where children can access learning, health and psychosocial services. By addressing early disadvantages, ECE helps narrow achievement gaps and fosters more equitable educational outcomes for all children, regardless of background.

However, in Tanzania, significant barriers prevent children especially the ones coming from low-income families from accessing quality ECE. Physical distance to learning centers, especially in remote or rural areas, remains one of the most persistent obstacles (Mtahabwa, 2010). Where ECE facilities exist, they are often under-resourced, lacking qualified teachers, appropriate learning materials and child-friendly infrastructure (Ng'asike, 2016). Financial constraints further limit access, as even modest fees or costs for supplies can be prohibitive for low-income families (UNICEF, 2019). These systemic challenges contribute to developmental disparities and limit children's readiness for formal schooling, perpetuating cycles of exclusion and poverty. In an effort to address these inequities, the Tanzanian government, in partnership with non-governmental organizations and international donors, adopted satellite centers as a means of expanding ECE services to underserved communities. These community-based centers are strategically located in remote or low-income areas to reduce travel distances and logistical burdens on families (Jumanne, 2015). By bringing early education closer to home, satellite centers aim to improve enrolment, promote regular attendance and support children in acquiring the foundational skills needed for successful transitions to primary school (Mtahabwa, 2010).

Arusha Region offers a particularly relevant context for evaluating this approach due to its diverse demographic composition, including nomadic pastoralists, low-income urban dwellers and rural households (Kagan, 2018). In this setting, satellite centers have been introduced to support school readiness by providing structured learning environments staffed with trained caregivers and stocked with age-appropriate materials. These centers are intended to foster early literacy and numeracy development as well as improve children's social behavior and emotional preparedness for primary education (Mwaura & Marfo, 2011).

Despite the expansion of satellite centres in regions such as Arusha, questions remain regarding their actual effectiveness in enhancing school readiness among the targeted vulnerable populations. Reports from local education stakeholders indicate inconsistencies in the quality of services offered, a lack of trained caregivers, poor infrastructure, limited learning materials and weak community engagement (Mwaura & Marfo, 2011). Furthermore, there is limited empirical evidence to show whether these centres are adequately preparing children for successful integration into primary education, particularly in terms of school attendance, performance and developmental outcomes. These operational challenges raise important questions about whether satellite centers are fulfilling their intended role in enhancing school readiness among vulnerable populations.

Moreover, there is a lack of rigorous empirical evidence evaluating the outcomes associated with satellite centers. While the expansion of such facilities is often assumed to be beneficial, little is known about their specific impact on children's cognitive, language, emotional and social development. Without a clear understanding of their strengths and limitations, scaling or improving these centers may not yield the desired outcomes. This assessment incorporated an examination of children's learning attitudes and behaviors to determine how far satellite centers promote active engagement, curiosity and persistence as key components of school readiness.

## **Methodology**

This section presents the research methodology used in conducting this study. It highlights on the approach, population and sampling, data collection methods, data analysis and ethical considerations.

## Research Approach

This study adopted a quantitative research approach. The study employed a survey design, which refers to a systematic method of collecting data from a sample of respondents through structured instruments, such as questionnaires in order to describe existing conditions, attitudes or behaviours within the population. The design is appropriate for this study because it enables the collection of standardized data from multiple respondents, allowing for comparison and generalization of results across satellite centres (Kothari, 2021). It also facilitates the identification of patterns and trends related to instructional practices and school readiness outcomes among children. The use of a survey design allows the study to capture current realities as they exist without manipulating variables. In addition, the design supports the use of statistical analysis to summarize and interpret data objectively.

## Population and Sampling

The study targeted teachers and head of centers in 46 satellite centers present in Arusha region together with parents with children learning in the centers. From the centers, 10 were selected using the criterion purposive sampling technique. The criteria included physical accessibility to the center, the socio-economic characteristics of the communities they serve and the level of institutional support they receive from government or non-government organizations. Out of the 10 sampled centers, 13 teachers, 10 parents and 10 heads of the centers were selected using the convenience and purposive sampling techniques. Convenience sampling was used to select the teachers and parents whereby those who were present during the time of data collection participated in the study. This sampling technique was ideal since it was not possible to find all the teachers at the centers as long as they had other obligations at the host schools.

## Data Collection Methods

Data was collected using a questionnaire administered to both teachers and parents. The use of the questionnaire was appropriate because the study adopted a quantitative approach that required standardized and measurable responses from a large number of participants. The instrument was prepared in English and then translated into Kiswahili, which is the main language of communication in public pre-primary and primary schools in Tanzania. The use of Kiswahili ensured

that respondents clearly understood the items and were able to provide accurate responses. The questionnaire consisted of structured items with predefined response options designed to generate quantifiable data for statistical analysis.

## Data Analysis

Data was analysed using descriptive statistics with the help of the Statistical Package for Social Sciences (SPSS). Frequencies and percentages were used to describe the distribution of responses across items.

## Ethical Considerations

In accordance with ethical research standards, the study took several steps to protect the rights and welfare of participants. Informed consent was obtained from all respondents, who were clearly informed about the purpose of the study, their voluntary participation and their right to withdraw at any time without any consequences. Anonymity and confidentiality were strictly observed, ensuring that no personal information was disclosed or linked to individual responses. Research permission was sought from the Tanzania Commission for Science and Technology (COSTECH) and the respective Regional and District Administrative authorities before fieldwork began. Participants were assured that the information collected would be used strictly for academic purposes. These procedures ensured that the study adhered to ethical standards throughout the research process.

## Findings and Discussion

The findings are presented, discussed and interpreted according to research questions

**Research Question 1:** How do stakeholders perceive the quality of services provided by satellite centers?

The quality of services provided by the satellite centers was assessed using several items with responses from early childhood teachers and parents. The items were designed to capture various dimensions of service quality, including teaching practices, learning materials, classroom environment and overall satisfaction with the services provided at satellite centers.

## Instructional Quality

The first aspect of this question was to assess the quality of instructions conducted in the satellite centers. Both teachers and parents responded to this question and their responses are summarized in Table 1.

**Table 1: Quality of Instruction**

Response	Frequency	Percentage
Excellent	3	13.0
Good	15	65.2
Fair	5	21.8

Most respondents perceived the quality of instruction as good (65.2%), with a smaller proportion describing it as excellent (13.0%) and fair (21.8%). This suggests that while instruction in many satellite centres is generally satisfactory, it does not consistently reach high levels of excellence. Evidence from early childhood education research shows that instructional quality is strongly linked to positive developmental outcomes, particularly in foundational numeracy and literacy skills (Siraj et al., 2022). Instructional quality directly influences children’s readiness for later schooling as teaching that is interactive, responsive and developmentally appropriate fosters engagement and deeper learning (Pianta et al., 2020).

Vygotsky’s Sociocultural Theory further emphasises that children’s learning is socially mediated, requiring interaction with skilled teachers who can scaffold development (Vygotsky, 1978). Without sufficient ongoing support and reflective practice for

teachers, classrooms may fall into routine instruction that limits differentiation and creativity. A recent meta-analysis reported that professional development significantly enhances teacher self-efficacy and instructional outcomes, underlining the importance of sustained training (Pianta et al., 2020). The fair ratings observed may reflect disparities in teacher preparation and the availability of curricular resources across centers. Overall, while the predominance of “good” ratings indicates reasonable instructional functioning, the data point to the need for further pedagogical strengthening to achieve excellence.

### Effectiveness of Teaching Methods

When respondents were asked whether the teaching methods used were effective in engaging children in learning activities, their responses were collected in strongly agree, agree, disagree, and strongly disagree categories as presented in Table 2.

**Table 2: Effectiveness of Teaching Methods**

Response	f	&	Cumulative %
Strongly Agree	6	26.1	21.6
Agree	10	43.5	69.6
Disagree	5	21.7	91.3
Strongly Disagree	2	8.7	100

**Table 3: Professional Development Opportunities**

Response	Frequency	Percentage
Never	15	65.3
Rarely	6	26.1
Sometimes	2	8.6
Often	0	0

A majority of respondents (69.6%) either agreed or strongly agreed that the teaching methods used in satellite centers were effective in engaging children in learning activities while 30.4% (21.7+8.7) expressed disagreement or strong disagreement. This distribution shows that although the majority of the participants perceived teaching methods as effective, a notable proportion held a contrasting view, indicating inconsistency in instructional effectiveness across centers. The presence of disagreement suggests that not all teaching approaches actively involve children in meaningful learning experiences. This variation implies that engagement levels differ depending on how

teaching methods are applied within different centers. According to Sitorus et al. (2024), the effectiveness of teaching methods depends on how consistently interactive strategies are implemented in classroom settings. Therefore, although teaching methods in satellite centers engaged many children, inconsistent application may limit participation and reduce the effectiveness of learning activities for some learners.

### Professional Development Opportunities

As observed in Table 3, respondents were asked to indicate how often they received professional development opportunities aimed at improving their teaching skills. Access to continuous training

enhances teachers' knowledge and instructional practices, which in turn contributes to improved service delivery.

The findings show that 65.3% of the respondents reported never receiving professional development opportunities while 26.1% reported rare opportunities. Only 8.6% indicated occasional training and none reported regular training. These patterns highlight a significant gap in professional learning structures for teachers in the satellite centers. Research consistently demonstrates that ongoing professional development is a key driver of instructional quality and classroom effectiveness, particularly in early childhood education. Professional development enhances teacher-child interactions and increases teacher self-efficacy, which in turn supports more responsive and effective teaching practices (Patfield et al.,2023).

Without regular training, teachers may rely on familiar routines rather than evidence-based practices, which can limit learning outcomes. Vygotsky's theory suggests that teachers require social interaction and scaffolding through professional communities to deepen their instructional competence (Vygotsky, 1978). A lack of structured development opportunities can therefore undermine the quality of instruction and contribute to inconsistencies across centers. These findings underscore the urgent need for systematic in-service training, mentoring and supervisory support to strengthen teacher capacity and improve early learning quality in satellite centers.

**Research Question 2:** What are the school readiness outcomes of children attending satellite centers in Arusha Region?

The second research question examined children's school readiness outcomes in satellite centers in Arusha Region. Readiness outcomes were assessed across cognitive and academic, social-emotional,

language-communication, motor-skills and learning attitude domains, using responses collected from teachers and parents. Each aspect is presented separately with its corresponding table.

**Aspect 1: Cognitive and Academic Readiness**

When respondents were asked to indicate how well children demonstrated various cognitive and academic skills, their responses were categorized into agree, neutral and disagree as shown in Table 4. Concerning whether satellite centers prepare children to recognize and name most letters of the alphabets, the results show that 35.3% of respondents agreed, 25.8% were neutral and 38.9% disagreed. The pattern indicates that disagreement slightly outweighs the agreement responses, suggesting that satellite centers do not adequately prepare children in early literacy recognition. This implies that a considerable number of children leave the centers without the ability to identify letters confidently. The presence of a notable proportion of neutral responses further indicates inconsistency in children's exposure to literacy activities. According to Teale et al. (2020), early literacy outcomes remain limited when instructional support is insufficient. Mendez and Westerberg (2012) emphasized that letter recognition depends on structured and consistent engagement with print. Children who are not well prepared in letter recognition may experience difficulty in reading acquisition and struggle to cope with early classroom learning tasks. Thus, this calls for education stakeholders to strengthen literacy activities and improve instructional support in satellite centers so as to enhance children's ability to recognize and name letters of the alphabet.

Focusing on whether satellite centers prepare children to count objects up to 10 correctly, the findings show that 47.3% of respondents agreed, 12.6% were neutral and 40.1% disagreed.

**Table 4: Cognitive and Academic Readiness**

Item	Agree	Neutral	Disagree
The child can recognize and name most letters of the alphabet	35.3	25.8	38.9
The child can count objects up to 10 correctly	47.3	12.6	40.1
The child shows interest in reading or listening to stories	48.8	10.6	40.6
The child can follow multi-step instructions	33.7	25.7	40.6
The child recognizes basic shapes and colors	32.9	18.7	48.4

The bigger portion of responses fall within the agreement option, suggesting that satellite centers moderately prepared children in basic numeracy skills. The substantial proportion of disagreement

shows that preparation is not consistent for all children. The variation suggests that some children still leave the centers without mastering this essential skill. According to Purpura et al. (2021),

children's ability to count objects correctly reflects the extent to which satellite centers contribute to the development of early numeracy readiness. Therefore, something must be done to boost the children's ability to count objects.

Regarding whether satellite centers prepare children to show interest in reading or listening to stories, the results reveal that 48.8% of the respondents agreed, 10.6% were neutral and 40.6% disagreed. A bigger portion of the responses fall under the agreement option, indicating that satellite centers somewhat prepare children in developing interest toward literacy-related activities. This suggests that some children demonstrate willingness and engagement in activities related to reading and listening. According to Bus et al. (2020), early engagement in literacy-related activities is associated with children's interest in reading. Furthermore, Choiriyah et al., (2023) noted that children's participation in literacy activities is linked with their level of interest. This trend implies that children who are not adequately prepared in developing interest may show low engagement in literacy-related classroom activities.

Concerning whether satellite centers prepare children to follow multi-step instructions, the findings indicate that 33.7% of the respondents agreed, 25.7% were neutral and 40.6% disagreed. Therefore, the disagreement exceeds the agreement response scores, suggesting that the satellite centers do not adequately prepare children in multi-steps skill, which refer to the ability of a child to understand, remember and carry out a sequence of two or more related activities in the correct order (Ursache et al., 2021). This ability involves attention, working memory and sequential processing. The findings, therefore, show that some children experience difficulty in executing instructions that require following more than one step. The neutral responses further indicate

inconsistency in children's ability to perform such tasks. According to Ursache et al. (2021), executive functioning skills support children's ability to follow instructions during the teaching and learning process. Blair and Raver (2022) further argue that these skills develop gradually during early childhood, which implies that children who are not adequately prepared in following multi-step instructions may temporarily face challenges in completing classroom tasks that require sequential actions until when they fully master the multi-step instructions.

Focusing on whether satellite centers prepare children to recognize basic shapes and colors, the results show that 32.9% of the respondents agreed, 18.7% were neutral and 48.4% disagreed. The biggest portion of responses fall within disagreement, indicating that the satellite centers do not adequately prepare children in basic concept recognition. This suggests that many children may leave the centers without mastering fundamental visual and cognitive concepts. The relatively low mean score for agreement confirms weakness in this area of preparation. According to Evans & Saracho (2022), concept development depends on repeated interaction with concrete learning materials. Furthermore, Ginsburg et al. (2024) argue that active engagement with visual resources enhances early cognitive skills. This trend shows a need for teachers to increase the use of repeated interaction with concrete learning materials as well as active engagement in the teaching and learning process if at all the learners have to master basic shapes and colors.

### Social and Emotional Readiness

When asked about social and emotional behaviors, respondents provided their views using three options: agree/neutral/disagree as presented in Table 5.

**Table 5: Social and Emotional Readiness**

Item	Agree	Neutral	Disagree
The child can take turns and share with peers during play	43.6	13.6	42.8
The child expresses emotions in appropriate ways	46.9	15.7	37.4
The child separates easily from the parent or guardian at school entry	53.5	12.8	33.7
The child can work independently for short periods	24.9	33.6	41.5
The child cooperates with teachers and follows classroom rules	42.6	11.7	45.7

Concerning whether satellite centers prepared children to take turns and share with peers during play, the results show that 43.6% of the respondents agreed, 13.6% were neutral and 42.8%

disagreed. The distribution indicates an almost equal balance between agreement and disagreement options, suggesting that the satellite centers do not perfectly prepare children in this

social behavior. This implies that while some children develop peer interaction skills, many others leave without the ability to share and cooperate effectively. The presence of neutral responses further reflects inconsistency in social learning experiences across the centers. According to Denham et al. (2020), peer interaction skills develop through guided social engagement. Blair and Raver (2022) advocate for structured environments in shaping social competence. Children who are not adequately prepared in sharing and turn-taking may experience difficulties in forming peer relationships and participating in group activities in school (Evans & Saracho, 2022). Therefore, there is an urgent need for teachers to employ guided social engagement programs and a structured environment to shape learners' ability to master social skills.

Focusing on whether satellite centers prepare children to express emotions in appropriate ways, the findings show that 46.9% of the respondents agreed, 15.7% were neutral and 37.4% disagreed. The biggest portion of the responses fell within the agreement, indicating that satellite centers moderately prepare children in the emotional expression aspects. The findings suggest that a substantial proportion of children are able to manage and express their emotions in socially acceptable ways. However, the presence of notable disagreement indicates that not all children have attained this level of emotional regulation. According to Yoshikawa et al. (2020), consistent emotional support plays a critical role in enhancing children's behavioral adjustment. The observed variation therefore implies that emotional support is not uniformly experienced across all learners. Similarly, Denham et al. (2020) argue that emotional competence develops through sustained, supportive interactions with caregivers and teachers. In light of this, it is essential for caregivers and teachers to adopt intentional strategies that strengthen their interactions with learners in order to promote effective emotional regulation.

Regarding whether satellite centers prepared children to separate easily from the parent or guardian at school entry, the results show that 53.5% of the respondents agreed, 12.8% were neutral and 33.7% disagreed. The majority of the responses fall under the agreement option, indicating that satellite centers prepared children in this aspect of emotional readiness. This suggests that many children developed a sense of security and adaptability within the school environment.

However, the presence of disagreement indicates that some children still experienced difficulty in adjusting to separation. This variation reflects differences in emotional support and familiarity with school settings. According to Blair and Raver (2022), supportive early environments promote children's emotional adjustment, while Yoshikawa et al. (2020) indicate that stable relationships enhance children's ability to cope with transitions. These findings underscore the need for teachers and caregivers to establish stable and trusting relationships with learners in order to strengthen their sense of security and support their adjustment.

Concerning whether satellite centers prepare children to work independently for short periods, the findings indicate that 24.9% of respondents agreed, 33.6% were neutral and 41.5% disagreed. The results show that disagreement exceeds agreement, suggesting that the satellite centers do not adequately prepare children in independent task engagement. This implies that some children depend on constant guidance and may struggle to complete tasks on their own. The high level of neutral responses further indicates uncertainty in children's ability to perform independently. According to McClelland et al. (2021), self-regulation and independence develop through consistent practice and structured activities. Blair and Raver (2022) noted that early independence is essential for classroom adjustment. These findings underscore the need for caregivers and teachers to adopt instructional strategies that progressively build children's independence. This may include the use of scaffolded learning, where support is gradually reduced as children gain competence.

Focusing on whether satellite centers prepared children to cooperate with teachers and follow classroom rules, the results show that 42.6% of the respondents agreed, 11.7% were neutral and 45.7% disagreed. The disagreement slightly outweighs the agreement responses, suggesting that the satellite centers do not consistently prepare children in this aspect of social behavior. This implies that many children may struggle to follow instructions and adhere to classroom expectations. The relatively low neutral responses show that opinions are clearly divided on this issue. According to Denham et al. (2020), cooperative behaviors develop through structured and supportive interactions. McClelland et al. (2021) argues that behavioral regulation is critical for successful classroom participation. Therefore, children who are not adequately

prepared in cooperation and rule following may experience difficulty adjusting to school discipline and learning environments.

### Language and Communication Readiness

Respondents were also asked to indicate the children's language and communication competencies as shown in Table 6.

Concerning whether satellite centers prepared children to speak clearly enough to be understood, the results show that 46.8% of the respondents agreed, 18.9% were neutral and 34.3% disagreed.

The biggest portion of the responses fall within the agreement option, indicating that satellite centers somewhat prepared children in basic expressive language. This suggests that a good number of the children are able to communicate their ideas in a manner that can be understood by others.

However, the presence of a notable proportion of disagreement shows that not all children achieved the required level of clarity in speech. The variation reflects differences in exposure to language-rich interactions within the centers.

**Table 6: Pupils' Language and Communication Abilities**

Item	Agree	Neutral	Disagree
The child speaks clearly enough to be understood	46.8	18.9	34.3
The child listens attentively during storytelling	49.0	12.5	38.5
The child can retell simple stories in their own words	45.8	16.9	37.3
The child asks questions or expresses curiosity	15.8	31.7	52.5

According to Wang et al. (2020), early language development depends on frequent verbal interaction. Weisleder et al. (2024) further argued that responsive communication environments enhance children's expressive abilities. Therefore, teachers need to provide responsive communication environments and opportunities for children to engage in interaction activities.

Findings show that 42.6% of the respondents agreed, 11.7% were neutral and 45.7% disagreed. The disagreement slightly outweighs the agreement responses, suggesting that the satellite centers do not consistently prepare children in this aspect of social behavior. This implies that many children may struggle to follow instructions and adhere to classroom expectations. The relatively low neutral responses show that opinions are clearly divided on this issue. According to Denham et al. (2020), cooperative behaviors develop through structured and supportive interactions. McClelland et al. (2021) argues that behavioral regulation is critical for successful classroom participation. Therefore, children who are not adequately prepared in cooperation may experience difficulty adjusting to school discipline and learning environments.

Regarding whether satellite centres prepare children to retell simple stories in their own words,

45.8% agreed, 16.9% were neutral, and 37.3% disagreed. While this suggests some progress in developing narrative skills, the high level of disagreement indicates that many children still struggle to organize and express ideas clearly. In line with Rowe and Snow (2020) and Wang et al. (2020), teachers should promote frequent conversational interactions and create language-rich environments to strengthen children's storytelling abilities.

Findings indicate that only 15.8% of respondents agreed, 31.7% were neutral and 52.5% disagreed. The majority of responses fall within disagreement, indicating that satellite centers do not adequately prepare children in expressive curiosity and inquiry. The high proportion of neutral responses indicates uncertainty. According Wang et al. (2020), curiosity develops in environments that promote active verbal interaction. Weisleder et al. (2023) further argue that opportunities for dialogue enhance children's inquisitive communication. Therefore, active verbal interaction and dialogue are essential for pupils to increase curiosity.

### Motor and Self-Help Skills

When respondents were asked about children's motor skills and practical self-help abilities, responses appear in Table 7.

**Table 7: Pupils' Motor and Skills**

Item	Agree	Neutral	Disagree
The child can use scissors, crayons or pencils with control	41.2	12.9	45.9
The child can run, jump, and climb with coordination	44.3	12.5	43.2
The child can dress independently	47.9	16.9	35.2

Regarding whether satellite centers prepared children to use scissors, crayons, or pencils with control, 41.2% of respondents agreed, 12.9% were neutral, and 45.9% disagreed. The slightly higher proportion of disagreement suggests that satellite centers are not sufficiently effective in developing children's fine motor control skills. According to El-Kishawi et al. (2021), fine motor skills require structured practices and appropriate materials for practices. Therefore, there is a need for guided manipulation activities as suggested by Horan & Carr (2018).

The results show a near equal split between agreement (44.3%) and disagreement (43.2%), with few neutral responses (12.5%). This indicates inconsistency in children's coordination skills. While some children can run, jump, and climb effectively, a comparable number struggle, suggesting uneven development across satellite centers. Therefore, teachers need to provide active play environments to support physical development among the children (Ginsburg, 2021).

The findings in Table 8 indicate that a larger proportion of respondents believe children are able to dress independently, as reflected by the 47.9% agreement. However, the substantial level of disagreement (35.2%) and the notable neutral responses (16.9%) suggest that this skill is not

consistently developed among all children. Overall, while independence in dressing is evident for some children, a considerable number still require support. According to El-Kishawi et al. (2021), self-help skills develop through repeated daily practice. Therefore, exposure to repeated practices may increase the abilities of the pupils to dress without close support.

### Learning Attitudes and Behaviors

The findings indicate a moderately positive outcome regarding children's curiosity and eagerness to learn. With 46.9% of respondents agreeing, a considerable proportion perceive that children demonstrate these learning dispositions. However, the 37.4% who disagreed is also substantial, suggesting that a significant number of children do not consistently exhibit curiosity and eagerness. The 15.7% neutral responses further reflect some uncertainty or variability across learners. Therefore, although curiosity and eagerness to learn are present, the attributes are not uniformly developed, indicating the need for more stimulating and engaging learning environments. According to Syarif et al. (2024), curiosity develops in environments that encourage exploration and questioning. Therefore, these kinds of environments need to be propagated during the teaching and learning process.

**Table 8: Pupils' Learning Attitudes and Behaviors in Satellite Centers**

Item	Agree	Neutral	Disagree
The child shows curiosity and eagerness to learn	46.9	15.7	37.4
The child persists in challenging tasks	49.2	11.7	39.1
The child enjoys participating in classroom activities	43.7	14.3	42.0

About persistence in challenging tasks, 49.2% of respondents agreed, 11.7% were neutral and 39.1% disagreed. The distribution shows inconsistency in persistence levels. Although many learners are able to persevere, a comparable proportion struggle to sustain effort when faced with difficulty. These findings underscore the need for teachers and caregivers to deliberately foster perseverance through structured activities, encouragement and supportive learning environments. According to Duckworth and Yeager (2015), persistence is a key predictor of long-term academic success. Therefore, teachers need to invest extra efforts in boosting the children's ability to persist in challenging tasks for them to be successful in their academic journeys.

Finally, when asked about children's ability to participate in classroom activities, 43.7% of respondents agreed, 14.3% were neutral and 42.0%

disagreed. The near balance between agreement and disagreement suggests that children's participation is inconsistent and is not uniformly developed. The variation may reflect differences in instructional approaches and classroom environments across centers. According to Syarif et al. (2024), enjoyment in learning is influenced by engaging and supportive teaching practices. Therefore, teachers need to develop more learner-centered strategies to uplift the level of the learners' participation in the teaching and learning activities.

### Conclusions and Recommendations

#### Conclusions

Based on the findings, the study concludes that satellite centres in Arusha provide instructional and learning services at a moderate level. While they

offer basic teaching and learning opportunities, they lack structured and continuous teachers' development. This gap leads to variations in instructional approaches, classroom practices and utilization of learning materials across centres, resulting in inconsistent service delivery. Consequently, the quality of instruction depends largely on individual teacher effort rather than coordinated pedagogical support, thereby limiting the attainment of required standards.

The study further concludes that satellite centres partially prepare children for school readiness across key developmental domains. Although some children acquire foundational competencies that support their transition to formal schooling, others lack essential skills. This uneven preparedness reflects disparities in learning experiences and support across centres. As a result, while the centres contribute to early childhood development, their provision is not sufficiently comprehensive to ensure a consistent and smooth transition.

### Recommendations

Based on the conclusions, the study recommends that the Ministry of Education, Science and Technology should strengthen instructional and learning services in satellite centres by institutionalising teachers' continuous professional development, ensuring the provision of adequate and standardised learning materials and establishing clear pedagogical guidelines to support classroom practices. These efforts can be realized through structured in-service training programs, regular instructional supervision and consistent supply of appropriate teaching and learning resources to reduce variability in service delivery across centres.

The study further recommends that Tanzania Institute of Education, in collaboration with local government education offices, should enhance children's school readiness by developing and implementing a unified early learning framework. In addition, systematic monitoring and assessment of children's developmental progress should be instituted, alongside targeted support interventions for centres demonstrating performance gaps. This can be achieved through deployment of standardised assessment tools, data-informed feedback mechanisms and tailored capacity-building programs to ensure more consistent and comprehensive preparation of children for formal schooling.

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