Adequacy of Teaching and Learning Resources for Implementing Inclusive Education in Primary Schools in Arusha Region, Tanzania

Frank Akiyoo
Ph.D. Candidate, Department of Education Management, Planning &Financing and Lifelong Learning (DMPFL), Mwenge Catholic University, Tanzania
Herme Mosha
Supervisor, Department of Education Management, Planning &Financing and Lifelong Learning (DMPFL), Mwenge Catholic University, Tanzania
Ogoti E
Director, Department of Education Management, Planning, Mwenge Cotholic University, Tanzania

Abstract:
This study assessed the adequacy of teaching and learning resources for the implementation of inclusive education in public primary schools in Arusha region. The study was guided by the Open Systems Theory, by Katz and Khan, and it adopted a mixed research approach under which a convergent research design was used. Both probability and non-probability sampling techniques were used to obtain the sample which consisted of 144 primary school teachers, 12 head teachers and 6 district education officers. Questionnaires and interview guides were used to collect data. Quantitative data were analyzed using descriptive statistics while the qualitative data were analyzed thematically and presented in narrative form with the assistance of direct quotation where necessary. The findings showed that schools do not have adequate teaching and learning resources for effective implementation of inclusive education. Computers, wheel chairs, assistive technologies as well as braille machines were all found to be inadequate. Results from hypothesis testing indicated a positive relationship between the availability of resources and the level of implementing inclusive education (P-value = 0.000). The study concluded that effective implementation of inclusive education depends on the availability of teaching and learning resources. Therefore it was recommended for the government and education practitioners to ensure the availability of adequate teaching and learning resources in all the schools where inclusive education is offered.

Keywords: Inclusive education, implementation, adequate, teaching and learning resources

1. Introduction

Inclusive education is a concept that allows learners with disabilities to be placed together with other learners and receive instruction in regular classroom settings (Husin et al., 2021). Supporters of inclusive education believe that learners with disabilities should be educated in regular classrooms with the provision of supplementary aids and services. This is consistent with the resolution of the World Education Forum held in Dakar, Senegal, in 2000 that set the goal of achieving Education for All (EFA) by 2015. The general understanding of inclusive education encompasses a continuous process useful for establishing strategies and policies that refer to a service delivery aimed at changing and adapting the education system to children with different needs (Schuster et al., 2021). So inclusive education is the kind of education where children with disabilities study in the same class with children without disabilities.

However, lack of special educators still exists in some categories such as learning disabilities and autism (Wang, 2021). This is due to the fact that the governments are less putting effort in improving the quality of inclusive education. In Malaysia, teachers who teach special needs children are provided with a monthly allowance as an incentive; in addition to disbursement to schools for purchasing equipment for such students (Ibrahim, 2021). In China, the number of special education teachers increased as the efforts made by the government to support inclusive education in the nation (Xie et al., 2021).

In Turkey, the general education teachers did not have enough training on how to teach students with special needs in the inclusive classroom (Kisbu-Sakarya & Doenyas, 2021). Although children with disabilities are sent to schools in Lesotho, teachers face challenges in teaching those students, which underscores the need for instructional collaboration between available special needs education professionals (Morai, 2021). Study in Finland found out that there is lack of resources such as administrative support teaching and learning materials and lack of classroom assistant and this has

contributed to excuse for not admitting children into classroom (Saloviita, 2020).To this end, the low number of trained teachers for inclusive education can compromise efforts to implement inclusive education in countries, which have not adequately invested in retraining teachers for special needs education.

According to Vyrastekova (2021) Inclusion means more than integration of the special need students by placing student of special need in the mainstream schools which differ for SNE student attending regular schools .The Ministry of Education Science and Technology - MoEST (2016) defines special schools, integrated units, and inclusive schools as follows; Special schools are those which provide education to only one category of children with special learning needs. On the other hand, integrated units are units for children with special learning needs, which are attached to regular schools. Increasingly, inclusive schools are regular schools, which cater for learners with special learning needs in a regular inclusive classroom, where such learners are assisted by a specialized teacher. Meanwhile, the United Republic of Tanzania (2007) reports that, by 2007, Tanzania had 20 special primary schools, 231 integrated primary schools and 195 inclusive primary schools, which form a total of 446 primary schools, catering for children with special educational needs in the country. This situation is a proof of the implementation of the three systems of education for students with special needs in Tanzania.

Implementing inclusive education in Tanzania is guided by the Education and Training Policy of 1995 and Education Training Policy of 2014. The education landscape in Tanzania has also been guided by the Ten-year Education Sector Development Plans (ESDP), which ran from 2007/08 to 2016/17. Due to various national and international developments in education; and following the introduction of a new Education and Training Policy in 2014, it has become necessary to review this ESDP to strategically position the education sector to address contemporary and future needs - social, political and economic needs - of the country. This paper, therefore, also covered the revised ESDP for the five-year period from 2016/2017 to 2020/2021. International agreements like Educational for All (EFA) declared by Jomtien Conference in 1990, and The Universal Declaration of Human Rights of 1948 (UNESCO, 2009; URT, 2013) were also considered. The implementers of inclusive education in Tanzania include the Ministry of Education Science and Technology (MoEST), President's Office Regional Administrative and Local Government (PO-RALG), teachers, parents and pupils ((Jabiri, 2020; Basil, 2021 and Lawrence, 2020; Possi & Milinga, 2017).

As part of the strategic planning process, captured in the Education Sector Development Plan 2016/17–2020/21, the Government has adopted a set of targets and indicators of positive change in creating a more equitable and inclusive education system. The National Strategy for Inclusive Education has been approved by the Ministry of Education, Science and Technology, and a Memorandum of Understanding has been signed by the President's Office–Regional Administration and Local Government to guide the implementation of this strategy. It specifies responsibilities of regions, and councils. Several factors have made it necessary for the Government to update national plans and strategies and issued the new ESDP (2016/17–2020/21) and the new National Strategy for Inclusive Education (2018-2021). These are like: the rapid growth in basic and tertiary education; an increasing concern about the quality of education; introduction of various education initiatives by the Government and non-government partners; as well as introduction of the Education and Training Policy (2014).

In 2009, to respond to the needs of the most vulnerable children, the Government developed the National Strategy on Inclusive Education (2009-2017). The Strategy aimed at ensuring that all children, youth and adults in Tanzania have equitable access to quality education in inclusive settings. Although the National Strategy on inclusive education formulated in 2009 had a number of strategies, aimed at ensuring equal access to quality education, in 2018 the Government conducted a verification study to confirm the findings of the profile of out of School Children Tanzania (Hasan et al., 2018). The study found that there were approximately 3.5 million children and youth who are not receiving education. Implementation of the National Strategy on Inclusive Education 2009–2017 offered some achievements and exhibited challenges that the New Strategy aims to address for effective implementation. According to Possi and Milinga (2017), Tanzania drafted the inclusive education policy in 2008 and ratified the Convention of Rights of Persons with Disabilities in 2009, followed by the enactment of the Persons with Disability Act of 2010.

In line with accessibility, for example, the number of learners with visual impairments in primary schools was 1,615 in 2010; 931 males and 684 females (URT, 2010). According to URT (2016), the distribution of pupils with disabilities, enrolled in primary schools - albinos (1,870), autism (1,003), deaf/blind (6,318), deaf/mute (512), intellectual disability (8,906), physical disability (11,839), low vision (3,767), and blind (2,182). It is uncertain whether these figures represent the true number of children who were to be enrolled in inclusive classrooms, (Possi and Milinga, 2017).

Inclusive Education was actively implemented in Tanzania in 1998 when the Government in collaboration with the Salvation Army and UNESCO piloted an IE project in Temeke District in the Dar es Salaam Region. The initiative was supported by Article 2.1 of the National Policy on People with Disability in Tanzania of 2004. The Article clearly states that, 'Every citizen, including people with disabilities, has an equal right to receive basic services - education - from the society'. Jabiri (2020) found that the steps taken so far, since its introduction in 1997 were unsatisfactory. The study indicated that there was no sufficient support extended to the teachers of students with special needs in terms of curricula design and curricula implementation. He therefore, recommended that community participation with quality indicators clearly defined was not stipulated in the conclusion by researchers. Tanzania has not fully embraced the philosophy of inclusive education (Jabiri, 2020; Basil, 2021 and Lawrence, 2020). According to Braun (2020) the success of inclusive programmers depend very much on two major factors; highly qualified teachers and highly innovative school heads. We are noting the major issue to be explored as far as the poor level implementation of inclusive system is connected due to adequate of teaching and learning resources

It is notable that inclusive education, launched in 2009, is inadequately documented in terms of its pace, attitudes, factors that hinder its implementation and resources in place, used by head teachers to effectively run inclusive education

(Possi & Milinga (2017). Together with the fact that progress has been made to enroll children with disabilities for inclusive education, there is little evidence that teaching and learning resources for effective implementation of inclusive education in primary schools in Arusha region is inadequate.

2. Statement of the Problem

There are complaints by stakeholder, such as teachers and parents, that most of the teachers are not trained to teach pupils with disabilities. Studies by different researchers have indicated the problem of implementing inclusive education by teachers that are not trained in Inclusive Education. These have in turn been making the performance of pupils with such challenges to be very poor because they are not well assisted by such teachers (Possi and Mlinga, 2017). Studies conducted on inclusive education in different parts of the world (Zigler, 2015; Baraka & Maria, 2017 and UNICEF, 2015) have also identified the existence of the problem of untrained teachers. These studies have in addition revealed that there are challenges of inadequate resources, which hinder effective implementation of inclusive education. Although the progress has been made to enroll children with disabilities for inclusive education, there is little evidence adequate teaching and learning resources for implementation of inclusive education in primary schools in Arusha region are being provided. The current study therefore strove to find out whether teaching and learning resources are adequate for implementation of inclusive education in primary schools in Arusha region, Tanzania; and if not what can be done to overcome the challenge.

3. Research Question and Hypothesis

To what extent are teaching and learning resources are adequate to support effective implementation of inclusive education in primary schools in Arusha region?

- Ho: There is no a significant relationship between the level of implementing inclusive education and the availability of teaching and learning resources.

4. Theoretical Framework

This study was guided by the Open Systems Theory as postulated by Katz and Khan (1966). The theory holds that a school is a managed system that receives inputs from the external environment, processes them into desirable outputs that are subsequently feedback to the environment. There are two versions of systems, theory namely, the open system and the closed system. The open system focuses on interaction between the system and its environment and the closed system theory focuses more on the internal aspects of the organization (Gal & Gan, 2020). The open system theory emphasizes need for parties to work together to make the organization healthy (Hartmann & Lussier, 2020). A school as an organization   consists of teachers and other stakeholders. The theory focuses on maintaining good communication, which allows interaction in an organization. Information has to reach the intended persons. School as an organization needs to have a good form of communication within the system.

5. Review of Empirical Studies

Teaching and learning resources are all things that can be used and support learning especially in the classroom (Wahyuningsih et al., 2020). The adequacy of the resources encompasses the availability of the teaching and learning resources that are to be used to accomplish the learning process. A number of studies have been done on the teaching and learning resources. For instance, in Europe such as study by Breyer et al. (2021) in Austria on learning and support assistants in inclusive education. The study reported that in order to provide adequate support for children with disabilities there should be a programme on the development of adequate resources for students learning. Hayen and Bulat, (2020) added that in Australia the government was able to provide the teaching and learning resources in inclusive education however, the programme is faced by lack of trained teachers to implement the inclusive education. The study by Saloviita (2020) in Finland also found out that lack of teaching and learning resources has contributed to low admission of children with disabilities into the classrooms.

Studies in West African countries indicate the insufficient of teaching and learning materials in inclusive education. For instance, the study by Opoku et al. (2020) in Ghana reported that teachers were positive in inclusive education, though the system was still faced with lack of teaching and learning materials to teach students with disabilities. Ogba et al. (2020) informed the current study that in Nigeria the education system was faced with low achievement in inclusive education due to lack of knowledge, skills and attitude towards inclusive education. Moreover, in Southern African countries literature revealed the inadequate availability of teaching and learning resources to achieve the goals of inclusive education. The study done by Li and Ruppar, (2021) on conceptualizing teacher agency for inclusive education: A systematic and international review in South Africa. The study confirmed that lack of material resources was considered pervasive and insoluble among the rural teachers in implementing inclusive education. Magumise and Sefotho (2020) also added that resource shortage, teacher to pupils' ratio and lack of teachers training were seen as obstacles towards implementation of inclusive education in Zimbabwe.

In Kenya Ireri et al. (2020) revealed that inclusive education was faced by lack of infrastructure facilities, lack of teachers' skills, shortage of resources, poor funding and inadequate teaching personnel. Chisaro (2020) reported that the implementation of inclusive education in Kenya is impeded by inadequate physical and financial resources and skills among the teachers.

A study conducted by Adebayo & Ngwenya, (2015) in Swaziland focused on finding out the challenges in the implementation of inclusive education at Elulakeni Cluster primary schools in the Shiselweni District of Swaziland. The study employed quantitative approach, which was informed by descriptive or survey research design. The data collection

tool was questionnaire and the targeted population was teachers and head teachers. Teachers' competency; material and financial resources; teachers' friendliness, efficacy of administration; classroom environment; human resources; collaboration, productive responses to classroom challenges, fairness to all students; playing materials and spacious classrooms were revealed to be the dominant challenges in the implementation of inclusive education in primary schools. The current study used a mixed method approach to gather both qualitative and quantitative data at the same time in order to strengthen the evidence on adequacy of teaching and learning resources to support effective implementation of inclusive education in primary schools in Arusha region.

Lack of resources such as administrative support teaching and learning materials and lack of classroom assistant and this has contributed to excuse for not admitting children into classroom Saloviita (2020). Attitudes of teachers towards inclusive education in Finland. Low academic achievement in inclusive education assessment of training needs of teachers and administrators for effective inclusive education delivery in secondary schools in South east Nigeria. Due to lack of technical knowledge skills and attitude towards inclusive education, lack of well training teachers to the program of inclusive education, in competences of using the resources (Ogba et al 2020). That means teaching and learning resources are adequate for implementation of inclusive education in primary schools in Arusha region.

Similarly, Njagi (2020) conducted a study on school factors influencing implementation of inclusive education in public primary schools in Magumoni Division, Tharaka Nithi County, Kenya. There were inadequate specialized teachers to handle the special needs education curriculum and there were several socio economic and cultural variables that constrained effective teaching and learning in most schools. The current study further deeply strove to find out teaching and learning resources are adequate for implementation of inclusive education in primary schools in Arusha region.

Accordingly Mncube and Lebopa (2019), did a study about the dynamics of implementing inclusive education in Secondary schools in Arusha region, of which the approach was a qualitative study that used a case study design. Collection of information and data was done using interviews; observations and document analysis. The findings revealed that despite various attempts aimed at successful implementation of inclusive education in schools; not much had been achieved in this regard. The findings also suggest that there were problems of lack of sufficient trained teachers on the implementation of inclusive education, including the implementation of the SIAS (screen, identify, and support) policy, which requires teachers to screen, identify, and support learners with challenges. However, teachers were only trained to do baseline assessment and were not fully trained on SIAS. This study was qualitative and focused mainly on human resource aspect. To the contrary this study used a mixed method approach which was employed to gather both qualitative and quantitative data, at the same time, in order to strengthen the evidence on availability of adequate teaching and learning resources to support effective implementation of inclusive education in primary schools in Arusha region.

6. Methodology

This study adopted a mixed method approach under which the convergent mixed design was used (Cresswell & Plano-Clark, 2018). According to Cresswell & Cresswell (2018) the convergent-design involves the simultaneous collection of qualitative and quantitative data, followed by the combination and comparisons of these multiple data sources. The study targeted population was teachers (8,073), Headteachers (552) and District Education Officers (06) from Arusha region which has 562 primary schools. The study sample size was 12 primary schools that provide inclusive education in Arusha region. A total number of 162 respondents comprised of 144 teachers, 12 head teachers, and 6 District Education Officers.

Both probability and non-probability sampling techniques were used, hence mixed methods. Stratified sampling technique was used to select 144 teachers from 12 primary schools. The selection procedure began by categorizing names of teacher into two strata namely males, females. The names of the teacher were written on pieces of paper and kept in two boxes, one for male teacher, the second for female teachers. Then names written on pieces of paper were shuffled thoroughly and one piece of paper was picked in each box with replacement until 6 male teachers and 6 female teachers were selected from each school. Therefore, each school contributed 12 teachers.

Head teachers of the selected schools were involved in the study by virtue of their positions in the school. Since a school has only one head teacher, they were directly included in the study. In absence of the head teacher during the time of data collection, one second head teacher and one acting head teacher for the particular school were considered for the study. Therefore, in this study the researcher included 12 head teachers from inclusive primary school. District education officers participated in this study due to their positions and information they possess that was sought vital in this study. The DEOs provided qualitative data from the administration point of view in Arusha region. DEOs were not sampled but included in the study by virtual of their offices. Therefore, a sample of 6 DEOs from the 6 districts in Arusha region participated in the study. The study used a variety of data collection instruments such as questionnaire and interview guide to facilitate triangulation.

To ensure content validity of the instruments for quantitative data collection, the researcher sought advice from faculty/research experts as well as pilot tested them in schools. To determine the content validity of the questionnaire, Cronbach alpha was used for Likert scale items. A coefficient of 0.68 was obtained for teachers' questionnaire, which was reliable. The qualitative instruments used were interview guides for head teachers and District Education Officers. The ratability and trustworthiness of the qualitative data was ensured by triangulation and member checking.

Data analysis began by identifying themes drawn from research questions; since the study involved convergent design which is a mixed method design. This enabled the researcher to collect both qualitative and quantitative data at the same time. Data were analyzed through descriptive and inferential statistics. Frequency counts and percentages of the

responses were obtained to generate descriptive information from respondents who participated in the study and to illustrate the general trend of findings on the various variables that were under investigation.

7. Findings, Analysis and Discussions

The study aimed at determining the extent to which teaching and learning resources are adequate for implementation of inclusive education in Arusha Region. Data to answer this question were collected from primary school teachers, head teachers and the district education officers. Teachers were also provided with a five-point scale with eight items and they were required to rate the availability and adequacy of each item.

Items	Not Available		Available but Highly Inadequate		Available but Inadequate		Available and Adequate		Available and Highly Adequate	
	F	%	F	%	F	%	F	%	F	%
i. Braille machine	26	25.5%	8	7.8%	44	43.1%	8	7.8%	16	15.7%
ii. Snellen Charts	12	11.8%	23	22.5%	18	17.6%	36	35.3%	13	12.7%
iii. Hearing aids	5	4.9%	12	11.8%	53	52.0%	26	25.5%	6	5.9%
iv. Assistive listening devices. i.e. microphone	7	6.9%	6	5.9%	70	68.6%	13	12.7%	6	5.9%
v. Sense and mobility materials	10	9.8%	13	12.7%	34	33.3%	28	27.5%	17	16.7%
vi. Room echo	6	5.9%	6	5.9%	51	50.0%	21	20.6%	18	17.6%
vii. Wheel chairs	5	4.9%	10	9.8%	61	59.8%	19	18.6%	7	6.9%
viii. Talking Computers	10	9.8%	2	2.0%	48	47.1%	21	20.6%	21	20.6%

Table 1: Teachers' Views on the Adequacy of Teaching and Learning Resources to Facilitate the Implementation of Inclusive Education in Primary Schools in Arusha Region (N=102)
Source: Field Data, 2021

Data from table 1 show that machine and books were available and highly adequate respectively. The results imply that, most of the teachers agreed that braille machines and books were available but not enough in inclusive school in Arusha region. Also, 25 per cent of the teachers said that braille machines and books were not available. This implied some efforts still needed to be made to ensure teaching and learning resources are adequate for effective of implementation of inclusive education to all pupils in Arusha Region.

Moreover, thirty five per cent of the teachers maintained that the Snellen chart was available but inadequate for effective implementation of inclusive education, 22.5 per cent said that Snellen chart was available but highly inadequate; meanwhile 7.6 per cent said that this teaching resource was available but inadequate. The results imply that most of the teachers agreed that Snellen chart was available but insufficient for effective implementation of inclusive education; as it was one among the teaching and learning resources required by teachers in inclusive schools.

Fifty two per cent of the teachers reported that hearing aids were available but inadequate; 25.5 per cent said they were available and adequate. This implies that, most of the administrators in inclusive schools in Arusha region have had access to hearing aids to be used during the teaching and learning process to ensure effective learning by students with disabilities. On other hand these hearing aids were insufficient to meet the requirements of the special needs pupils. Mean scores for availability and adequacy of the resources were computed as presented in table 2.

Resource	Adequacy Mean Score
i. Braille machine and books	2.19
ii. Snellen chart	2.03
iii. Hearing aids	2.18
iv. Assistive listening device. i.e. microphone	2.21
v. Sense and mobility materials	2.32
vi. Room echo	2.56
vii. Wheel chairs	2.35
viii. Computers	2.15
Average Mean Score	2.25

Table 2: Mean Scores on the Adequacy of Teaching and Learning Resources
Source: Field Data, 2021
Key; 1 = Not Available, 2 = Available But Highly Inadequate, 3 = Available but Inadequate,
4 = Available and Adequate, 5 = Available and Highly Adequate

Data in table 2 show that the mean score on the availability of braille machines and books as rated by teachers was 2.19. Such a mean score means that more teachers responded that braille machines and books in their respective schools are inadequate. This implies that though primary schools have braille machines and books, still the presence of such resources does not adequately meet the demand. This was further confirmed by one head teacher from school 'S' during an interview who said '*The government is making efforts to supply the schools with resources. However, some resources including braille machines are not adequate for effective implementation of inclusive education* (Interview, 10/May/2021).' Response from the teachers and the head teacher imply that there are inadequate books and braille machines required for implementation of inclusive education. These findings are in agreement to what was observed by Possi and Mlinga (2017) who reported that some necessary instructional resources required for inclusive education are not adequate in most of the schools within Tanzania. Lack of adequate braille machines and books negatively affects the implementation of inclusive education as the students with special needs may not conduct their studies smoothly.

The mean scores for the availability of adequacy of snellen charts and computers were 2.03 and 2.15 respectively. The values of mean scores imply mean that most of the teachers indicated that snellen charts and computers are not adequate in their respective schools. This implies that neither computers nor snellen charts are adequate for effective implementation of inclusive education in primary schools in Arusha region. During an interview with the head teacher from school 'P' similar observations were made as the head teacher said '*Inclusive education is closely related to special education, therefore there should be adequate facilities for both pupils with and without disabilities. However, some resources at my school are not adequate (Interview, 11/May/2021)'.* These findings concur to what was observed in Ghana by Ackah-Jnr and Danso (2019) who reported that most of the schools in Ghana lacked necessary resources including computers and charts for visual learning. Finding from Ghana and Tanzanian suggest that African countries still have not achieved the supply of adequate teaching and learning resources in the schools for effective implementation of inclusive education.

Data in table 2 also show that the mean scores for the adequacy of hearing aids and assistive listening devices were 2.18 and 2.21 respectively. These mean scores mean that neither hearing aids nor assistive listening devices were perceived to be adequate by teachers. This implies that most of the teachers in Arusha region are not satisfied with the adequacy of hearing and listening devices for effective implementation of inclusive education in their respective schools. Lack of adequate listening and hearing devices negatively affects the implementation of inclusive education as the students with hearing and listening impairments may not effectively participate in the learning process. During an interview with one of the district education officers, similar information was observed as he also acknowledged the lack of hearing aids and listening assistive devices. The district education officer said 'Our *inclusive schools have a good number of pupils with hearing impairments; however, the schools do not have adequate devices to assist them to learn properly* (Interview, May, 11, 2021)'. These responses indicate the lack of hearing aids and assistive listening devices is a challenge for effective implementation of inclusive education in primary schools in Arusha region. Similar findings were observed in Cameroon by Mngo and Mngo (2018) who found out that most schools in Cameroon do not have adequate assistive technology and therefore the implementation of inclusive education has not been well. These findings imply that inadequacy of assistive devices for inclusive education is not a challenge to Tanzania only but across countries.

Data in table 2 also show that the mean scores for adequacy of sense and mobility materials and wheel chairs were 1.32 and 2.35 respectively. The obtained values of mean scores imply that teachers considered these resources to be inadequate. During an interview with the head teacher of school 'P', it was also evidenced that the schools lack mobility facilities for pupils with physical disabilities as she said '*Generally the school environment is not so friendly for pupils with disabilities, we do not have wheel chairs to facilitate movement for pupils with physical impairments* (Interview, May, 12, 2021)'. Responses for the head of school concur with what was indicated by teachers that the schools do not have adequate mobility facilities. These findings are in agreement to what was observed in the worldwide survey by Pocock and Miyahara (2018) who reported that most of the schools lack mobility aids for students with special needs. These findings show that most of the schools worldwide do not have adequate mobility facilities for students with disabilities. The lack of such resources positively affects the implementation of inclusive education.

The aggregate mean score was 2.25; this value means that almost all kinds of resources are not adequate in primary schools in Arusha region. This implies that most of the schools in Arusha region adequate resources needed for effective implementation of inclusive education. Lack of such resources positively affects the implementation of inclusive education not only in Arusha region or Tanzania but across the globe. For instance in Asia, Sah (2021) found out that the schools do not have appropriate teaching and learning resources for inclusive education. Similarly in Nigeria Ogba and Ogodulunwa (2020) reported inadequate resources for implementing inclusive education. Thus, lack of teaching and learning resources for inclusive education is a global one and needs to be addressed for improvement of inclusive education implementation.

The researcher tested a hypothesis to determine whether the implementation of inclusive education depends on the availability of teaching and learning resources. Though most of the schools had inadequate teaching and learning facilities, the degree of inadequacy was not similar across all the schools and all the resources. Therefore, it was sought impotent to find out whether the implementation of inclusive education depends on the availability of teaching and learning resources. To achieve this, a chi-square test for independence was run at 95% confidence level.

- Ho: There is no significant relationship between level of implementing inclusive education and the availability of teaching and learning resources.

The results of hypothesis testing are presented in table 3

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	32.250	6	.000
Likelihood Ratio	31.908	6	.000
Linear-by-Linear Association	.910	1	.340
N of Valid Cases	72		

Table 3: Results of Hypothesis Testing
Source: Field Data, 2021

Data in table 3 show that X^2 = 32.250 and p-value = 0.000. Since the p-value (0.000) is less than the significance level (0.05), the null hypothesis was rejected. This implies that there is a significant relationship between the level of implementing inclusive education and the availability of teaching and learning resources. This is similar to what was found by Li and Ruppar (2021) in China that availability of teaching and learning resources supports the potentials of students in inclusive education. In USA, the study by Migliarini and Stinson (2021) confirmed that teachers felt that they were not provided with enough teaching and learning resources. Hence they could not implement properly the curriculum of inclusive education.

The study found that effective implementation of inclusive education depends on the availability of teaching and learning resources. In the schools where teaching and learning resources were more, inclusive education was more implemented compared to the schools with a least resources.

8. Conclusion

The study concluded that inadequate teaching and learning resources for effective implementation of inclusive education at primary schools in Arusha region, such as talking computers, wheel chairs, Snelling charts, hearing devices and mobility. So inadequate resources has positive affected the implementation of inclusive education.

9. Recommendation

In the light of the research findings, analyses and discussion, the following recommendations are made. Adequate funds need to be allocated to inclusive schools, to facilitate procurement of adequate teaching and learning resources to facilitate effective teaching and learning of pupils with disabilities in inclusive schools. Similarly, all education stakeholders should provide additional support to primary schools offering inclusive education. Similarly all teachers in inclusive schools should undergo in-service training to retool them on knowledge and skill for effectively discharge their new mandates.

10. References

i. Adeyemi, B. A., & Adesola, S. O. (2021). Relative Effectiveness of Brainstorming and Concept Mapping Instructional Strategies on Lower Primary School Pupils' Learning Outcomes in Social Studies in Ondo State. *Asian Journal of Sociological Research*, 1-23.

ii. Aksu Ataç, B., & Taşçı, S. (2020). An investigation of prospective language teachers' knowledge and attitudes towards inclusive education in Turkey.

iii. Alois (2017) Factors Influencing Implementation of the National Inclusive Education Strategy for the Deaf Children in Masasi, Tanzania. *Master's thesis, The Open University of Tanzania. http://repository.out.ac.tz*

iv. Baraka, M. N. and Maria, J. (2017). Accessibility to Inclusive Education in Arusha Region Public Secondary Schools, Tanzania. *Saudi Journal of Humanities and Social Sciences*, 2(1): 1-15.

v. Basil, P.T. (2021). Inclusiveness in Tanzania's public pre-primary education: Unbridged teachers' and parents' role awareness gap. *International Journal of School & Educational Psychology*, 1-16.

vi. Binti Ibrahim, F. A. (2021). Resource Elements in the Construct of Special Education Teacher Workload in Malaysia. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, *12*(11), 5289-5293.

vii. Braun, A. M. (2020). Barriers to inclusive education in Tanzania's policy environment: national policy actors' perspectives. *Compare: A Journal of Comparative and International Education*, 1-19.

viii. Breyer, C., Lederer, J., & Gasteiger-Klicpera, B. (2021). Learning and support assistants in inclusive education: A transnational analysis of assistance services in Europe. *European Journal of Special Needs Education*, *36*(3), 344-357.

ix. Chesaro, E.(2020) Challenges Faced by teachers in Teaching Mentally Challenged and Communication Deficient learners in Mbagathi Special Unit, Kenya. *African Research Journal of Education and Social Sciences*, 7(3), 48-58.

x. Creswell, J. (2018). *Research design: qualitative, quantitative and mixed methods approach.* Thousand Oaks, California: Sage Publications. https://www.researchgate.net.

xi. Gokbulut, O. D., Akcamete, G., & Güneyli, A. (2020). Impact of Co-Teaching Approach in Inclusive Education Settings on the Development of Reading Skills. *International Journal of Education and Practice*, *8*(1), 1-17.

xii. Guo, D. (2016). *Service for autistic children in China: Achievement challenges and prospects* [PowerPoint Slide]. Personal Collection of Dehua Gao, China Association of Autism Services Agencies, China. https://www.researchgate.net.

xiii. HAKIELIMU 2017-2021 Strategy Plan https://www.hakielimu.or.tz/download/hakielimu-2017-2021-strategy-plan/Hartmann,

xiv. Hassan et al (2018) *Classroom Management: Significance in Inclusive Education, Current Problems and Proposed Solutions* https://dergipark.org.tr.

xv. Hayes, A. M., & Bulat, J. (2020). Disabilities inclusive education systems and policies guide for low-and middle-income countries.

xvi. Husin, M. R., Shaffeei, K., Ahmad, H., & Shuib, T. R. (2021). Companion teacher based on sociological stimulus during learning to improve the acceptance of inclusive education pupils in receiving skills and information. Linguistics and Culture Review, 5(S1), 1138-1148.

xvii. Ireri, B. R., King'endo, M., Wangila, E., & Thuranira, S. (2020). Policy Strategies for Effective Implementation of Inclusive Education in Kenya. *International Journal of Educational Administration and Policy Studies*, *12*(1), 28-42.

xviii. Jabiri, N. (2020). *The Contribution of Inclusive Education to Enrollment of Disadvantaged Children in Primary School: A Case of Ilala Municipal in Tanzania* (The Open University of Tanzania).

xix. Jomtien, G. and Salamanca, D. (2009). *Return to Salamanca: Confronting the Gap-Rhetoric, Rights and Reality.* Conference on Inclusive Education, Spain. http://www.ibe.unesco.org.

xx. Katz and Khan (1966) System Theory https://www.sciencedirect.com

xxi. Kisbu-Sakarya, Y., & Doenyas, C. (2021). Can school teachers' willingness to teach ASD-inclusion classes be increased via special education training? Uncovering mediating mechanisms. Research in Developmental Disabilities, 113, 103941.

xxii. Lawrence, C. (2020). *Inclusive education in folk development colleges in Tanzania: Stakeholders' beliefs and practices* (The University of Dodoma).

xxiii. Li, L., & Ruppar, A. (2021). Conceptualizing teacher agency for inclusive education: A systematic and international review. *Teacher Education and Special Education*, *44*(1), 42-59.

xxiv. Magumise, J., & Sefotho, M. M. (2020). Parent and teacher perceptions of inclusive education in Zimbabwe. *International Journal of Inclusive Education*, *24*(5), 544-560.

xxv. Makoelle, T. M. (2020). Schools' transition toward inclusive education in post-Soviet countries: Selected cases in Kazakhstan. *Sage Open*, *10*(2), 2158244020926586.

xxvi. Makuya, D., & Sedibe, M. (2021). Exploring the Challenges that are Faced by Teachers in the Implementation of Inclusive Education at Grade 9 Level IN Gauteng North District Schools in South Africa. *Interchange*, 1-16.

xxvii. Mbunda, G. (2017). *Assessing The Implementation of Inclusive Education In Tanzania Primary Schools: A Case of Mbinga District In Ruvuma Region*. Mzumbe University, Tanzania.

xxviii. Meier, C., & West, J. (2020). Overcrowded classrooms–the Achilles heel of South African education? *South African Journal of Childhood Education*, *10*(1), 1-10.

xxix. Migliarini, V., & Stinson, C. (2021). Inclusive education in the (new) era of anti-immigration policy: enacting equity for disabled English language learners. *International Journal of Qualitative Studies in Education*, *34*(1), 72-88.

xxx. Mncube and lebepo (2019). The Dynamics of Implementing Inclusive Education in Schools

xxxi. MoEST. (2016). *National strategy on inclusive education 2009-2017*. Dar es Salaam. http://www.rodra.co.za.

xxxii. Nigeria. *International Journal of Educational Leadership Preparation*, *15*(1), 72-91.

xxxiii. Njagi, m. m. (2020). Socio-cultural factors affecting inclusion of learners with disabilities in public primary schools in magumoni division, tharaka-nithi county kenya.

xxxiv. Ogba, F. N., Ugodulunwa, C. A., & Igu, N. C. (2020). Assessment of Training Needs of Teachers and Administrators for Effective Inclusive Education Delivery in Secondary Schools in South East

xxxv. Ogba, F. N., Ugodulunwa, C. A., & Igu, N. C. (2020). Assessment of Training Needs of Teachers and Administrators for Effective Inclusive Education Delivery in Secondary Schools in South East

xxxvi. Oliver, M. (2016). Education for All? A Perspective on an Inclusive Society. In M. Oliver, Understanding Disability: *From theory to practice (pp.78-94).* Basingstoke: Macmillan.

xxxvii. Opoku, M. P., Cuskelly, M., Pedersen, S. J., & Rayner, C. S. (2020). Attitudes and self-efficacy as significant predictors of intention of secondary school teachers towards the implementation of inclusive education in Ghana. *European Journal of Psychology of Education*, 1-19.

xxxviii. Plotner, A. J., Ezell, J. A., VanHorn-Stinnitt, C., & Rose, C. A. (2020). An Investigation of Coping Strategies Used by College Students with Intellectual Disability. *Inclusion*, *8*(3), 194-209.

xxxix. Possi, M. K. and Milinga, J. R. (2017). Special and Inclusive Education in Tanzania: Reminiscing the Past, Building the Future. *Educational Process: International Journal, 6*(4), 55-73. http://edupij.com.

xl. Sah, P. K. (2021). Teacher Preparation for Primary English Education in Nepal: Missing Agendas of Diversity and Inclusion. *English Teaching & Learning*, 1-21

xli. Saloviita, T. (2020). Attitudes of teachers towards inclusive education in Finland. *Scandinavian Journal of Educational Research*, *64*(2), 270-282.

xlii. Schuster, J., Jörgens, H., & Kolleck, N. (2021). The rise of global policy networks in education: analyzing Twitter debates on inclusive education using social network analysis. *Journal of Education Policy*, *36*(2), 211-231.

xliii. Senge, P., Cambron-McCabe, N. Lucas, T., Smith, B., Dutton, J. and Kleiner, A. (2000) *Schools That Learn. A Fifth Discipline Field book for Educators, Parents, and Everyone Who Cares About Education*, New York: Doubleday/Currency. https://www.worldcat.org.

xliv. Sitlington, P. L., Clark, G. M. and Kolstoe, O. P. (2000). *Inclusion Education and services for Adolescents with Disabilities*. Needham Heights, MA: Allyn & Bacon. https://files.eric.ed.gov.

xlv. Stephens, T. M. and Nierberding, J. J. (2003.). *What do Building Administrators need to know about special education?* Westport, CT: Praeger Publishers. https://files.eric.ed.gov.

xlvi. Sudy, F. N. (2013). *Evaluation of Effectiveness of Primary Education Development Program on Enhancement of Inclusive Education for Children with Hearing and VisualDisabilities in Tanzania*. the Open University of Tanzania. http://repository.out.ac.tz.

xlvii. Sultan, I., & Hasanuddin, M. (2017). Implementation of Inclusive Education Model in Primary School at Serang City. *International Journal of Learning and Development*, *7*(3), 36–47. https://doi.org/10.5296/ijld.v7i3.11542.

xlviii. Syafril, S., Yaumas, N. E., Ishak, N. M., Yusof, R., Jaafar, A., Yunus, M. M., & Sugiharta, I. (2020). Characteristics and educational needs of gifted young scientists: a focus group study. *Journal for the Education of Gifted Young Scientists*, *8*(2), 947-954.

xlix. Touson, J. C., Azad, N., Depue, C., Crimmins, T., & Long, R. (2021). An application of Harrison's system theory model to spark a rapid telehealth expansion in the time of COVID-19. *Learning Health Systems*, *5*(1), e10239.

l. Tungaraza, F. (2018). 'Inclusive education as practiced in Tanzanian schools: A step towards equity in learning for all'. A research report.

li. UNESCO. (2008). *EFA Global monitoring report. Education for all by 2015*: Will we 71Make it? New York: Oxford University Press. https://en.unesco.org.

lii. UNESCO. (2009). EFA global monitoring report. Overcoming inequality: Why governance matters. Paris: https://en.unesco.org.

liii. UNESCO. (2020). Resources on inclusion in education. https://en.unesco.org.

liv. UNICEF (2017) Inclusive Education: Including children with disabilities in quality learning:

lv. United Nations' General Assembly (2006). *Access and Quality: World Declaration of Education for All,* Salamanca, Spain. Paris: UNESCO. http://www.csie.org.uk.

lvi. United Republic of Tanzania (2009). *National Strategy on Inclusive Education 2009 –2017*. Dar es Salaam: Ministry of Education and Vocational Training. http://www.rodra.co.za.

lvii. URT. (2014). *Education and Training Policy:* Ministry of Education and culture. Dar es Salaam. https://www.fkwlearningagenda.com.

lviii. Verspoor, A. (2008). *At the Crossroads: Choices for Secondary Education in Sub-Saharan Africa;* Washington D.C.: World Bank. https://openknowledge.worldbank.org.

lix. Vygotsky, L.S. (1993). *The fundamentals of defectology*. London: Plenum Press. https://www.springer.com.

lx. Vyrastekova, J. (2021). Social inclusion of students with special educational needs assessed by the Inclusion of Other in the Self scale. PloS one, 16(4), e0250070.

lxi. Wahyuningsih, S., Abbas, E. W., & Mutiani, M. (2020). Implementation of Leadership Value of Rudy Resnawan as Learning Resources on Social Studies. *The Innovation of Social Studies Journal*, *1*(2), 169-177.

lxii. Wang, L. C. (2021). Anxiety and depression among Chinese children with and without reading disabilities. Dyslexia, 27(3), 355-372.

lxiii. World Education Forum (2000). *Dakar Framework for Action*: Education for All. Dakar, Senegal. https://sustainabledevelopment.un.org.

lxiv. Xu, B., Chen, N. S., & Chen, G. (2020). Effects of teacher role on student engagement in WeChat-Based online discussion learning. *Computers & Education*, *157*, 103956.

lxv. Zigler, R. (2015).Situational analysis of inclusive in Kenya and Tanzania. Pwani University. https://www.researchgate.net/institution/Pwani-University.com.