



INFLUENCE OF PHYSICAL FACILITIES AND INSTRUCTIONAL MATERIALS ON THE TEACHING OF SPECIAL NEEDS LEARNERS IN PUBLIC PRIMARY SCHOOLS IN KENYA

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ABSTRACT

Even though education is a basic human right, it is still hard for children with special needs to go to school. It is from this perspective that this study was designed to assess how learning resources are a determining factor in teaching learners with special needs in public primary schools in Kenya. The article is an extract of a study that was conducted in the Machakos Sub-County of Kenya in 2022. The study sought to assess how the availability of physical facilities and instructional materials influences the teaching of learners with special needs in public primary schools in Machakos Sub-County. The study was based on Albert Bandura's Social Learning Theory and used a descriptive survey research method. The target population was 62 head teachers, 802 teachers, and one curriculum support officer for special needs. The sample size included 80 teachers, three head teachers, and one curriculum support officer for special needs. Data was collected through the use of questionnaires for the teachers, an interview schedule for head teachers, and one curriculum support officer for special needs education. The results showed that the physical facilities in most of the surveyed schools were inaccessible to learners with special needs. Toilets were deemed to be the most inaccessible to learners with special needs. The study also found that the government and parents were the key sources of learning materials for learners with special needs. The study concluded that most facilities in public primary schools were not suitable for use by learners with special needs. It also concluded that most inclusive schools did not have teaching resources tailored to teaching learners with special needs. The study recommended that the government should ensure all school infrastructure in inclusive schools are favourable to learners with special needs. Further, the study recommends that teachers improvise play items and learning materials that cater to children with special needs.

Keywords: *Instructional Materials, Physical Facilities, Special Needs Education*

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INTRODUCTION

Education is a basic human right that should help people reach their full potential and strengthen their respect for human rights and basic freedoms (UNESCO, 2008). According to the Salamanca Declaration of 1994, every child has a right to be educated in an inclusive setting without discrimination, including children with special needs. Of the essence is that every child has a right to free basic education, and they should be educated in a conducive environment and, more importantly, supported by properly trained personnel in a friendly environment with the required adaptations and facilities (Gichaba, 2011; MOEST, 2013). This does not only concern regular learners but those with special needs too. It is therefore the duty of the school administrators to ensure that learners with special needs have access to education by providing support for teachers, a supportive school environment, and adaptive learning resources.

Inclusive education is considered an educational reform that aims to wipe out barriers in the education system by bringing all children into regular education, irrespective of their diversity and backgrounds (Bibiana et al., 2020). Kauffman et al. (2014) found that government support for special needs education was facing headwinds due to the withdrawal of social welfare programs. This meant lower funding, which in turn affected the inclusiveness of education. Chimer and Cardona (2013), in their study based in Spain, have argued that the availability of teaching and learning resources for learners with special needs in Spain was a key concern that suffered from limited government interventions. Yamamoto and Moriwaki (2019), in their study based in Japan, illustrate the importance of proper government support where they found that learners with special needs in school were easier to reach even with medical interventions, thus improving their school-based experiences.

According to the Special Needs Policy Framework for Kenya (MOEST, 2009), the Government of Kenya

is committed to the provision of equal access to quality and relevant education and training opportunities for all Kenyans. To achieve this goal, the government of Kenya has ratified and domesticated various global policy frameworks in education. It signed and ratified Article 26 of the Universal Declaration of Human Rights (1948), consequently recognising and committing itself to the right of every child to access education. The article recognises the intrinsic human value of education, underpinned by a strong moral and legal foundation. In order to achieve the aforementioned goals, the Kenyan government implemented free primary education (FPE) in 2003. The implementation of this programme led to an influx and the inclusion of new categories of children with special needs (Gichaba, 2011). The Kenya Education Act of 2013 provides for the Cabinet Secretary for Education to ensure that every special school or educational institution for learners with special needs is provided with appropriate trained teachers, non-teaching staff, infrastructure, learning materials, and equipment suitable for such learners (MOEST, 2009).

According to available research, the most important determinants of teaching learners with special needs revolve around physical facilities and instructional materials for learners with special needs in an inclusive setting. Namwaki (2013), in their study in Kisii County, found that visually impaired learners were faced with a lack of specialized educational resources at the individual and school levels. Another study by Mutuku (2013) on the challenges facing the implementation of inclusive education in primary schools in Yatta Division found that Machakos County was facing disproportionate challenges in ensuring educational inclusivity. The challenges included lack of physical facilities to cater for pupils with special needs.

The high cost of specialised equipment for learners with special needs remains a hindrance to the government's goal to provide education for all in line with the global goal of universal primary education (UPE) (MOEST, 2009). MOEST (2009) has

noted that teachers and support staff in Kenyan schools and units that have learners with special needs and disabilities should be trained or in-serviced on needs assessment and maintenance of specialized equipment and technological devices.

The persistent challenges in SNE in Kenya are exacerbated by the fact that there are global and government requirements that learners with special needs should be taught together with their counterparts without special needs in an inclusive setting. Data from the Machakos Sub-County Education Office in 2021 showed that there are 71 public primary schools in Machakos Sub-County. It also shows that learners with different types of special needs are enrolled in any of the primary schools according to their proximity to their homes. This study was thus conceived to assess the influence of physical facilities and instructional materials on the teaching of learners with special needs in public primary schools in Machakos Sub-County.

Theoretical Framework

This research was based on the social learning theory proposed by Albert Bandura in 1977. The theory of social learning holds that teaching and learning are determined by various environmental and cognitive factors. The social learning approach takes thought processes into account and acknowledges the role that they play in deciding if learning occurs. The social learning theory therefore provides a more comprehensive explanation of human learning by recognizing the role of mediational processes (McLeod, 2016). The social learning theory is important for learners with special needs. The social learning theory embraces inclusiveness in society as it takes care of a variety of needs. These needs include the various challenges learners with special needs encounter in a learning situation (Hornby, 2014). This theory is therefore appropriate when studying issues such as availability of physical facilities and instructional materials for learners with special needs in public primary schools.

Literature Review

The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) of 2006 emphasises the importance of inclusive systems that ensure that people with disabilities work or learn alongside others. Fully inclusive schools, which are rare, no longer distinguish between general education and special education programs; instead, the school is restructured so that all students learn together (UNESCO, 2009).

On the influence of physical facilities on the teaching of learners with special needs, Wang (2019) carried out a study in China where content analysis was utilized to analyse the interview data. The study involved 20 students with special needs in Shanghai. Interview results indicated that the majority of students with special needs are negative about their inclusion, and restricted participation in physical education activities is common.

Pellerin, Wilson, and Haegele (2022) carried out a study on the experiences of students with disabilities in self-contained physical education in Britain. The study used interviews and observational methods to collect data among a group of 20 students with disabilities enrolled in eight public schools. It was found that the students enjoyed sports and educational activities where there were adequate physical facilities. This study took a different approach by collecting data from teachers, head teachers, and a curriculum officer rather than students.

Azizah (2010) conducted a policy analysis on inclusive education in Indonesia, and discovered that the path to inclusive education in Indonesia was fraught with difficulties in making inclusive education a reality. There was a need to ensure modified physical facilities, including classrooms, playgrounds, toilets, pathways, and boarding facilities for those who are in boarding schools. In Peru, child-friendly schools are required to have physical facilities that guarantee the safety of learners, including those with special needs and disabilities. The schools should ensure that the physical environment is accessible to children with

special needs to provide a conducive learning environment (UNICEF, 2009). Vincent and Chiwandire (2017) conducted a study on the use and access of wheelchairs in higher education institutions in South Africa. The study conducted semi-structured, in-depth face-to-face interviews with the disability unit staff members (DUSMs) based at 10 different public universities in South Africa. The study found that people didn't welcome changes to older buildings because they were considered historic, and that wheelchair users couldn't get into the bathrooms easily.

Ackah-Jnr. and Danso (2019) examined the suitability of physical environment of Ghanaian inclusive schools. The study used purposive sampling to select 164 teachers, who were administered questionnaires. Study findings revealed that the physical environment of most "inclusive schools" was of poor quality, less accessible for children with physical and other sensory motor disabilities, and less suitable for most physical activities, including sports and physical education for all children.

Every learner requires appropriate learning resources in order to learn. This also requires teachers to use appropriate teaching resources when imparting knowledge to their students. Every disabled child, young person, or person with additional special needs in Scotland has access to the curriculum materials, assistive technologies, augmentative and alternative communication systems, and support they need to participate effectively and achieve their full potential through learning and achievement (Stanberry & Raskind, 2018).

Chimer and Cardona (2013) carried out a research study on the influence of the availability of teaching and learning resources on the teaching of learners with special needs in Spain. The study examined regular education teachers' perceptions of teaching in Spain and how these perceptions may differ depending on teaching experience, skills, and the availability of resources and supports. Stratified random sampling procedures were used to draw a

representative sample of general education teachers. The study results indicated acceptance of the principles of inclusion, although special needs teachers' skills, time, material resources, and personal supports for inclusion were deemed insufficient. The study found that most schools did not have adequate physical facilities, thus disadvantaging a number of children with special needs in society.

Paseka and Schwab (2020), in a study on teaching practices and resources in Germany, collected data from 2,000 parents. The data was collected using digitally recorded, semi-structured telephone interviews. The study found that resources were adequate in German inclusive schools and that both parents and learners were satisfied with the available resources. It emerged, however, that schools in Germany had justifiable reasons to refuse admission of students on the basis of inadequate teaching and learning resources.

Adewumi and Mosito, (2019) conducted a case study on the experiences of teaching inclusive setting in Fort Beaufort district in South Africa. The study purposively sampled eight teachers and eight principals from eight selected primary schools, as well as one provincial official and three district officials. The study found that there were inadequate teaching resources and equipment, which affected the work of the teachers. The study further found that the teachers were forced to improvise on the teaching materials. The findings are replicated by Muyungu (2015), which was conducted in Tanzania. Muyungu's study, which conducted eight interviews among teacher trainees and lecturers, was aimed at identifying the challenges facing inclusive education.

Kahuthia (2007) studied the attitudes of preschool teachers towards the inclusion of visually impaired children in Thika, where questionnaires were administered to 66 preschool teachers. The study revealed that with a lower teacher-pupil ratio, teaching visually impaired pupils was easier. The study noted that this was due to the availability of enough teaching and learning materials. In another

study, Kogei (2013) investigated the factors influencing the enrolment of learners with disabilities in an inclusive education in primary schools in Nandi South district. The study found that there were insufficient relevant teaching and learning resources to enable learners with special needs to meet their aspirations and curriculum expectations.

Conceptual Framework

The conceptual framework depicts a scenario where, if the physical resources are available and are in a condition to facilitate access by learners with special needs in the inclusive public primary schools in Machakos sub-county, then the teaching of learners with special needs is effective. On the

contrary, if the physical facilities are not available or do not facilitate access by learners with special needs in the inclusive public primary schools in Machakos sub-county, then the teaching of learners with special needs is ineffective.

Secondly, if the instructional materials for learners with special needs are available in the inclusive public primary schools in Machakos sub-County, then the teaching of learners with special needs is effective. Contrarily to this if teaching materials for learners with special needs are not available in the inclusive public primary schools in Machakos sub-County, then the teaching of learners with special needs is ineffective.

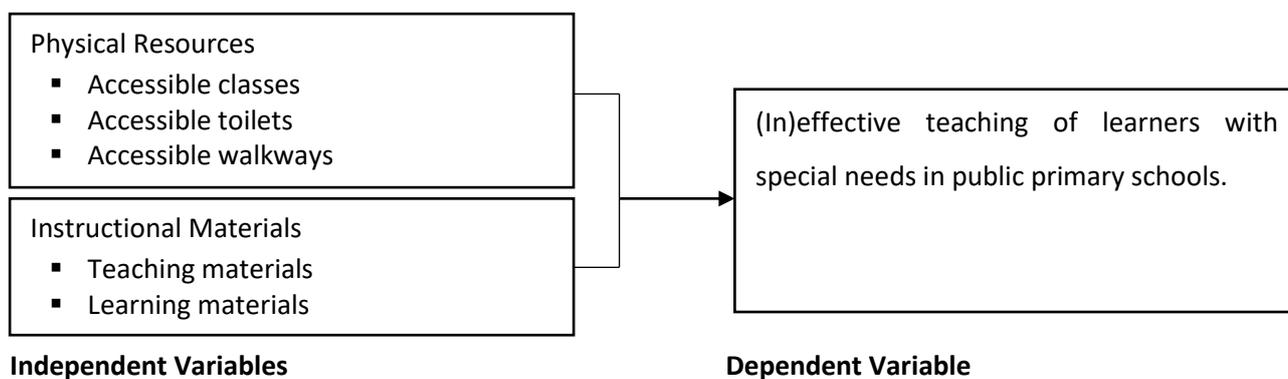


Figure 1: Conceptual Framework

METHODOLOGY

The study was descriptive survey conducted in Machakos Sub County which had 71 primary schools. The target population was 71 head teachers, 802 teachers, and one curriculum support officer for special needs. Proportionate and random sampling was used to select a sample size which comprised of included 80 teachers, three head teachers, and one curriculum support officer for special needs. Quantitative data was collected through the use of questionnaires for the teachers while qualitative data was collected using interview with three head teachers and one curriculum support officer for special needs education. The quantitative data gathered from the questionnaires was analyzed using descriptive statistics including frequencies, percentages and mean scores.

Qualitative data from interviews was recorded and analyzed based on the themes as per the study research questions.

FINDINGS

The first objective assessed how physical facilities influence the teaching of learners with special needs in public primary schools in Machakos Sub-County. To achieve this objective, the study began by asking teachers about the accessibility of the school's physical facilities for learners with special needs. A five-point Likert scale, where 5 represented "very accessible," 4 "accessible," 3 "inaccessible," 2 "very inaccessible," and 1 "not accessible at all," was used. A mean score below 3 was interpreted to imply inaccessibility, while a mean score above 3 was indicative of accessibility. The results are shown in Table 1.

Table 1: Accessibility of School's Physical Facilities by Learners with Special Needs

Physical facilities	Mean	Std. Deviation
Classrooms	1.88	0.624
Toilets	1.68	0.546
Offices	1.78	0.595
Playgrounds	1.82	0.597
Path ways	2.17	0.973

The results show that the physical facilities in the surveyed schools were inaccessible to learners with special needs, as all the items posted a mean score of less than three. Toilets were deemed to be the most inaccessible to learners with special needs, as indicated by a mean score of 1.68. The head teachers interviewed concurred with the results as they revealed that this is the essence of the schools being termed "inclusive learning environments,"

where there are no physical facilities dedicated purely for children with special needs to avoid stigmatization and isolation of the learners with special needs.

The study then asked teachers to rate how access to physical facilities in schools influences their teaching of students with special needs in the listed teaching areas. Table 2 shows the results.

Table 2: Extent to Which Physical Facilities Influence Special Needs Teaching

Teaching Area	Mean	Std. Deviation
Attention	1.88	.644
Communication	1.78	.595
Interactions	1.65	.661
Writing	1.87	.336
Numeracy	1.86	.350
Extracurricular Activities	1.90	.305

The results show that surveyed teachers felt that the influence of physical facilities on the teaching of pupils with special needs was not felt, as all the teaching areas posted mean scores less than three. The contribution of physical facilities was least in the communication teaching area, as indicated by a mean score of 1.65. The interviewed head teachers agreed and stated that it was difficult to determine how physical facilities influenced learning outcomes

in the listed areas.

The second objective of the study sought to establish the influence of teaching and learning materials on the teaching of learners with special needs in public primary schools in Machakos Sub-County. Regarding this objective, the study asked teachers about the source of the learning materials for learners with special needs in their school. The results are presented in Table 3.

Table 3: Sources of Learning Materials

Source	Frequency	Percentage
Government Provided	78	100%
Non-Governmental Organizations	17	22%
Improvisation by teachers	22	28%
Parents	67	86%

The results show that the government and parents were the key sources of learning materials for learners with special needs in the surveyed schools, as indicated by 100% and 86% of the respondents,

respectively. Improvisation by teachers and non-governmental organisations also chips in on the provision of learning materials, as indicated by 28% and 22% of the respondents, respectively.

The study aimed to better understand how special needs teaching and learning resources are used in inclusive primary schools. The results were interpreted using mean scores and standard deviation on a scale of Always used [5], Frequently

used [4], Occasionally used [3], Rarely used [2], and Not used at all [1]. A mean score below three indicated non-use of the teaching and learning resource, while a mean score above three indicated usage of that particular resource.

Table 4: Usage of Teaching and Learning Resources

Resource	Mean	Std. Deviation
Hearing Aids	1.90	.381
Visual aids	1.76	.607
Braille	1.13	.336
Play items	4.09	.956

The results show that the use of play items was widespread as a teaching and learning resource for learners with special needs, as indicated by a mean score of 4.09. The respondents indicated that braille was the least used teaching and learning resource, as indicated by a mean score of 1.13. The head teachers indicated that learners with pronounced

visual and hearing impairments tended to be taken to special schools, thus the results posted.

The study then assessed the extent to which the use of the teaching and learning resources influences the teaching outcomes in the areas listed in Table 5.

Table 5: Extent to Which Resources Influence Special Needs Teaching

Teaching Area	Mean	Std. Deviation
Attention	1.92	0.576
Communication	1.55	0.595
Interactions	1.74	0.616
Writing	1.72	0.682
Numeracy	1.96	0.711
Extracurricular Activities	1.94	0.69

The responses from surveyed teachers implied that the teaching and learning resources do not influence the outcomes of the teaching areas, as the items had a mean score of less than three. Communications had the lowest mean score of 1.55, while extra-curricular activities had the highest mean score of 1.94. The head teachers interviewed indicated that the play items were the most widely used, and this had an effect on the involvement of the learners with special needs in extracurricular activities.

Discussion of Findings

The first objective sought to determine the influence of physical facilities on the teaching of learners with special needs in public primary schools in Machakos Sub-County. The results show that the physical facilities in the surveyed schools

were inaccessible to learners with special needs. This is in concurrence with findings by several authors (including Ackah-Jnr & Danso, 2019 in Ghana, and Vincent & Chiwandire, 2017 in South Africa) who found that inclusivity hindered the availability of physical facilities designated for learners with special needs due to stigma issues, which the inclusive environment seeks to mitigate.

The results show that the influence of physical facilities on the teaching of pupils with special needs was not felt. This is contrary to the findings by Wang (2019), who found that in China, physical facilities affected the participation of students with disabilities in schools and their learning. The findings are also in disagreement with observations by Pellerin et al. (2022) that, in Britain, learners with special needs enjoyed sports and education

activities where there were adequate physical facilities.

The second objective of the study sought to establish the influence of teaching materials on the teaching of learners with special needs in public primary schools in Machakos Sub-County. The results show that the government and parents were the key sources of learning materials for learners with special needs in the surveyed schools. The results further show that the use of play items was widespread as a teaching and learning resource for learners with special needs, while other learning materials such as braille were rarely used. These findings are in disagreement with Kogei's (2013) findings in Nandi South, which found that there were insufficient relevant teaching and learning resources. The disagreement can be attributed to the time lapse, as Kogei's study was conducted in 2013, thus confirming the government's and parents' investments.

CONCLUSIONS AND RECOMMENDATIONS

The first objective sought to assess the influence of availability of physical facilities on the teaching of learners with special needs in public primary schools in Machakos Sub-County. The study concludes that most learning facilities in inclusive schools are inaccessible and do not favour learners with special needs. This is because the inclusive

learning environment seeks to mitigate stigma among learners with special needs yet the environment as found by the study is contradicting this intention.

The second objective of the study sought to establish the influence of teaching materials on the teaching of learners with special needs in public primary schools in Machakos Sub-County. The study concludes that the government and parents are the key sources of learning materials for learners with special needs. The study further concludes that being an inclusive setting the use of play items was widespread as a teaching and learning resource for learners with special needs while other learning materials such as braille were rarely used. As with the issue of physical facilities, the study observes that the efforts to accommodate learners with special needs means they have to do with the learning materials other learners are using thus the position that the influence of the learning materials was not felt.

The study advises teachers to come up with ways of mobilising teaching materials in conjunction with head teachers and parents based on day-to-day classroom needs. The government should also enforce regulations to ensure that school infrastructure is in a state to enable effective teaching for learners with special needs.

REFERENCES

- Ackah-Jnr, F. R., & Danso, J. B. (2019). Examining the physical environment of Ghanaian inclusive schools: how accessible, suitable and appropriate is such environment for inclusive education? *International Journal of Inclusive Education*, 23(2), 188-208.
- Adewumi, T. M., & Mosito, C. (2019). Experiences of teachers in implementing inclusion of learners with special education needs in selected Fort Beaufort district primary schools, South Africa. *Cogent Education*, 6(1), 1703446. <https://doi.org/10.1080/2331186x.2019.1703446>
- Azizah, N. (2010). Managing inclusive school: what should school provided to help students with special needs. In *Proceeding of International Conference on Educational Management, Administration and Leadership (ICEMAL)* (pp. 344-350).

- Bibiana, R. I., Madrine, K., Eric, W., & Simon, T. (2020). Policy strategies for effective implementation of inclusive education in Kenya. *International Journal of Educational Administration and Policy Studies*, 12(1), 28–42. <https://doi.org/10.5897/ijeaps2019.0622>.
- Chiner, E., & Cardona, M. C. (2013). Inclusive education in Spain: how do skills, resources, and supports affect regular education teachers' perceptions of inclusion? *International Journal of Inclusive Education*, 17(5), 526-541
- Chiner, E., & Cardona, M. C. (2013). Inclusive education in Spain: how do skills, resources, and supports affect regular education teachers' perceptions of inclusion? *International Journal of Inclusive Education*, 17(5), 526-541
- Gichaba, W. (2011). *Teacher preparedness in the integration of learners with physical disabilities in public pre-schools in Kiamokama Division Kisii County-Kenya* Masters of Education Thesis, University of Nairobi Press.
- Hornby, G. (2014). Inclusive special education: The need for a new theory. In *Inclusive Special Education* (pp. 1-18). Springer, New York, NY.
- Kahuthia. B. (2007). *The Attitudes of Preschool Teachers Towards Inclusion of Children with Visual Impairments: A case study for Thika Municipality*. Unpublished Master's Thesis, Kenyatta University Press.
- Kauffman, J. M., Hirsch, S. E., Badar, J., Wiley, A. L., & Barber, B. R. (2014). Special education today in the United States of America. In *Special education international perspectives: Practices across the globe*. Emerald Group Publishing Limited.
- Kogei JK (2013). factors influencing enrolment of learners with disabilities in an inclusive education in primary schools in Nandi South District Kenya. Master of Education in Educational Planning
- McLeod, S. A. (2016). *Bandura - social learning theory*. Simply Psychology. www.simplypsychology.org/bandura.html
- Ministry of Education Science and Technology, (MOEST) (2013). *Basic Education Act*. Nairobi. Government Printer.
- Mutuku, F. M. (2013). *Challenges facing the implementation of inclusive education in primary schools in Yatta division-Yatta District Machakos County, Kenya*. Unpublished Master's Thesis. Kenyatta University.
- Muyungu, E. G. (2015). *Towards Inclusive Education in Tanzania: A study of pre-service student teachers training and perceived needs to practice inclusive education*. Unpublished Thesis, Oslo University.
- Namwaki, J. (2013). *Barriers to Inclusive Education for Learners with Visual Impairment in Primary School in Kisii County, Kenya*. Unpublished Thesis, Kenyatta University.
- Paseka, A., & Schwab, S. (2020). Parents' attitudes towards inclusive education and their perceptions of inclusive teaching practices and resources. *European Journal of Special Needs Education*, 35(2), 254-272.
- Pellerin, S., Wilson, W. J., & Haegele, J. A. (2022). The experiences of students with disabilities in self-contained physical education. *Sport, Education and Society*, 27(1), 14-26.
- Powell, J. J. (2015). *Barriers to inclusion: Special education in the United States and Germany*. Routledge.

- Stanberry, K. & Raskind, M. H. (2018). Assistive technology for kids with learning disabilities: An overview. Retrieved from <http://www.readingrockets.org/article/assistive-technology-kids-learning-disabilities-overview>
- UNESCO, (2009). *Inclusive Education: The Way of the Future* Final Report of the International Conference of Education Paris: UNESCO.
- Vincent, L., & Chiwandire, D. (2017). Wheelchair users, access and exclusion in South African higher education. *African Journal of Disability*, 6(1), 1-9.
- Wang, L. (2019). Perspectives of students with special needs on inclusion in general physical education: A social-relational model of disability. *Adapted Physical Activity Quarterly*, 36(2), 242-263.
- Yamamoto, T., & Moriwaki, K. (2019). Japanese systems to support inclusive education for children requiring medical care, current status of such support, and related challenges—based on the results of surveys involving departments of education supporting their enrollment in general schools. *Children*, 6(3), 39. <https://doi.org/10.3390/children6030039>