Towards Inclusive Education in Art and Design Programmes: An Enquiry into the Availability of Resources and Support Systems

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Inclusive education represents the idea of recognising diverse students with disabilities and special needs who were hitherto traditionally educated through special education systems, the right and privilege to be fully educated in the mainstream schools alongside their regular peers. It also requires that, learners with disability and special-needs be provided with adequate resources and supports to meaningfully access the mainstream schools. This study therefore sought to examine the resources and support systems available for the implementation of inclusive education in one of Ghana's public universities. The researchers adopted the phenomenological paradigm of the qualitative design and case study approach, which involved the Departments of Graphic Design and Art Education, with the Department of Special Education used to complement data. To gather compelling data in accord with the overarching aim of the study, in-depth interviews and observations were conducted along with simple frequency counts from the students' questionnaire. The findings from the study suggest that the lecturers and their students with special-needs/disabilities mostly agreed they were under-resourced, and this negatively affected the effective implementation of inclusive education in the University. Amongst the thoughts proffered as a way out was the need for the university authorities to formulate and operationalise a strategic plan toward the provision, regular impact assessment and maintenance of resources and support services for students with special-needs and disabilities.

Keywords: inclusive education, resources, support systems, teaching and learning, university

INTRODUCTION

Just like many developing countries across the globe, the formal education system in Ghana has been structured in a manner that favours only the regular learners to the disadvantage of those living with disabilities who are mostly in the minority. In effect, students with special educational needs are secluded from the mainstream educational setting; usually segregated in special schools. In other words, the only option available for providing education for students with special-needs and disability was through the special schools. The implication is that the students with disability and special-needs by virtue of being exclusively educated in special schools cannot benefit meaningfully as that of the general education system, hence, limiting their individual potentials to function at an optimum level.

However, recent developments have occasioned new approaches to dealing with issues of diversity in the classroom. A relatively new concept, which frowns on the institutional segregated education system, has emerged to promote the education of all learners within the mainstream schools. This concept is known as "inclusive education". Inclusive education is a global phenomenon, which promotes the situation where diverse students with disability and special needs who were traditionally educated through special education systems are now allowed to be fully educated in the mainstream schools alongside their regular peers. It also requires that learners with disability and special-needs are provided with adequate supports to meaningfully access the mainstream schools.

Inclusive education represents numerous ideas (Hernández-Torrano, Somerton & Helmer, 2020), though rarely defined (Rapp & Corral-Granados, 2024). However, it is basically predicated on the notion that every learner has the capacity to learn and has the fundamental human right to education as enshrined in the Universal Declaration of Human Rights (UDHR). In the estimation of Nilholm (2021), inclusive education must be targeted at a broader range of learners to encompass learners who are sexually diverse, economically struggling, or may be faced with any challenge(s) that affect their learning. It is about strategically positioning schools to meet the needs of all students (Inclusive Education Policy, 2016).

Additionally, Ige, Omotuyole and Sebili (2020) postulate inclusive education as the principal approach for meeting the "Education for All" (EFA) agenda within the general education system which involves building and enhancing their institutional capacity in a way that they cater for every student. Based on the common assumption that education is central to the individual and national advancement, the EFA initiative is a critical component of the Millennium Development Goals, which sought to ensure that all persons of school going age receive quality basic education (Arkorful, Basiru, Anokye, Latif, Agyei, Hammond & Abdul-Rahaman, 2020).

Kefallinou, Symeonidou and Meijer (2020) further note that inclusionary policies and practices in principle should be guided by the drive to strengthen the capacity of the system, with the starting point being an acknowledgement of education as a fundamental human right; the basis for building a society considered as equal and just. This means that, with the implementation of inclusive education, such diverse students

with special-needs and disabilities that were formerly segregated in special schools are given the right and opportunity to actively and meaningfully participate in mainstream schools and succeed alongside their regular counterparts. Yet, recent research findings show that in practice and irrespective of contexts, the myriads of challenges confronting inclusive education still exist (Lucena-Rodríguez, Invernón-Gómez, Ortiz-Marcos & Sánchez-Mendías, 2025). More so, inclusive education can at best remain only an idea without the availability of the requisite resources and support systems to effectively implement it.

Resources and support systems availability for inclusive education

To effectively implement teaching and learning activities especially in inclusive settings, it is important that educators have at their disposal adequate and appropriate resources and support systems to meaningfully impact learners, especially those with special needs. It is important that educators are provided with the relevant instructional resources and other equipment to facilitate their duties (Kabwos, Moige & Omwenga, 2020). Likewise, the availability of quality support systems in inclusive settings is paramount to facilitate an effective education provision for all learners, particularly those with disabilities or special educational needs (Francisco, Hartman & Wang, 2020).

A scoping review by Chow, de Bruin and Sharma (2024) found that, about one-third (36%) of the select reviewed studies including member states lacked adequate human and material resources, and other supports services and consequently could not effectively implement inclusive education. According to Ackah-Jnr and Fluckiger (2023), providing resource services and systems is key to the effective enactment of inclusive education. It is worthwhile therefore, to make resources and support services accessible in the form of assistive technologies, instructional materials and specialised education for special education. These resources, as further buttressed by Tyler-Wood, Smith & Zhang (2023), must be made equitably accessible to all students.

Newman, Madaus, Lalor and Javitz (2021) conducted an analysis from a nationally-representative secondary longitudinal dataset into the effect of supports accessibility on higher education persistence of students with disabilities and found that that students with disabilities with access "to universally-available and/or disability-related supports were significantly more likely to persist in their 2- or 4-year college programs" (p. 1). Again, the need for such resources and support systems in effectively facilitating inclusive practice may vary from one institution to institution and even within country-wide contexts. Coker and Schrader (2004) add that the provision of support systems help students with special needs to better understand their opportunities and based on this insight make appropriate adaptations and decisions, being personally responsible for the specific actions and choices they make based on their strengths and weaknesses. In relation, Lopez-Gavira, Moriña and Morgado (2021) argue that support services should inform students about their rights and enhance their capacity for autonomy while also equipping them with strategies for negotiation that do not result in disadvantages. Hence, there is the need to critically consider the issue of support services provision as an imperative for the teacher and learner in an inclusive education setting.

When categorising in the context of education, support services and resources represent an amalgam of all tangible and intangible elements within the school including materials, people, equipment/technologies, facilities and environment as well as philosophies and services. Nonetheless, the general belief holds that, educators certainly need resource supports such as a special educator or co-teachers to enable them to accommodate all students with diverse needs within an inclusive classroom. These support systems can be broadly categorised under academic and social systems ranging from facilities (infrastructure), resources (teaching and learning) and other support services (counselling/emotional/ pastoral). In another study on the availability of support systems for students with special needs, Pujari and Annapurna (2015) identify four categories of support systems needed namely: academic support system, social support system, emotional support system and physical support system.

Clearly, the relevance of human and material resources to the implementation of inclusive education cannot be overemphasised because they form a major part of the determinants that influence the overall development of effective inclusive outlook of such schools. In essence, educators and by extension institutions should take the responsibility of managing the physical and social environment of the classroom and larger school community by ensuring the availability of support systems and making them accessible to every learner, particularly students with special needs and disabilities. In relation to that, Rawls' Theory of Justice (1971) propounds the need for institutions to encourage biases in favour of the marginalised and disadvantaged regarding allocation of resources in order to achieve society's equity goals. Rawls (1999) notes further that no amount of resources will suffice for learners with disabilities, in facilitating their level of performance and achievement vis-à-vis that of their regular counterparts. This calls for specific additional material and human resources such as brailing information for the visually impaired and sign language interpretation and visual aids for the hearing impaired. There is also the need for the provision of wheelchairs for those with locomotor impairment to help them access the facilities and curriculum as well as resource teachers or paraeducators who are specially trained for working with students with special educational needs.

Similarly, Otieno (2024) puts forward such factors as the expansion of professional development programs, teaching/learning materials, increased funding and resource allocation as well as infrastructure improvements to be central to the implementation of effective inclusive education.

In evaluating the significance of physical resources, Grimus (2020) found that close to one-third (30%) of the schools surveyed had access to infrastructural resources like ramps and elevators, whereas half of the schools (50%) did not have assistive technologies like braille materials and screen readers. Another study by the Canadian Teachers Federation (cited in Brackenreed, 2011) reveals a staggering 47% of educators retire earlier than the expected retirement age as a result of factors such as stress and lack of support systems. In furtherance to that, a South African study by Nembambula, Ooko and Aluko (2023) observe that even though educators generally support the idea of inclusive education, they do not feel well prepared and adequately resourced to teach diverse learners. These perceived lack of support and professional development among

others interact to affect the effective implementation inclusive education (Galvez & Episcope, 2025). Hence, Galvez and Episcope (2025) propose a necessary restructuring of training that goes beyond instructional strategies to encompass contextual and institutional factors as key components to effective inclusive education.

The European Agency for Development in Special Needs Education Report (EADSNE, 2003 as cited in Mitchell 2010) outlines the sources of support by some twenty-three European countries for general teachers who educate Students with Special Educational Needs. A number of emergent patterns regarding support were identified. Seventeen countries (e.g. Belgium, France, Austria and Germany), used external agencies such as psychological services, whereas sixteen countries (e.g. Sweden, Finland and Cyprus) did referrals to paraprofessionals located in the schools. Mitchell further reports that, eight other countries (e.g. Leichtenstein, Greece, and Switzerland) outsourced specialist educators from specialised institutions to provide support to their general teachers. The study established that more than half of the sampled countries used more than one source of support.

The physical and material resources are equally important determinants in enhancing the efficiency and effectiveness of instructional efforts of educators. A study by Otieno (2024) on the role of resources in inclusive education found that 58% of the respondents felt the availability of resources significantly impacted the effective implementation of inclusive instructional delivery. In specific terms, 70% of the teachers noted that enabling equitable learning experiences required having access to relevant learning resources, such as assistive technology and modified textbooks. Further, 75% of the teachers indicated that students' participation and engagement in class activities were higher in schools where they had easy access to these materials.

In addition, the safety and accessibility of the built environment for every student with or without special needs should be ensured so that they are provided with a truly inclusive education. Concerns about the plan of the built environment can be tackled during the planning phase where "educational authorities, builders and architects" are involved (NCSE, 2010, p. 56). Again, NCSE (2010) refers to the provision of adequate resources, and support services as components of "External Links" (p.76) which involves cooperation with other professionals and parents.

From the discussions, it is widely acknowledged that issues relating to resources or support systems for learners with disabilities are multifaceted; encompassing issues of availability and accessibility, training of teaching and non-teaching staff, responsive referral services, guidance and counselling units where students with and without special needs can have their concerns addressed, just to mention but a few. As buttressed by Bozkurt, Hill and Song (2023), one of the oft-cited challenge to inclusive education particularly in the developing countries is the of lack training or inadequate professional development.

The availability of these resources and other support systems as well as external factors invariably affects the educational and social experience of students with special needs. It clear that, nothing meaningful can occur if the educator and the student with special needs are not provided the requisite support system and resources. Related to this view,

Polo and Aparicio (2023) note that prospective teachers in inclusive educational settings have to be abreast of designing and implementing adapted curricula and methodologies that are diversely responsive, which requires a solid foundational expertise of pedagogical principles and availability of resources.

However, the 'how' question pops up relative to determining the amount of support systems (i.e. facilities, resources and other services) that should be made available and accessible for students with special needs in the context of the entire student population. The kind of supports according to Donald, Lazarus and Lolwana (2002), would have to be clearly defined and specifically discussed in the context of what is existing within schools and provided to schools and support from other community resource. This suggests that institutions must intentionally be structured such that, there is an in-built bias that favours students with special needs. This will not only involve the active collaboration with government agencies and the institution, but also in partnership with professionals and most especially parents/peers.

Research Purpose

This research was purposed to examine the availability of resources and support systems for the implementation of inclusive education by gauging the perspectives of educators and their students and to further explore how it impacted the students' social and academic lives at the case study university in Ghana.

In line with the aim of the study, the following research objectives (RO) were addressed:

RO 1: To identify and describe educators' perceptions about the availability of resources and support systems for inclusive education in the study area.

RO 2: To assess students' views regarding the availability of resources and support systems for the implementation of inclusive education in the study area.

RO 3: To explore the impact of resources and support systems on the social and academic lives of the students in the study area.

METHOD

Research Design

The study was primarily qualitative in nature with phenomenology as its design. Given that there is the possibility to quantify or quantitize qualitative data (Onwuegbuzie, 2025; Usman, Al-Hendawi & Bulut, 2025), the study also made use of simple frequency counts. Phenomenological research, as explained by Ho and Limpaecher (2022) is considered a qualitative research approach used for understanding and describing the universal essence of a phenomenon. In line with the phenomenological paradigm of the qualitative research design (Gill, 2020), an investigation into the availability of resources and support systems for inclusive education in the case study University (Anonymised as "University XYZ") was carried out. In addition to that, an enquiry into whether such resources/support systems affect the academic and social life of the students with special-needs was conducted.

Participants

Adopting the case study approach, a purposive sample of educators (Lecturers and Heads of Department) as well as students with special needs in the Departments of Graphic Design and Art Education, both located at one of the campuses of University XYZ constituted the target population for the study. Given that the Department of Special Education is the only specialised Department in University XYZ for training professionals in inclusive education and has students with visual impairments, it was used to complement the data. Out of this, an accessible population of 10 educators (two heads of department and eight lecturers from the case study departments) participated in the study, whereas 15 students with special needs and disabilities completed the self-administered survey. These students comprised students with hearing impairment (n=7), physical disabilities/locomotor impairments (n=3) and visual impairment (n=5), across the select departments that have been practising inclusive education in the University under study.

Context

The research was conducted at University XYZ, which is one of Ghana's topmost public Teacher Education universities with a student population of about 57,593 at the time of the study. Located in the Central region of the country, the University is mandated to train a cadre of professional teachers for the education system of Ghana.

Instrumentation

Questionnaire, Interview Guide and Observation Checklist were the main data collection instruments used for the study. In particular, the researcher-designed anonymous students' questionnaire was administered to gather basic descriptive quantitative data in the form simple frequency counts to survey the trend of opinions from the students who willingly participated in the study. This close-ended, dichotomously structured (binary coded) survey helped to easily quantify in percentage terms the respondents' agreement or disagreement with whether a list of resources and support systems were accessible to them or not. However, semi-structured in-depth interviews also were employed to glean rich qualitative feedback from the educator participants and a cross-section of the students who answered the questionnaire. Furthermore, field observations were undertaken by the researcher to augment the two data sources.

Data Collection Procedures and Analyses

Given the nature of the study, data collection spanned a period of two weeks, with the participants recruited by personally sending a formal letter to the Heads of the Departments concerned to establish rapport with them prior to undertaking the study. This letter spelt out the purpose of the study, the duration of engagement with participant, their rights of anonymity and confidentiality and the opportunity to opt out at any time of their choosing. Such measures were meant to ensure that respondents provided objective answers to the questions posed as possible. The thrust was to gauge their views regarding the availability or adequacy of resources and support systems to facilitate the practice of inclusive education in the University and how it impacted the overall teaching and learning process.

First, the qualitative data from the educator respondents were subjected to thematic analysis, which followed Braun and Clarke (2006)'s thematic analysis framework of: a) Familiarization with the data b) Generating initial codes c) Searching for themes d) Reviewing themes e) Defining themes, and f) Write-up. This inductive, iterative process helped in identifying important themes and patterns that recur in the data. Another advantage of using thematic analysis is its methodological flexibility. In that way, it is applicable with any epistemological or theoretical lens (Maguire & Delahunt, 2017). Considering the quantitative data which were in respect of the students' views, the responses were analysed with the aid of Microsoft Excel 2016 software application, and the results were descriptively tabulated in terms of frequency counts and percentages.

FINDINGS AND DISCUSSION

Educators' views regarding resources and support systems for inclusive education practice

One of the assets to effective implementation to quality education revolves around a workforce that has the key competences, skills and attitudes. In this regard, very skilled educators, resource personnel and other human resources are very essential to successfully prosecute the policy and practice of inclusive education. According to Hanushek and Rivkin (2006 as cited in Shadaya, 2012), educators are an integral part of the creation and execution of educational programmes. Likewise, the essence of making material resources available for all educators and students cannot be underestimated, especially in a country like Ghana where issues of structural exclusion continue to be prevalent in most of our higher institutions of learning.

Through the in-depth interviews, a head of department identified the kinds of resources needed for facilitating inclusive education in the department as material resources, human resources and infrastructural resources. Three lecturers, classified into two groups the limited resources in their departments, where they identified them as material and human resources. Two of the participants also categorised the kinds of requisite resources needed in their departments as human, material, physical and technical resources (tools and equipment).

After the inductive analysis, the resources and support systems for inclusive education practice from educators' perspectives were discussed in the context of this study under two broad themes, namely: a) Limited human resources/support systems and b) Inadequate material and physical resources/support systems.

Limited human resources and support systems

Regarding the availability of human resources in the departments to facilitate the implementation of inclusive education, respondents generally expressed the inadequacy of such resources and support systems. One respondent decried the seeming lack of support staff, which invariably affects his efforts to cover the curriculum. He recounted in the following narrative:

> In fact, last year for example, we had a very big challenge. We didn't have interpreters to interpret for the hearing impaired in our classes…because I had some

(hearing impaired students) in second year, third year and the final year, but only one interpreter. So, it was a big challenge. If we have for instance, a lecture and there is nobody to interpret for them then it means that you would have to reschedule the lecture until we get somebody to interpret for them.

Another respondent stated a similar view as follows:

What I teach, "Printing" and "Photography" are technical courses so if I don't get someone to interpret for these students it's going to affect them in their exams. So, I always reschedule the lectures until I get an interpreter.

Other participants similarly noted that, the quality of training provided to the support personnel and resource educators were not specifically tailored to their field of study, as such, they noted that the training given to the support personnel were inadequate for facilitating inclusive teaching and learning activities in certain specialised programmes of study:

With Art in general or Graphic Design, we have some technical terms that we use. So, even if you train a special education student to come and interpret, for instance something like "Perspective in Art", how do you explain if you are not an art student? The English meaning of perspective or graininess is different from that of Art and Graphics, so those who came from the special education department could not explain to the students well. We need to look at the issue of human resources very critically.

The narratives as expressed by the respondents bring into focus the findings of Polo and Aparicio (2023), who argued that prospective teachers in inclusive educational settings should be abreast of designing and implementing adapted curricula and methodologies that are diversely responsive, which requires a solid foundational expertise of pedagogical principles and availability of resources. The implication for policy is for educational institutions and by extension government to prioritise the recruitment, development, and retention of highly qualified subject area sign language interpreters and related support staff to effectively implement inclusive education. Specialised professional training modules the technical and creative disciplines should also be integrated in the teacher education curriculum.

Beyond the technical expertise, "teacher perceptions and attitudes" as a key attribute of the human resource was identified as undesirable to the implementation of inclusive education:

Considering the human resources, we need the right personnel because even at the university level some don't see the need for persons with special-needs to be educated. Even at this stage, people discourage them…Even some lecturers teach without taking them (their needs) into consideration. So, the negative perceptions of the human resource pose as a barrier to inclusion.

This concurs with the research finding of Bozkurt et al. (2023), who noted the lack training or inadequate professional development as an existential challenge to inclusive education particularly in the developing countries. Impliedly, an intervening policy

must be targeted at equipping all teachers through ongoing professional development programmes. This programme must be rolled out in all institutions of higher learning and be made mandatory so as to curb the propensity of non-compliant teachers to resist change and thus, impede effective implementation.

It can be inferred from the above narratives that, there is a symbiosis between resources /support systems and educators' attitudes in the practice of inclusive education. The availability of teaching/learning resources and support systems can shape educators' attitude either negatively or in a positive way, hence affecting the overall implementation of an effective education system.

Issues with the number of resource persons/support staff provided were equally raised:

> If you look at the human resources, we have only two resource persons who should take care of about sixty-five students with visual impairment. It cuts across the other departments, for sign language there are about three of them (resource persons) and the students are many. You know they even require one-on-one support.

This shares some similarities with the findings of Mwale (2023), who identified the lack of relevant technical expertise as a major challenge to the implementation of inclusive education. Policy-wise, there is the urgent need to formulate explicit frameworks at the levels of the country and the institution to guide the equitable provision of human resources for effective inclusive education delivery.

To further establish whether the ethos of inclusion was reflected in the human resources available in the school, the researcher enquired from participants if there was any faculty member(s) with any category of impairments in their departments. All but one of the respondents admitted not having any such member of faculty as an educator or support staff. Another respondent however recounted that, there were two educators with physical impairments who were part of the faculty but on pension before the inception of this research.

The state of affairs as revealed from the narratives, paints a rather worrying trend of events in the sampled departments in that, having the right calibre of support staff with the right skills, attitudes and knowledge is as important as having educators with the requisite expertise for inclusive education practice. There is the need to acknowledge that neither the educator nor support staff can effectively function in isolation, but rather in collaboration and cooperation with each other if the ideals of effective inclusive education practice are to become reality.

Inadequate material/physical resources and support systems

On the availability of material resources, most of the respondents stated that resources and support systems were inadequate. Educators noted that they lacked current educational materials for facilitating inclusive education. Particularly, educational materials like books that are written in braille for students who are visually impaired were inadequate. They further stated that other specific materials and equipment were unavailable in their departments. The following extract from the narratives of an educator respondent captures their sentiment on the inadequate material resources:

> As for the material resources, I call them technical resources, we are lacking. You know we divided our classes into three (A, B, C) with each class having more than fifty students, but we have only three cameras to take them out to teach photography-practicals within two hours. How do you do it? Even if one student uses ten minutes multiplied by the number of students in a group it is impossible. So, you are not able to cover the whole syllabus.

Similarly, the lack of material resources in the aspect of teaching-learning material was reported: "Material resources are also a challenge because we don't have the teaching-learning material resources for them".

Respondents also identified issues of structural accessibility to the facilities:

> Physical resources are inadequate. For instance, we have library facilities that students cannot access, we have lecture halls that are inaccessible; if you look at the last floor in this particular building students with physical impairments cannot access them.

> With this staircase and classroom space you can imagine how a wheelchair-bound learner will be able to cope. It's sad we haven't modified our system enough in this regard and they would have to sadly cope with this.

Field observations conducted to corroborate the claims made by respondents confirmed most of their views. For instance, it was observed that the lecture theatres/halls in the university were housed in three-storey and four-storey facilities but without a functioning elevator (lift), hence rendering access especially to the upper storey very problematic and almost impossible for students particularly with orthopaedic or locomotor (physical) and visual impairments. This confirmed the claims made by the educator respondents that the physical resources were not accessible to students who are wheelchair-bound and those with visual impairment.

Further observations revealed that, even though one of the departments had some book and non-book instructional resources such as braille paper, tape recorders and braille machines/embossers, they were in a rather limited supply to cater for the large number of students who needed them. This finding was rather startling considering that, the University has a dedicated department for special education and prides itself as one of the few inclusive universities in the country. The findings are in line with the literature. From a survey conducted by Grimus (2020), only 30% the schools had accessible infrastructural resources which include ramps and elevators. It was also found that half of the schools had no/limited assistive technologies like screen readers and braille materials. The consequence is that the inadequacy of such infrastructural and instructional resources will negatively impact the teaching and learning process.

Students' views regarding resources and support systems for inclusive education practice

Issues relating to the availability of resources and support systems are multifaceted. The assumption can also hold that as the students' population grows there is bound to be scarcity or pressure on the usage of the resources and support systems, which invariably

affects the implementation of an effective inclusive education system. An overview of students' views elicited from the questionnaire has been presented in Tables 1, 1.1 and 1.2, regarding student participants' responses on whether resources and support systems were available or accessible to them with reference to the specific category of special-needs.

Views of students with visual impairment

Table 1
Specific resources and support systems for students with visual impairment

Impairment category	Resource/support type	Available (%)	Not available (%)
Visually impaired			
	Braille library service	0	100
	Textbooks in Braille	20	80
	Tape recorders	60	40
	Audio Books	0	100
	Computer with JAWS software	40	60
	Support services on social skills	20	80
	Braille printing/Embosser	60	40
	Exam reader/Scribe	20	80
	Counselling services	100	0
	White canes	40	60
	Support services on academic skills	40	60
	Disability rights and advocacy	0	100
		36%	64%

Respondents within the visual impairment cohort reported the availability or unavailability of such resources or services. As can be seen from Table 1.0 above, the particular areas of concern with respect to availability of resources and support systems included but not limited to specific resources such as voice recording devices, counselling services and support services on social and academic skills.

Table 1.0 showed that, the kind of resources and support systems perceived as unanimously available to students in the visual impairment cohort were counselling services (100%), followed by braille printing/Embosser (60%) and tape recorders (60%), which the majority agreed were available. However, all the visually impaired participants stated that three of the specific resources were unavailable them. They claimed that they were not provided with Braille library service (100%), audio books (100%) and Disability rights and advocacy training (100%). This finding was particularly curious in the sense that, whilst respondents agreed that braille printing/embossers were available to them, they noted that there were no braille books in the library. It stands to reason that, these embossers/braille machines may be inadequate for the volume of work associated with embossing all the books in the library. In this regard, major efforts have to be directed at stemming this anomaly, particularly in light of the recent Marrakesh treaty that Ghana is a signatory to, which requires all materials to be converted to braille.

Additionally, some other significant resources and support systems needed to facilitate the academic and social life of respondents in this category were reported to be either

insufficient or unavailable. They reported Textbooks in Braille (80%), Support services on social skills (80%) and Exam reader/Scribe (80%) as specific resources and support systems unavailable to them. Other resources reported as inadequate were Computers with Job Access with Speech (JAWS) software application (60%), White canes (60%) and support services on academic skills (60%). Particularly with the unavailability of computers with JAWS, one of the resource staff reported during personal conversations that the software applications were out-dated and the purchase of a current software application was imperative.

It can be deduced from the foregoing analysis that, in as much as few of the resources were available, majority of respondents in this category claimed that most of the specific resources and support systems were neither available nor adequate to them. Empirical research indicates that, for a meaningful teaching and learning to occur there is the need to put in place adequate and appropriate resources and support systems. These resources and support systems as noted in the literature (Tyler-Wood, Smith & Zhang, 2023), must be accessible to all students in an equitable manner.

Views of students with hearing impairment

The next category of respondents that were investigated in respect of the availability of specific resources and support systems were those in the category of hearing impairment and have been presented in Table 1.1.

Table 1.1
Specific resources and support systems for students with hearing impairment

Impairment category	Resource/support type	Available (%)	Not available (%)
Hearing impaired			
	Sign language interpreter	100	0
	Audiometric assessment	100	0
	Announcements through mobile phones	0	100
	Support services on social skills	86	14
	Counselling services	100	0
	Computer usage training	71	29
	Assistive Technologies	57	43
	Support services on academic skills	71	29
	Disability rights and advocacy	0	100
		65%	35%

Participants in the hearing impairment category similarly reported whether disability-specific resources and support systems were made available to them or not. From Table 1.1, key aspects of resources and support systems particularly directed at students in the category of hearing impairment ranged from but not limited to resources such as sign language interpreter, through to audiometric assessment services, assistive technologies and counselling services. Again, these resources and support systems are categorised on the basis of their availability or otherwise to respondents.

All respondents in this category noted that specific resources and support systems like Sign language interpreter (100%), audiometric assessment (100%) and Counselling services (100%) were made available to them. Nonetheless, all respondents in this

category equally stated that specific services in the aspects of Announcements through mobile phones (100%) and Disability rights and advocacy (100%) were virtually unavailable to students with hearing impairment. On the other hand, while 86% of respondents in this category attested to having support services on social skills available to them, a significant number of respondents reported other aspects to be inadequate. 43% of the respondents expressed dissatisfaction with the availability of resources in the area of Assistive Technologies. Another 71% of them noted that specific support in the area of computer usage training and support services on academic skills for students with hearing impairment were adequate, while 21% of respondents in this category thought otherwise. Overall, 65% of the sampled students with hearing impairment believed that the resources and support systems were available to them whiles the other 35% perceived otherwise.

Views of students with Orthopaedic/Locomotor impairments

As can be seen in the next section in Table 1.2, the last category of impairment that was considered was those with orthopaedic/locomotor impairments.

Table 1.2
Specific resources and support systems for students with orthopaedic impairment

Impairment category	Resource/support type	Available (%)	Not available (%)
Orthopaedic impaired			
	Wheelchair-friendly lecture theatres/rooms	0	100
	Ramps	100	0
	Wheelchairs	0	100
	Innersole	0	100
	Crutches	33	67
	Brace	0	100
	Counselling services	100	0
	Walking sticks	0	100
	Elevators/Lifts	0	100
	Disability-friendly washrooms	0	100
	Support services on academic skills	67	33
	Support services on social skills	67	33
	Disability rights and advocacy	0	100
		36%	64%

Respondents within the category of locomotor impairment also reported the existence or unavailability of certain disability-specific resources and support systems in their departments. Table 1.2 showed that respondents had major aspects of specific resources and support systems, which include but not limited to wheelchair-friendly lecture-rooms, ramps, disability-friendly washrooms, counselling services and elevators.

From Table 1.2, it can be observed that, respondents rated some specific resources and support systems such as ramps on campus (100%) and counselling services (100%) to be available to them. Nonetheless, most of the other specific resources and support systems were perceived as inadequate or unsuitable and consequently putting students

at a disadvantage in pursuing their academic and social endeavours. From the Table 4.6, resources noted to be unavailable were Wheelchair-friendly lecture theatres/rooms (100%), Braces (100%) and innersole (100%). Other support systems and resources rated as not available were Wheelchairs, Disability rights and advocacy, elevators/lifts, Disability-friendly washrooms and walking sticks, where they each had a 100% rating. Other support systems were rated as either unavailable or inadequate as well. While 67% of respondents noted specific support systems like Support services on academic skills and social skills were available, a significant minority (33%) thought otherwise. Similarly, whereas 67% of the respondents stated that crutches were inadequate, 33% believed that the crutches are available. The majority (64%) of the sampled students within the category of locomotor impairment believed that the resources and support systems not available to them. 36% on the other hand, disagreed and thought they were available.

The general trend observed across the three categories of students with special needs was that majority of students with visual and locomotor impairments were dissatisfied with the unavailability of resources specific to their needs. On the other hand, the hearing-impaired students seemed largely satisfied with specific resources available to them.

Impact of resources and support systems on the social and academic life of students with special needs

Beyond establishing the availability of resources and support systems in the case study University, the study further enquired through students' lenses whether such resources/support systems affect their academic and social life. To address this theme, a set of questions was asked through in-depth interviews to ascertain the influence of resources and support systems on the social and academic lives of students with special-needs.

When students were asked whether the range of resources and support systems within the university positively impacted their academic lives, only one out of the four respondents with visual impairments claimed that the resources and support systems available in the school enabled her cope academically with some ease. She asserted that the coeducators were very friendly and always available to offer support whenever she needed them. She further explains that she was given extended time to complete assignments and exams. Some verbatim quotes from the respondent reflect her opinions:

> They are patient, and willing to explain further if we don't understand some of the things…We are also allowed more time to write our assignments, quizzes and even exams. This helps me to keep up with most of our academic issues.

> To be honest with you, the resource personnel (braillist) from 'SPED' (referring to the Department of Special Education) has been very supportive. He will come around to enquire how we are faring and whether we needed any assistance.

Other students with hearing impairment explained also that the more time spent at the resource centre was very instrumental in their academic life. One explained that; "…the

resource centre is where I virtually spend most of my spare moments, and I can confidently say that this has helped significantly in my academic performance".

Another student noted that; "…by and large they have been met; even though there is more room for improvement. The provision of extended time for submitting assignments has helped me".

The interview data further revealed how support systems and resources affected the social life of students with special-needs in a positive way. One student with locomotor or orthopaedic impairment noted that the orientation provided them has helped him to easily access facilities and other locations in and around campus. He recounted that: "the support given us during orientation helped me to easily move around campus with my crutches without feeling less-human as people accepted me to part of them, thus interact better with everybody".

Contrariwise, three visually impaired students held rather negative views regarding the impact of resources and support systems on their academic lives in the university. They observed that, the support services had no positive impact on their academic lives. One student observed that the instructional resources rather made his academic life difficult. He narrated his ordeal in the following oral account:

> Things are really difficult here, my brother. Can you believe that this whole department we don't have assistive technologies like tape recorders, audio books and even a note-taker (Scribe) to help us cope? I have to virtually depend on benevolent friends to read notes to my hearing before I cope. In fact, I can't talk about everything, but God is in control we are surviving.

Similarly, other students with physical and visual impairments believed that the counselling services would have to do more to impact on their social activities. The following narrative demonstrates such views:

> These support systems for instance, the counselling service unit in my opinion should have been more up and doing in terms of educating the regular students about issues of disabilities so that they can understand and relate better towards us.

The implication from students' views is that although support systems particularly in the area of counselling services was seen to be available, some students perceived it to be less effective in addressing their basic social needs in terms making them have the feeling of belongingness. This means that even though it is worth having support systems like counselling services and other resources, making them easily accessible to the intended user is a major part to consider.

In relation to this, there is the need to conduct an impact assessment of most of these specific resources/support systems in order to establish the challenges and accordingly remedy the situation. As noted in Rawls' Theory of Justice, the availability and provision of resources and allied support systems must be undertaken in manner that there exist inherent biases in favour of students with special needs so as to achieve equity goals of society.

Overall, the study established that, whiles there were very commendable and encouraging developments in some instances, there were certain shortcomings as well. One very commendable observation was that a range of resources and other support systems/services were particularly available to those students in the hearing-impairment category. However, the University's attempts in the provision of support systems and resources were less encouraging especially for students with visual and locomotor impairments, which they asserted they were underserved. In their estimation, the scope of service provision was very limited, and the quality was low. These negative perceptions held by students with special needs and disabilities have been buttressed by the educators who noted that, they lacked the requisite resources and support systems to effectively implement inclusive education in the University. Clearly, the unavailability of resources negatively can affect such student's academic and social life. This can be resolved when there is equity and efficiency in the provision of requisite resources and support systems so that no student feels underserved.

CONCLUSION AND RECOMMENDATIONS

It is evident from the study that, the case study university generally lacked the requisite resources and support systems for the effective implementation of inclusive education. Particularly, educators stated that the lack of the human and material resources in the university hindered the effective implementation of inclusive education in their respective departments. In their views, even in cases where there were some instructional materials and equipment, these material and physical resources were either undersupplied, out-dated or dilapidated, which made it a herculean task to implement inclusive teaching and learning activities effectively. In addition, they indicated that funding for the implementation of inclusive education was inadequate.

Aside from the fact that students with hearing impairment perceived that resources and support systems were available and as such impacted positively on their social and academic life, the students with visual impairment and physical disabilities mentioned that the inaccessibility of the built environment in the university adversely affected their academic and social activities. They decried difficulties in accessing the lecture halls, buildings and the general University environment, stating that they were not disability-friendly. It stands to reason that, for effective inclusive education practices to occur there is the need for the provision of adequate resources/facilities and support systems. This in furtherance of the overall dictate of Ghana's 2015 National Inclusive Education Policy along with the vision of the 2018-2030 Education Strategic Plan and other international conventions, can be achieved directing efforts at making the built environment (i.e. studios, galleries, lecture halls, computer labs and other learning environments) of the university more disability-friendly. More so, the university authorities should formulate and operationalise a strategic plan toward the provision, regular impact assessment and maintenance of resources and support services for students with special-needs and disabilities. This comprehensive plan could be embedded into the relevant quality assurance policies or plans of the university to ensure that the authorities are up to speed on the status of the requisite resources and support systems that are available within a given period for onward redress and overall accountability. Lastly, and as a matter of urgency, more resource personnel and

specialists such as sign language interpreters, braillists, and other coeducators should be recruited into the various implementing departments in an equitable manner the to augment the limited number in order to enhance teaching and learning process. This is in line with not only the university's commitment to equity but the broader national policy regarding human and material resources needs for quality and inclusive education practice across all levels of the educational system.

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