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Barriers to Knowledge Transfer by Graduates of Special Education in Basic Educational Institutions in Buea, South West Region of Cameroon

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Abstract. Teacher training in special education is to positively impact the lives of learners with disabilities. With the presence of graduates of special education in basic education, the performance of persons with disabilities is hoped to improve. Unfortunately, various research findings and our observations suggested a plethora of barriers to the effective transfer of knowledge and skills from training to the classroom of practice. This study investigated the barriers to knowledge transfer by graduates of special education in Basic Educational institutions in Buea. An exploratory qualitative approach was adopted for the study and purposive sampling technique used. Interview guides were used to collect data from 6 lecturers of Special Education, 8 graduates of Special Education teaching in the basic education, 3 administrators and 3 focus group discussions. Collected data were analysed thematically with the aid of Atlasti3.0., Findings showed that; large class size, large scheme of work/workload, lack of didactic materials/resources, inadequate practical, impatience from parents, language barrier from kid themselves, and poor adaptation of school environment were some of the challenges they faced in transferring knowledge and skills. Generally, it was recommended that the special education programme, quality of training offer and strategies to enable transfer be upgraded.

Key words: Barriers, Evaluation, Knowledge Transfer, Graduates, Special Education, Basic Education

Introduction

The success or failure of any organization or institution depends on the quality of it human and material resources. An institution that is made up of well-trained personnel is most likely to give a positive result to the institution. Mdhlalose (2020) asserts that organizations rely on the expertise, standard, competence and performance of its employees to offer effectual service delivery. According to Mohammed (2016), well trained and highly developed employees are considered as corner stone for success.

This is maintained by Ahmadi (2014) who indicated that training employees positively increase productivity and job satisfaction. Productivity generally includes amongst others any attempts to improve on the life of individuals, organization, society, their philosophy and their strategy-based ideologies. Badescu and Garces-Ayerbe (2009) found that some organizations experienced advances by using training opportunities for their new-coming employees. This therefore means that knowledge and skills acquired during training is transferred to the place of work. So, the effectiveness of a training is reflected in increased productivity of the organization or institution.

Training in special education has a goal of impacting the lives of learners with disabilities. Some of the graduates from special education are recruited mostly in basic educational institution and it is hoped that they will positively impact these institutions. Unfortunately, various research findings and our observations coupled have suggested a plethora of barriers that hinder successful knowledge transfer, thus the teaching/learning process is considered incomplete in such a circumstance.

It was on this premise that this study sought to uncover some of the barriers to knowledge transfer by graduates of special education in Basic Educational Institution in the South West Region of Cameroon.

Literature Review

According to Baldwin and Ford (1988), barriers are factors that affect training transfer, including those related to the participants' characteristics, the design of the training program, and the work environment. So, in this study, barriers to knowledge transfer refer to the important factors that negatively work together to affect a participant's motivation to change behaviour in the place of practice after receiving training.

Baldwin and Ford (1988) posited that barriers are factors that affect training transfer, including those related to the participants' characteristics, the design of the training program, and the work environment. Training in education is costly and sometimes time demanding not only to the organizations but also to the people involved in the learning act itself. The central point of learning is for transfer to the place of practice. Singer (1978), asserts that if appropriate strategies are not presented for learners to learn, the learning activity itself could hinder subsequent learning activities and limit potential development of adaptive behavior by the learners, whether they be students or employees.

Moreover, Baldwin and Ford (2008) indicated that there are many factors that inhibit the transfer of knowledge from training to the job. These factors can significantly inhibit transfer intention and transfer initiation. It is difficult to assess the percentage of training that has actually been transferred. Retention and transfer increase to the extent that "original learning" in the training is strong, an outcome that can be produced, in part, by overlearning training designs. With overlearning, practice training in a skill continues beyond the point of skill mastery.

Newstrom (1986) reported that the most significant barrier, in the eyes of the instructors, was the lack of reinforcement on the job to support trainees in applying training to their jobs. In effect, the instructors opined that trainees did not expend the energy to do something new because no one around them cared. The second most powerful impediment to workplace learning transfer mentioned by Newstrom was interference by the immediate environment.

Such factors included working with time pressures, insufficient authority, ineffective work processes or inadequate equipment. This implies that even if trainees are willing to change, they may not be able to use their new skills because of obstacles (real or imagined) placed in their way. The third most important barrier was lack of active support by the organizational climate for the transfer of the program's content or skills to the workplace.

Similarly, Kemerer (1991) suggested that factors inhibiting learning transfer can be organized around three key areas: structural expectations, improvement of skills and establishing rewards. According to Kemerer (1991, p. 71) one of the best ways to inhibit the transfer of learning is to use learning objectives that are written from the instructor's not the learner's point of view; are so specific that they sound odd and do not mirror the exact tasks required by a job. A final area which affects training transfer is the establishment of rewards. Without the application and reinforcement of new skills, new behaviours are likely to diminish. In workplace education, the supervisor is a key factor in reinforcement. In multi-layered succeeding management level reinforces the behaviours of subordinate levels.

Caffarella (1994) in an attempt to summarize some of the literature on the topic categorises these ideas into five key influencing factors:

- The perceptions of program participants.
- The program designs.
- The program content.
- Changes required to apply learning.
- Organizational context.

Depending on how these factors play out in the transfer of learning process, these five factors can be barriers or enhancers to that process. As Ottoson (1994) mentions, program planners in workplace education have varying levels of control over the decisions they can make related to the factors that influence the transfer of learning. They have most control over program design and implementation and probably less control over the organizational context. Since planners have the greatest decision-making power over the design implementation of a program, it is important for instructors to consider planning for transfer of learning as an integral part of the planning process.

Argote & Ingram (2000) states that there seems to be a general agreement that knowledge transfer in organizations is the process through which one unit is affected by the experience of another and is manifested through changes in the knowledge or performance of the recipient units and can be demonstrated by measuring changes in performance. Many of the studies assume that knowledge transfer is a straightforward process, with little discussion on the barriers to knowledge transfer and the stickiness of knowledge are addressed (Szulanski, 1994; von Hippel, 1994).

Part of the challenge of transfer is knowing when two situations share a fundamental structure and thus should trigger the use of a previously learned concept or principle. Jerome Bruner (1960) suggests that teachers can help students use their knowledge across dissimilar situations in at least three ways: 1) provide a context for the subject matter, 2) capitalize on

general principles, and 3) encourage the understanding of structures that tie subject matter knowledge together. These three instructional principles have all been found to influence learning and transfer.

In school settings, the ways in which teachers present ideas and engage students in working on them have a great deal to do with whether transfer of learning will later occur. Learning discrete, unconnected facts outside of a broader *context* reduces the likelihood that students will be able to remember and apply their knowledge later aligns with Thondike's theory of connectivism or identical element. Learning information that is never applied or put into practice also reduces the likelihood of later transfer.

Szulanski (2000) identifies the difficulty of a knowledge transfer process in six ways. First, strength of relationship between the staff (staff research) and students influences the effectiveness of the transfer. Such relationships can be strengthened by creating positive attitudes among students toward staff research through awareness. Second, direct transfer of research findings to students is inappropriate as this can create ambiguity. To overcome this difficulty, research output of projects can be re-constructed to suit the student audience. Rowland (1996) describes this as 'talk down to students'; that is devising a simple structure to deliver complex research knowledge to students.

Third, absorptive capacity of students differs depending on their prior knowledge (Cohen, and Levinthal, 1990). Thus, strategies need to take this into account. For example, at level one, students can be introduced to the basic research process and at a higher level they can access direct research experience. Fourth, reliability of learning results is an important factor in transferring knowledge into practice. Lindsay, Breen, et al. (2002) explains that learning needs to be of interest, relevance, and utility to students. This suggests that research results should be tested for their suitability and accuracy before transferring to students.

Fifth, Szulanski (2000) points out motivation as an influencing factor during knowledge transfer. This is because only staff motivation, but also student motivation is required in creating this transfer. Finally, since the transfer does not occur in a vacuum, contextual factors such as organisational context can also have an influence (Colbeck, 1998). In summary, to transfer research into teaching effectively, these factors and their impacts need to be considered.

Huberman, (2002) confirms this when he claims that research data penetrates very slowly into the consciousness of the potential user, helped along by discussions and observations. According to him, the dissemination of research knowledge depends on its usefulness to the user and the absorptive capacity of the users. Consequently, when students are considered as the potential users of such a transfer process, their learning process followed by such a transfer is an essential consideration. As Griffiths (2004) emphasizes, for an effective transfer and learning, providing students with learning opportunities is insufficient; therefore, it is equally important to evaluate student learning.

Saks and Belcort (2006) demonstrated that for an average training programme, there is a gradual decline in the use of new skills on the job over time. Only about 35% of the skills gained in a training programme are still in use 12 months after the training ends. This therefore means that if graduates of special education stay without practicing immediately, there is a possibility for them losing the ability to transfer knowledge.

When those trained go out into the world and encounter new experiences, they will need to draw on what they have learned before to solve new challenges but if they don't practice according to Sakes and Belcort, 35% of the knowledge gained will remain after a year. One major justification for teaching theory in an education setting is its transferability and generalisabiltity. Although professional preparation programmes include both theory and practice, few of them give serious attention to the issues discussed above; and in some professions, the separation of theory and practice components over time and space militates against their integration (Eraut, 1999).

Wawira (2014) indicated that transferring a particular concept of knowledge or idea from an education training setting to a workplace setting is mostly difficult, because of the considerable differences in context, culture, and modes of learning. Until the nature and importance of transfer is recognised and supported in this way, the impact of education on the workplace will continue to be lower than expected and the quality of work will suffer from the limited use of relevant knowledge (Eraut, 2000)

Throughout history, educators have attempted to equip students with cognitive tools that they can apply beyond the initial learning context, at present, transfer of learned knowledge and skills is still considered a fundamental goal of education. It is, for instance, expected that the teaching of reading comprehension will facilitate students' reading and understanding of texts in other subject-matter domains and outside the classroom. In addition, the field of industrial and corporate training is strongly interested in the transfer of learning. In teacher education, training goes with practical or practicum which gives the trainee an opportunity to practice what is learned in a training environment to the work environment where the training will have an effect, this means that they are trained to transfer that training to the workplace in teaching learners.

It is worth noting that with the educational system of Cameroon, inclusive education is still new though Cameroon Primary School Curriculum, English Subsystem (MINEDUB) of 2018 states that the inclusive nature of the curriculum makes it user-friendly, thus, the classroom teachers should be able to claim ownership of it and be totally accountable for its implementation (MINEDUB, 2018,P.4).

Statement of the problem

Reflecting on the 2018 MINEDUB curriculum and the various statements proclaimed, also considering the complexity of the needs of learners with disabilities and the numerous challenges present in basic education, it seems practically difficult for special educators to effectively transfer knowledge and skills gained during training. With these contradictions and barriers in the environment of practice, the special education teacher seems to conform to regular education standard reform expectations thereby stepping out of the way of special education practices thus limiting transfer of special education knowledge. This is seen in the struggle children with disabilities still go through from admission through to assessment. One is tempted to think of this "user-friendly" curriculum as a failure on it arrival. It is against this backdrop that the study sought to investigate barriers to positive transfer of knowledge by graduates of special education in basic educational institutions amidst these challenges.

METHODS

Research design

An exploratory qualitative approach was adopted for this research in order to capture in-depth and detailed explanatory data on the perspectives of knowledge transfer and understandings within a specific setting under study. Grounded theory design was used to enable the researcher to explore and derived a general and abstract theory of a process, action, or interaction grounded in the views of respondents concerning knowledge transfer. This involves using multiple stages of data collection, refinement and interrelationship of categories of information in the knowledge transfer process. This approach was suitable for this study because the concept of evaluation of knowledge transfer is "immature" due to a conspicuous lack of theory and previous research and there is a need to explore and describe the phenomena and to develop theory.

With limited studies carried out in the field of study under investigation, there is a need to have the respondents' lived experiences, behaviours, emotions, and feelings as well as about the institutional functioning to enable the researcher understand the transfer problems from multiple perspectives. Qualitative research has the benefit of providing rich data on real life situations, especially on those concerning people. The researcher wanted those who were studied to speak for themselves, to provide their perspectives in words and other actions. This was an interactive process permitting participants to inform the researcher about their experiences.

The constructivists' approach of grounded theory used in this study sought to understand the "world of meaning and action" of research participants "in ways classic grounded theorists do not". Grounded theory methodology will move from individual knowledge and experiences to collective knowledge. Exploring the data can facilitate an emphasis on the views, values, beliefs, feelings, assumptions, and ideologies of the individual. In that light, this research design is used in order to explore the experiences of special education graduates in basic education and obtain an understanding of their perspectives about how well knowledge, skills and attitudes are transferred from classroom of training to basic education (workplace).

Population of study

Sample and Sampling technique

Table showing sample of the study

	Name of schools	School Administrators	Number of Regular teachers in each focus group	Number of SPE graduates
1	Potters House Education Center Bokwai	1	5	3
2	Hope Academy	1	5	2
3	Landywood Inclusive Nursery and primary school Buea Town	1	5	3
	Total	**3**	**15**	**8**

Source: field observation by the researcher

Three (3) schools were purposively selected with focus on the availability of Special Education graduates as part of the teaching staff. A sample of eight (8) special education teachers and three (3) administrators from three (3) schools participated. In each school a focus group discussion was carried out with five (5) members who were regular teachers and colleagues of the SPE graduates. The logic behind this decision was to gain an in-depth understanding of participants' perceptions of special educator's capacity to transfer knowledge in basic education and to have a glimpse of regular teachers and administrators' perception about the position of a special educator in Basic education. Six (6) lecturers from Special Education Department of the University of Buea were also interviewed to have their reactions on the training and checks on the possible setbacks or bottlenecks they perceive may occur in the place of practice.

A purposive sampling technique was used in this study to select schools and participants due to the unique nature of the study, which concerns presence of special education graduates. The first school with graduates of special education was identified and a snowball was used to identify other schools. Largely, this was because the focus was on the perspectives of special education graduates who are known to experience the phenomenon of interest, so the informants were selected for a good reason tied to the purposes of the study.

Instrument for data collection

The qualitative approach to data collection instruments were namely interviews with open-ended questions to provide 'an in-depth exploration from multiple perspectives of the complexity and uniqueness of each objective in real life context. Qualitative research method is generally small-scale, conducted in real contexts to get the depth rather than breadth of study (Afumbom, 2020). The instruments were designed to interview the special education graduates, their colleagues, and administrators and finally lecturers of Special Education Department of the University of Buea.

The instruments provided an opportunity to observe and explore the relationships between individuals within and across sites in detail. Such an approach, which provided a flexible design research strategy facilitated close engagement with the three (3) sites and allowed the researcher to compare and contrast not only contexts, but also the dynamics at play within contexts.

Description of instrument for data collection

Interview guide for graduates of special education

The interview guide had three sections; introduction, demographic information and four interview guides under the research objective to find out the barriers to knowledge transfer.

Focus group Interview guide

Focus group interview guide was constructed for the colleagues of special education graduates to verify graduates' responses to possible barriers to knowledge transfer in the institution.

Interview guide for administrators of consent schools

The interview guide for administrators had an introduction, section for demographic data and five interview questions that sought to validate graduates' responses on their capability to transfer knowledge and find out barriers to knowledge transfer by these graduates.

Interview guide for lecturers of special education

The instrument had three sections: the introduction, demographic information template and the interview guide. The introduction had the researcher's initials, the topic under study and the ethical assurance. It was followed by demographic data collection template and concluded with seven interview questions that sought to verify graduates' responses to their reactions to the special education training, knowledge, skills, and attitudes acquired and possible bottlenecks faced in transferring knowledge in the place of practice. All the participants were given opportunity to make observations on the topic under study.

Validation of instruments

The instruments were validated in four phases: face validity, content validity, construct validity and qualitative validity.

Face validity

The main instrument was an interview guide which was drafted and reviewed by the researcher specifically typing errors, visibility, and general outlook/presentation of the instrument. Peers also reviewed the instrument after their review, the instruments were readjusted, modified, and handed to some faculty staff for appraisal and finally the supervisor. After carefully looking at the items, recommendations, and general comments were made as such; the instruments have been formatted /edited to meet the required specifications in terms of quality, size, style and visibility. The main issues scrutinized for the face validity concerned physical presentation of the instrument, structure, various sections, visibility of contents and general presentation of the instrument.

Content validity

After constructing the instrument, it was presented to the supervisor who did a thorough review and check of each item contained in the instruments. It was realised that some of the items raised in the instrument did not actually contribute to quality data nor serve the purpose of the investigation as well as measure the intended outcome. The supervisor equally realised some irrelevances which were less significant in the process of acquisition of true and representative data. As a result, the investigator discarded some items and under the guidance of the supervisor, truer and representative items were constructed by the researcher to fit the purpose of the study. Finally, the content validity of the instrument was determined by expert judgment. Experts in the area of study were consulted to determine the content validity of the instrument

The contributions from the judges enabled the researcher to emerge with the percent CVI (Content Validity Index) of the instrument. This was done using the following formula;

$$CVI = \frac{\text{No of judges who declared item valid}}{\text{Total number of judges}} = 7/9 \times 100/1 = 77.77\%$$

Construct validity

Construct validity measured whether data collection tools would measure what they intended to measure. Various qualitative data collection instruments obtained were designed for different participants were used to collect in-depth data of the phenomenon under investigation.

Qualitative validity

Qualitative validity checked whether the responses given by the participants would tie with the report given by the researcher.

Reliability of instrument

The reliability of the instrument measured the consistency, objectivity, and truthfulness of the participant's responses to the questions enlisted on the instrument. Therefore, to find out the objectivity and consistency of student's responses, a pilot study was conducted with two participants from one of the schools with teachers under investigation. The respondents for the pilot test were selected because they met the requirements as already stipulated under sampling technique. Their responses proved that they understood the items. Clarifications made on any doubts about the questions in context of the study were easily understood.

This applies when dealing with quantitative studies. However, this method was used in this qualitative research study, whereby reliability was appraised not mathematically but conceptually which is termed conceptual parallel method (Nana, 2018). In the context of this study, some questions dealing with the same constructs and serving the same objective were framed differently and placed at two different locations in the interview guide. The objective committed and consistent student was expected to give similar answers to the two questions posed at two different intervals.

Administration of instrument

Although a range of data collection methods were used within grounded theory methodology, face-to-face interview method was particularly useful because meaning was constructed through participant-researcher interactions in order to generate new knowledge (Charmaz, 2006).

This study used an interview guide format because it is a well-established method of collecting data within qualitative research methods to enable meaningful interactions with participants, allowing them to share their experiences, thoughts, attitudes, and beliefs (Richards and Morse, 2007). This will enable exploration of a range of issues, while emphasizing aspects of the phenomenon participants perceive as important. Due to the on-site presence maintained on research sites, opportunities to follow-up on key concepts raised within knowledge transfer will be possible.

Prior to the administration process, a letter of introduction was obtained from the Faculty of Education-Department of Educational Psychology to bear testimony to the fact that the investigator was a registered student and on research, seeking data solely for the purpose of research. The researcher personally will conduct and/or supervised the administration of the interview.

Individual participants were interviewed for approximately one hour and more using intensive interviewing techniques according to the guidelines from Charmaz (2006, 2014). An interview protocol was developed in a way to ensure that each interview was conducted in a very similar manner and to provide structure to the interview technique (Creswell, 2014). The interviews began with questions to get to know each participant and to build an atmosphere of understanding, openness, and comfort in sharing stories about their personal life.

This style of questioning is in line with the literature on grounded theory in which Charmaz

(2006) said, "The combination of how you construct the questions and conduct the interview shapes how well you achieve a balance between making the interview open-ended and focusing on significant statements". The interviews was digitally recorded to facilitate transcription for the purpose of analysis.

Also, the researcher wants the process to be purely scientific and void of any malpractices where others will influence the responses of some respondents. The questions in the interview guide were preliminary used by the research to prompt further in order to get detailed information.

Data Collection

The selection process began after identifying the concerned schools and through Regional Delegation for Basic Education, permission taken from the regional delegate, a letter was sent out to the schools requesting participation. The letter packet included an introductory letter and consent form to indicate willingness to participate. Other regular teachers in the targeted schools who were interested in volunteering as participants were requested to send in their contact and later be contacted. Contact information as listed on the consent form developed for distribution to all potential participants at the start of this stage. An initial meeting place, time, and date was established for the convenience of the researcher and participant.

Secured meeting places with adequate space and good enough to use the necessary equipment, such as the tape recorder was used for the interview. Additionally, the establishment of contact was imperative for the interview participants to decide on the appropriate time and communicate the researcher. In the meeting, the researcher orally reviewed the purpose of the study, and read the consent form to the participant in order to verify willing participation by the interviewee. The initial interview then proceeded with the collection of demographics.

To gain a detailed depiction of participants' perspectives related to their teaching experiences, individual interviews was conducted, each having an estimated time burden of one hour. These interviews were open - ended and audio taped. The specific questions explored were included in an interview guide arranged from general to specific to follow a progression of participants' experiences in teaching as a special education teacher and colleagues who were regular teachers.

Data analysis

Data was analyzed using the process of thematic analysis whereby concepts or ideas were grouped under umbrella terms/themes or key words with the support of Atlas Ti 5.2 (Atlas Ti GmbH 2006). The first stage involved deciding on the level of analysis. At this level, single words, clauses and sets of words or phrases are coded. The researcher did not initially decide on the number of different concepts to code and for this reason, a pre-defined or interactive set of concepts categories was not initially developed. As such concepts/ themes emerge directly from the data during analysis.

After taking the generalization of themes into consideration, the researcher allowed the streamlining and organization of the coding process so that what was coded was made necessary for interpretation. This stage enabled the researcher to determine the meaning of themes and what they stood for so as to know where to code each statement. Finally, each

theme irrespective of grounding was interpreted and back with some direct statements from the participants with conceptual diagrams developed for each research question to give a quick visualization of the findings**.**

FINDINGS

What are the barriers to knowledge transfer by graduates of special needs education in basic educational institutions in Buea, South West Region of Cameroon?

Table 1: Graduates Opinion on the Barriers Faced to Effectively Transfer Knowledge and Skills Acquired

Themes	Groundings	Quotations/Responses
Large class size	3	"The number of children in my class is high" "The number of children I class is too much" "The size of my class is too large in terms of number of children, that renders me ineffective coupled with the fact that we are not many with the knowledge of Special Education".
Large scheme of work/workload	3	"They expect the scheme of work be finished before a particular time frame and that is difficult if you have to consider persons with disabilities." "They expect that the scheme of work be finished before a particular time frame which is practical difficult to use it with persons with disabilities". "Sometimes the administration behaves as though the workload is small because of the fewer numbers of children with disabilities, and they turn to assign other task to me and weighs on me because I try to concentrate on the task and miss out on preparing for the children with special needs"
Lack of didactic materials	2	"Material wise, there is no resource room or didactic materials that we can use". "I don't have resources and time is not on my side to be effective on each child".
Inadequate practical	1	"The practice sessions were not enough there should be more centers where practice can take place; more of practice should be carried out"
No barriers faced	1	"No obstacles because my proprietress is inclusive".
Impatience from parents	1	"The progress is slow, and some parents are not patients enough to see the results. Parents get so impatient so when I have a case, I have to play on your psychology and knowledge and bring you to my own sphere before I start the teaching".

Finding out from the graduates themselves the challenges faced in transferring knowledge and skills acquired during training, one of them said he/she was not faced with any obstacle while, a majority of the graduates indicated that they were faced with challenges. One of the challenges was large class size as some of the graduate reiterated "*The number of children I class is too much", "The size of my class is too large in terms of number of children, that renders me ineffective coupled with the fact that we are not many with the knowledge of Special Education*".

Also, another challenge was large and standard scheme of work that some of the graduates indicated in the statement "*They expect the scheme of work be finished before a particular time frame and that is difficult if you have to consider persons with disabilities*".

Furthermore, the lack of didactic materials/resource room was also another challenge that some of the graduates reported "*Material wise, there is no resource room or didactic materials that we can use", "I don't have resources and time is not on my side to be effective on each child*".

Finally, inadequate practical opportunities and the lack of patient from some parents are other challenges that some of the graduates are faced with as depicted in their statements "*The practice sessions were not enough there should be more centers where practice can take place; more of practice should be carried out", "The progress is slow and some parents are not patients enough to see the results. Parents get so impatient so when I have a case, I have to play on your psychology and knowledge and bring you to my own sphere before I start the teaching*".

Table 2: Regular Teachers and Administrators Identification of Barriers Faced by Graduates of Special Education in Effective Transfer of Knowledge Acquired

Respondents	Themes	Groundings	Quotations/Responses
Regular classroom teachers	Lack of didactic materials	4	"Material to teach those who are visually impaired". "Material is a barrier; there are no didactics at the levels". "Reference books to assist the special Educator are not there and there is need for a resource room for the Special Educator". 'Resource material"
	Poor adaptation of school building	3	"There is an environmental barrier to admonition first like in our case here. A person on a tricycle will not be able to go about mobility in the school. So, building should be in such a way that it can facilitate movement for that special child since these children cannot go about, it automatically affects the teaching-learning process of the Special Educator". "Environment can also be a problem". "Need for play environment to get with these children but there are not there".
	Large class size	1	"The population is too much, a lot of distraction from the other children considered normal. There is no space where these children can be taken to for formation so that high population with noise is a distraction and a barrier".
	Much workload	1	"The special educators are few so the workload is too much".
	Language barrier from kids	1	"The teacher may have a lot of difficulties if these children also have language barrier. Like in the case we had here where the child was brought just because we had a special educator, but the child never knew English before coming here. So that language barrier will hinder the special educator from understanding the child or from being understood so the teaching-learning process becomes difficult".
	Attitude	1	"Attitude of the Special educator toward the children can also affect the implementation of Special Education knowledge. If they are not

			actually loving and caring, they will not be able to reach these children"
Administrators	Lack of material resources	3	"Major barriers are resource materials to work with children. There is a course book but not enough, she was helpful". "We have gone around to have a dictionary for special education and have not been able so study material for teachers are not there and also space for practice and resources are absent even text books". "Material resources".
	Lack of patience by parents	1	"Parents don't have the knowledge of special education and s they don't exercise patience".

Still, not only did the graduates identify barriers hindering their effective transfer of knowledge and skills acquired during training. The regular classroom teachers and administrators also identified some barriers. From the perspective of the regular classroom teachers, many of them said the lack of didactic materials was one of the barriers preventing the graduates of Special Education to effectively transfer knowledge and skills acquired as they narrated "*Material to teach those who are visually impaired", "Material is a barrier; there are no didactics at the level*s".

Another challenge identified by the regular teachers is poor adaptation of school environment that is negatively affecting the children with disabilities as depicted in the statement "*There is an environmental barrier to admonition first like in our case here. A person on a tricycle will not be able to go about mobility in the school. So, building should be in such a way that it can facilitate movement for that special child since these children cannot go about, it automatically affects the teaching-learning process of the Special Educator*". Furthermore, some of the regular teachers also complaint of large class, and large workload that are preventing the graduates to effectively transfer knowledge and skills acquired during training.

Finally, language barrier from some kids with disabilities was also another barrier that some of the regular teachers reported "*The teacher may have a lot of difficulties if these children also have language barrier. Like in the case we had here where the child was brought just because we had a special educator, but the child never knew English before coming here. So that language barrier will hinder the special educator from understanding the child or from being understood so the teaching-learning process becomes difficult*".

On the side of the administrators, they identified two challenges with all of them complaint of lack of material resources as depicted in their statements "*Major barriers are resource materials to work with children. There is a course book but not enough, she was helpful", "We have gone around to have a dictionary for special education and have not been able so study material for teachers are not there and also space for practice and resources are absent even text books*".

Lastly, the administrators also said some parents were not patient enough which was another barrier to the graduates in the quest to effectively transfer knowledge and skills acquired during training as reported "*Parents don't have the knowledge of special education and s they don't exercise patience*".

Discussions

Research objective: Barriers to knowledge transfer by graduates of special education in basic educational institutions in Buea, South West Region of Cameroon.

Findings showed that despite graduates' preparedness and motivation to transfer of knowledge and skills acquired from the University training programme to their workplace, they were faced with several barriers. These barriers were large class size, large scheme of work/workload, lack of didactic materials/material resources, inadequate practical, impatience from parents, language barrier from kid themselves, and poor adaptation of school environment. To discuss further, with reference to large class size, the graduates stated that the size of their classes were too large in terms of number of children, that rendered them ineffective coupled with the fact that they were not many with the knowledge of Special Education. With respect to large scheme of work, the graduates reiterated that the educational system in its curriculum expects the scheme of work to be finished before a particular time frame and that was difficult if they must consider persons with disabilities factored in that standard curriculum. With reference to the lack of didactic materials, the graduate said narrated that there was no resource room or didactic materials that they could use in the teaching learning process.

Additionally, with respect to inadequate practical opportunities the graduates regarded that the practice sessions were not enough and talked of the need for more centers where practice could take place and more of practice carried out. Finally, in the light of poor adaptation of school environment, the administrators affirmed that there was an environmental barrier to admission. The environment was not special education friendly in the sense that a person on a tricycle could not access the school classrooms. So they saw the need for buildings to be in such a way that it should allow movement for children with orthopedic impairments because its absence automatically affected the teaching-learning process of these persons with mobility difficulties.

The challenges of large class size and poor adaptation of school environment was reflected in the study of Hamad (2015) who explored teachers' attitude towards the provision of Inclusive Education in primary schools in Zanzibar with some findings indicating that classes were overcrowded, facilities were inadequate, and the learning environment was not conducive to all learners.

Also, the challenge of inadequate practice as revealed in the findings of our study is reflected in the study of Velada et al. (2007) who carried out a study to examine the relationship between three types of predictors on transfer of training, including training design, individual characteristics and work environment and the results suggested that in order to enhance transfer of training, organization should design training that gives trainees the ability to transfer learning, reinforces the trainee's beliefs in their ability to transfer, ensures the training content is retained over time and provides appropriate feedback regarding employee job performance following training activities. It was observed that in the study of Velada et al. (2007), they reiterated the need for monitoring graduates' performance at job for feedback to training institutions which is something completely lacking in Special education programme in the University of Buea.

Furthermore, in a study carried out by Almannie (2015) on critical issue in the practicality of

training programs in Saudi Arabia and some developing countries findings showed that aside barriers of trainees showing limited transfer of training to the workplace due to a lack of encouragement from management; poor environment, lack of cooperation from management; and lack of cooperation from colleagues, the challenge of lack of collaboration from colleagues tied with some findings in our study whereby some graduates said there has been jealous/envy by their colleagues to the extent that the graduates had to advise their colleagues to go enroll for Special Education to acquire the knowledge and skills they need to work with children with disabilities.

Notwithstanding, the lecturers in their perception about Special Education showed that there was inadequate hands-on-activities (programme more of theory than practical), laboratory was absent, opportunities for exchange studies were missing, specializations and manpower were limited, and materials resources were lacking. According to Baldwin and Ford (1988), barriers are factors that affect training transfer, including those related to the participants' characteristics, the design of the training programme, and the work environment. Considering the short comings enumerated by lecturers and taking into consideration that training in special education is costly and sometimes time demanding defeats the central point of learning which is for transfer to the place of practice. This is also supported by Singer (1978) who asserts that if appropriate strategies are not presented for learners to learn, the learning activity itself could hinder subsequent learning activities and limit potential development that is as a result of knowledge transfer.

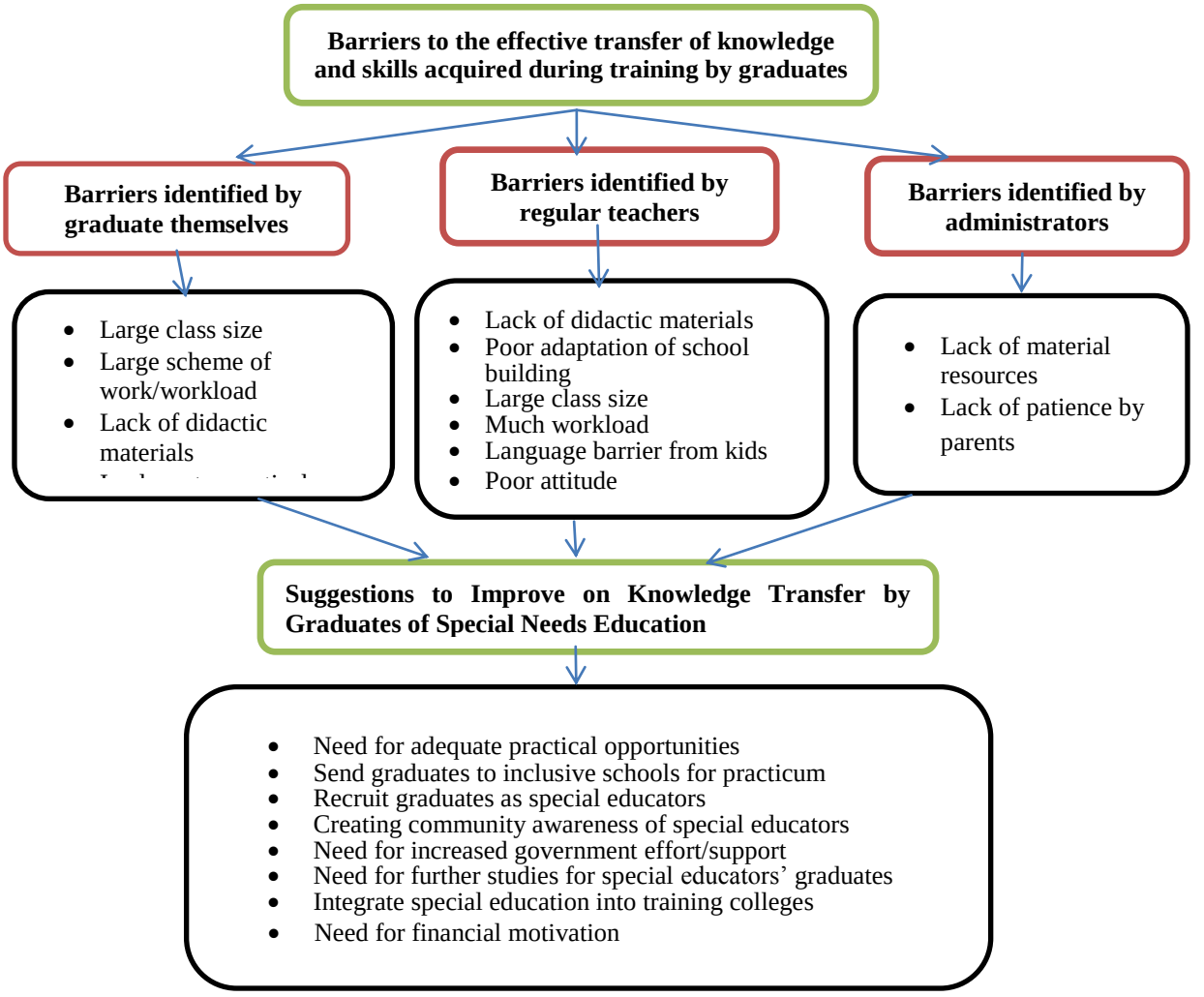
With the above series of limitations with Special Education programme in the University of Buea, graduates are more likely to continue lacking in knowledge and skills to effectively work with children having disabilities in our schools in Cameroon. Rouiller and Goldstein (2003) supported this by stating that the potential to transfer depends on the quality and depth of the original learning that occurs in the training. This is to say that with quality training, transfer of knowledge and skills will be more effective and vice versa.

Besides, Szulanski (2000) points out motivation as an influencing factor during knowledge transfer. Not only staff motivation but also student motivation is required in creating this transfer and this was evident in the findings of our study whereby motivation was highlighted by graduates to affect their transfer of knowledge and skills. Brown and McCracken (2009) in their study found that quality of trainers influence the transfer of knowledge from training to the job. The finding of Brown and McCracken (2009) is cited because one of the negative reactions from graduates about their training is that some lecturers lack the expertise in teaching some courses. In overall, the challenges faced by the graduates during their training in the University and their negative reactions about special education including the negative reactions from lecturers of Special Education will continue to negatively affect graduates' capabilities to effectively transfer knowledge and skills to their work place.

Contribution of the Study to Knowledge

This study has exposed the strengths and weaknesses of the Special Education programme in the University of Buea with the weaknesses dominating the strength of the programme. With the many weaknesses of the programme, however, findings from the study have equally showed that the graduates with training they received are yielding some positive returns in their place of practice. But a lot of improvement is expected from the programme ranging

from course content, Trainer quality and practical opportunities during training. Other pertinent contributions which are content specific to the barriers are presented on the following table:



Source: Shey & Ali (2022)

Recommendations of the Study

Based on the findings derived from the study, the following recommendations are proposed.

The quality of training offered to students of Special Education should be improved upon so that graduate's reactions about the programme will be all positive. This is because transfer starts with the motivation from the course content and its delivery. Mostly when trainees are excited about the training, it will give them an urge to acquire the knowledge and their speaking good about it will want to transfer to place of practice. This will positively validate Kirkpatrick's evaluation model level one that checks trainee reaction to training.

Braille and Sign language skills should be taught starting at the undergraduate level. This is so because many graduates are wanting in the above-mentioned skills since these such skills are taught at post graduate level that has high tuition fees and limits many from continuing

after undergraduate study. This will leave graduates with low appreciation of Kirkpatrick's evaluation model level two. In this state, graduates get into the place of practice and fine out that they were not given skills and knowledge they needed and that automatically will hinder transfer based on the theory of identical element by Edward Thorndike

Practical opportunities be given to students of special education. During training, students should be sent to inclusive schools for practicum as in the case with undergraduates so that they can have adequate opportunities to observe and practice. Meanwhile in the place of work, they should be recruited as special educators to permit them practice knowledge and skill acquired. Not overwhelming them with greater number of pupils in class tied to standard curriculum to be followed.

Finally, qualified lecturers with PhD in Special Education be recruited to teach in the programme while providing them with adequate materials resources, resource room and laboratories for practice.

References

1. Abdulraheem, S., & Mohammed, R. (2016). The Impact of Training and Development on Employees Performance and Productivity (july 10,). *International Journal of Management Sciences and Business Research*, Vol. 5, Issue 7, July 2016, Available at SSRN: https://ssrn.com/abstract=2849769.
2. Argote, L., & Ingram, P. (*2000*). Knowledge transfer: A basis for competitive advantage in firms. *Organizational Behavior and Human Decision Processes*, vol. 82, issue 1, 150-169.
3. Ahmadi, R. (2014). The effect of in-service training courses on productivity. *Knowledge Morning Journal*, Vol. 13, No. 5, pp.25–39, Tehran.
4. Badescu, M. and Garcés-Ayerbe, C. (2009). The impact of information technologies on firm productivity: Empirical evidence from Spain', *Technovation*, Vol. 22, No. 2, pp.122–129.
5. Baharim, S. (2008). *The Influence of Knowledge Sharing On Motivation to Transfer Training: A Malaysian Public Sector Context*. Victoria University Melbourne, Australia.
6. Baldwin, T. T., & Ford, K. J. (1988). Transfer of training: A review and directions for future research. *Personnel Psychology*, 41(1), 63-105.
7. Baldwin, T. T. & Magjuka, R. J. (2008). Transfer of Training: A Review and Directions for Future Research. *Personnel Psychology*, 41, 63-105.
8. Caffarella, R. (1994). *Planning Programs for Adult Learners*. San Francisco (CA): Jossey-Bass Publishers,
9. Huberman, M. (1990). "Linkage between researchers and practitionners: A qualitative study." *American Educational Research Journal* 27(2): 363-391.
10. Kemerer, R. "Understanding the Application of Learning", T. Sork (dir. de publ.). *Mistakes Made and Lessons Learned: Overcoming Obstacles to Successful Program Planning*, San Francisco (CA) : Jossey-Bass Publishers.

11. Mdhlalose, D. (2020). An Evaluation of the Impact of Training and Development on Organisational Performance: A Case Study of the Gauteng Provincial Department of Economic Development. *Journal of Human Resource and Sustainability Studies*, **8**, 48-74. doi: 10.4236/jhrss.2020.81004.
12. Newstrom, J. (1986). Leveraging Management Development through the Management of Transfer. *Journal of Management Development* 5, 1986, p. 33-45
13. Ottoson, J. (1994). Transfer of Learning: Not Just an Afterthought. *Adult Learning* 5, n° 4,p. 21.
14. Creswell, J. W. (2014). Research Design Qualitative, Quantitative and Mixed Methods Approaches (4th ed.). Thousand Oaks, CA Sage
15. Mohamed A. (2015). Barriers Encountered in the Transfer of Educational Training to Workplace Practice in Saudi Arabia, *Journal of Education and Training Studies Vol.3*
16. Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly, 35*(1), 128–152.
17. Bruner, J. (1960). The Process of Education. Cambridge, MA: Harvard University Press.
18. Willmott, H. (1994). "Management education: provocations to a debate." *Management Learning*. 25(1): 105-136.
19. Szulanski, G. (2000). The process of knowledge transfer: A diachronic analysis of stickiness. *Organizational Behavior and Human Decision Processes, 82*(1), 9–27. https://doi.org/10.1006/obhd.2000.2884
20. Von Hippel, E. (1994). Sticky Information and the Locus of Problem Solving: Implications for Innovation. Management Science, 40, 429-548. https://doi.org/10.1287/mnsc.40.4.429
21. Hamad, H.O (2015). Teachers attitudes towards the provision of inclusive education in primary schools in chake chake district Zanzibar
22. Raquel Velada, António Caetano, John W. Michel, Brian D. Lyons, Michael J. Kavanagh (2007) The effects of training design, individual characteristics and work environment on transfer of training.
23. Cameroon Primary School Curriculum, English Subsystem, 2018

    http://www.minedub.cm/uploads/media/01-Program_Level_One_2019_01.pdf