

Student Teacher Preparation and Self-Efficacy Beliefs about Inductive Teaching Learning Methods in Primary Colleges of Education, Zambia.

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Abstract

The study explored student teachers' self-efficacy beliefs about Inductive Teaching Learning Methods. These are Inquiry teaching, Problem-based teaching, Project-based, Field work, and Survey. Concurrent triangulation research design was used. Participants included both third year pre-service and in-service student teachers and were randomly sampled from 6 primary colleges of education. Survey questionnaires and interview schedules were used to collect data. Ethical issues including obtaining permission from college authorities and consent from participants were adhered to. SPSS version 23 was used to analyse the quantitative data by means of descriptive and inferential statistics. Qualitative data was analysed along the study objectives by identifying common themes that emerged from participants' narratives.

The study found low self-efficacy beliefs among student teachers regarding inductive teaching methods. There was also no significant difference between pre-service and in-service student teachers in self-efficacy beliefs on the five selected inductive teaching methods. In line with the findings, the following were recommended. Teacher preparation should prepare students in inductive methods if governments' policy shift from positivist oriented teaching (teacher-centred) to constructivist based teaching and learning is to be translated into practice in classrooms. There is also need to allocate more time to pedagogical teaching and learning experiences in colleges of education and to limit classroom enrolments because this emerged as one of the contributing factor to student teachers not being given enough opportunities to practice how to teach and was also a factor that compromised time allocated to students during practices and experiences meant to enhance their pedagogical knowledge and skills.

Key words: *Self-efficacy beliefs, Inductive Teaching and Learning, positivism, Constructivism, Teacher Preparation, Deductive and Inductive teaching.*

1.0 Background

Research has demonstrated the specific relevance of self-efficacy for students' learning (Bouffard-Bouchard, 1990; Caprara et al., 2008; Fast et al., 2010; Pajares, 1996; Zimmerman, 2000) cited in Holzberger, et al. (2013) with higher self-efficacy students achieving better academic outcomes. Teachers' self-efficacy can be defined as their beliefs about their capability to teach their subject matter even to difficult students. Teachers' self-efficacy beliefs are assumed to influence their instructional behavior and many other related outcomes (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998).

When applied to the teaching context, teachers' self-efficacy beliefs may be impacted by their classroom experiences or their students' achievement, their observations of peers, the arguments of their colleagues, and/or their levels of exhaustion (Ross, 1998) cited Holzberger, et al., (2013). Thus, although self-efficacy beliefs are theoretically assumed to be relatively stable (Bandura, 1997), these considerations on the sources of self-efficacy indicate that efficacy beliefs may change in response to specific experiences. When viewed from the teacher preparation context, one role that any teacher preparation should strive to achieve whether directly or indirectly is the development of positive (high) self-efficacy among student teachers. This includes self-efficacy development in instructional and pedagogical knowledge through specific, relevant and adequate experiences during teacher preparation course. From this perspective, teachers' instructional quality may not only be an outcome of teachers' self-efficacy beliefs, but may also influence the development of teachers' self-efficacy beliefs. Tschannen-Moran et al. (1998) acknowledges this reciprocal nature of self-efficacy.

For a long time, classroom teaching discourses have been dominated by the deductive teaching model that positions the teacher as the fountain of knowledge and under which the teacher's role has been to transmit knowledge to the learners whose role is relegated to absorbing this transmitted knowledge without question. An alternative model based on constructivism theory however argues for active construction and reconstruction of knowledge using student's prior knowledge, lived experiences, beliefs, preconceptions and misconceptions, prejudices, and fears among others. Prince and Felder (2006, p. 124) argues that in the process of acquiring this new knowledge, information that is consistent with student's already established mental structures (Schemata) may be integrated into them, "but if it is contradictory, it may be memorized for the examination but is unlikely to be truly incorporated into the individual's belief system which is to say, it will not be learned".

In the broadest terms, constructivist learning is based on an understanding that learners construct knowledge for themselves based on prior knowledge or experiences (Hein, 1991; Krause et al, 2003; Kort, Reilly, & Picard, 2001). It challenges learners to become adaptive experts who can solve problems and make contributions to society throughout their lives (Bransford et. al., 2000). "Effective instruction therefore must set up experiences that induce students to construct knowledge for themselves, when necessary adjusting or rejecting their prior beliefs and misconceptions in light of the evidence provided by the experiences" (Prince and Felder, 2006, p. 125). This is what inductive learning entails as it urges students to actively construct meaning and understanding.

2.0 Review of Related Literature

2.1 Inductive Teaching and Learning

According to Prince and Felder (2006, p. 123), "inductive teaching and learning is an umbrella term that encompasses a range of instructional methods, including inquiry learning, problem-based learning, project-based learning, case-based teaching, discovery learning, and just-in-time

teaching”. These methods have many features in common, besides the fact that they all qualify as inductive. They are all learner-centred supported by research findings that students learn by fitting new information into existing cognitive structures and are unlikely to learn if the information has few apparent connections to what they already know and believe (Prince and Felder, 2006). They are also anchored on constructivist theory whose main argument is that students construct their own versions of reality rather than simply absorbing versions presented by their teachers. This however does not by any means imply purely using inductive teaching and learning because in practice, neither teaching nor learning is ever purely inductive or deductive. “When we speak of inductive methods, we therefore do not mean total avoidance of lecturing and complete reliance on inductive teaching and learning methods, but simply teaching in which induction precedes deduction” (Prince and Felder, 2006, p. 123). Good teaching and learning if anything should help students to learn to do both. The teacher as an instructor should also retain his or her scaffolding roles by facilitating learning through guiding, encouraging, clarifying, mediating, and sometimes even lecturing (Prince and Felder, 2006).

Since learners in schools and colleges attain higher rates of retention under learner-centred instruction and are better prepared graduates than those trained under traditional instruction (Sternberg & Grigorenko, 2002; McCombs & Quiat, 1999; Knight & Wood, 2005; Salter, Pang & Sharma, 2009), many developing countries have over the last two decades embarked on major curriculum and pedagogical reforms to meet the Education for All (EFA) goal, often with donor involvement.

In Africa, this emphasis on learner-centred pedagogies has been made possible after the adoption of the Education for All (EFA) with the support of the United Nations Education and Scientific Culture Organisation (UNESCO) and the International Institute for Capacity building in Africa (IICBA) which has been committed to enhancing the quality of education in Africa by assisting in capacity building and promoting learner-centred education (UNESCO, 2011). In this regard and as a way of responding to the learner’s needs, the Ministry of Education in Zambia through the national policy document on education, *Educating Our Future* (1996) and related education policy documents on education have embraced the need for the transformation of the teaching methods from teacher-centred to learner-centred.

2.2 Studies on Learner-centred education in Zambia

Literature search on learner-centred discourse in Zambia yielded very limited researches compared to other studies elsewhere in Africa and beyond. Considering the fact that in many respect, education system in many African countries share a common story, research on learner-centred classroom discourses on Zambia is supplemented by similar researches from other African countries and the relatively many researches done on teacher education in Zambia.

Nyimbili1 et. al. (2018) did a study on the use of learner centred techniques in the teaching of English language in selected secondary schools of Lundazi District, Zambia. This was a mixed study involving 99 teacher graduates and utilised focus group discussions and questionnaires. The findings revealed that teachers were not interested in teaching using learner centred techniques citing inadequate teaching and learning material, over enrolment, rushing to cover the whole syllabus and teaching to make children pass examinations. This study extends the knowledge on learner-centred education especially on student self-efficacy beliefs about inductive teaching and learning.

In addition, a study by Banda et. al. (2014) titled ‘towards learner centred science lessons in Zambia: an experience of problem solving approach in biology lessons, revealed that problem-solving approach as a learner-centred approach was still a problem among science teachers in Zambia. What is key about this study however is that the authors made the observation that “contents of teacher preparation and training as well as a production process of teaching/learning materials have to be reviewed to avoid misconception of teachers” (p. 91). This revelation justified the need for this study so that issues into how colleges of education are preparing teachers for learner-centred discourse can be brought to the fore.

A study done by Namangolwa (2013) aimed at getting pupils and teachers’ perception of learner-centred methods in the teaching of history in western Zambia concluded that teachers did not frequently use learner-centred methods during the teaching and learning process of history. Namangolwa’s study however does not provide evidence into the question of whether teachers have the required knowledge and skills to teach through learner-centred approach. This study also did not relate teacher preparation to self-efficacy beliefs among student teacher. This study tries to establish how self-efficacy beliefs (self-confidence beliefs) among student teachers is shaped by teacher preparation.

2.3 Studies on Learner-centred education in Africa

In a qualitative study to explore teachers’ perceptions and implementation of learner-centred education involving two Namibian teachers, Amakali (2017) reports inconsistencies in teachers’ conception and implementation of learner-centred education and recommends a re-launching of learner-centred education in teacher education with a renewed focus on its theoretical assumptions, appropriateness and application in the classroom. Though this study was done based on two teachers who had just graduated from an in-service programme, the study gives an indication that graduate teachers are not fully equipped with the knowledge and skills needed to consistently implement learner-centred philosophy in the classroom. For Zambia, studies exist that seem to support this position (Mulenga, 2015; Banja, 2012; and Manchishi and Masaiti, 2013). Amakali’s study however does not provide information on student teachers’ knowledge of learner-centred education and the extent to which teacher preparation addresses the philosophy of learner-centred education in practice. This study fills in that gap.

A qualitative case study by Mtika and Gates (2010) which mainly addressed the capability of trainee teachers to implement learner-centred practice at one of the teacher education institutions in Malawi further revealed that appropriation and application of learner-centred education is constrained by various factors. The findings resonated with findings from other countries and indicated that progressive pedagogical notions aligned with social constructivism promoted in teacher education institutions have not resulted in widespread change in classroom practice. Data for Mtika and Gates (2010) study however was limited only to four (4) second year student teachers and one supervisor in Malawi, focussed on factors which affect the appropriation and application (or lack) of learner-centred education among student teachers and was purely qualitative. The current study however used a mixed methods approach involving both interviews and survey questionnaire and participants were drawn from public, gran-aided and private colleges of education.

In their investigation on classroom interaction and discourse practices in Nigerian primary schools whose purpose was to identify key issues affecting patterns of teacher–pupil interaction and discourse and based on the interaction and discourse analysis of video recordings of 42 lessons and

59 teacher questionnaires from 10 States drawn mainly from the north of Nigeria, Hardmana et. al. (2008) revealed the prevalence of teacher explanation, recitation and rote in the classroom discourse with little attention being paid to securing pupil understanding. This study justifies the need for further researches focussing on understanding the nature of learner-centred discourses in classrooms both in schools and colleges.

2.4 Studies on Learner-centred education outside Africa

A number of studies focussing on the complex side of learner-centred education have been done outside Africa. Gijbels (2009) for instance showed that a deep approach is difficult to incite. The results also indicated that small changes in a learning environment do not necessarily lead to changes in students' approaches to their learning. The study concluded that "One cannot expect that the implementation of innovations will automatically result in positive changes. One has to be wary of how one implements new measures, how different innovations affect each other and how students perceive these measures" (Gijbels, 2009, p.150). Among the factors reported by the study as determining the positive or negative effects of learner-centred approaches were learners' perceptions and attitudes and their characteristics, length of time needed, the appropriate instruments used, how student centred approaches are implemented, teacher professional capacity, available resources, cultural factors and learner background.

Furthermore, Cooper (2000) alluded to the fact that teachers may find learner-centred learning approaches more enjoyable and contributing to improved student learning, but that they still had questions about the amount of content that can be covered using these approaches. That content coverage was still high priority for teachers and teachers doubted whether the same content could be covered with learner-centred learning approaches as can be covered with traditional lecture-based approaches. All these studies point to the fact that learner-centred discourses have not fully materialised in classrooms and justifies the need for further researches focussing on understanding the nature of learner-centred discourses in classrooms both in schools and colleges.

3.0 Statement of the problem.

Despite many studies indicating that learners in schools and colleges attain higher rates of retention under learner-centred instruction and are better prepared graduates than those trained under traditional instruction (Sternberg & Grigorenko, 2002; McCombs & Quiat, 1999; Knight & Wood, 2005; Salter, Pang & Sharma, 2009), studies on learner-centred approach in Zambia continue to reveal that learner-centred approach is still a problem among teachers in Zambia (Banda et. al., 2014) and that teachers do not frequently use learner-centred methods during the teaching and learning process (Namangolwa, 2013) while Nyimbili et. al. (2018) found that teachers are not interested in teaching using learner-centred techniques. None of these studies focussed on self-efficacy and how it could be linked to implementation of learner-centred approach or lack of it. This is the gap this paper sought to address by exploring views of student teachers on teacher preparation and self-efficacy beliefs about Inductive Teaching and learning methods.

4.0 Purpose of the study

The study sought to explore views of student teachers on teacher preparation and self-efficacy beliefs regarding Inductive Teaching Learning Methods.

5.0 Research Objectives

5.1 To determine if student teachers had adequate knowledge and skills to facilitate learning in Inductive Teaching and Learning Methods

5.2 To assess student teachers' views on teacher preparation in Inductive Teaching and Learning methods.

6.0 Research Methodology

6.1 Research Design

Concurrent triangulation research design which involved collection of both quantitative and qualitative data at the same time survey questionnaires and face to face interviews respectively.

6.2 Participants

Respondents comprised of pre-service and in-service third year student teachers under the Primary Diploma Programme in six colleges of education. The study targeted third year student teachers because third year is the final year of study under the primary diploma programme and it was assumed that they had almost completed all the courses of the programme and hence their views, experience and perspectives were considered valuable under this study.

6.3 Data collection tools and procedure

Permission was obtained from college authorities to conduct the study and consent was also gotten from respondents. Survey questionnaires were used to collect quantitative data from participants who were randomly sampled using the class registers. The researchers worked with 6 research assistants who helped to administer and collect questionnaires. The researcher also conducted face to face interviews with 10 third year student teachers purposely sampled and drawn from public colleges, grant-aided and private colleges. The interviews were recorded and later on transcribed. Field notes were also taken.

6.4 Data analysis

The study employed Statistical Package for the Social Sciences (SPSS) version 23 to analyse the quantitative data by means of descriptive and inferential statistics. For inferential statistics, T- test for equality of means was used to determine if there was a significant difference between pre-service and in-service student teachers' self-efficacy beliefs on the knowledge and skills to facilitate teaching using inductive teaching and learning methods. Qualitative data was analysed along the study objectives by identifying common themes that emerged from respondents' narratives of their lived experiences regarding teacher preparation for learner-centred education.

7.0 Results and Discussion

Objective 1: To determine if student teachers had adequate knowledge and skills to facilitate learning in Inductive Teaching and Learning Methods

Table 1.0 Distribution of student teachers' views on whether they believed they had acquired knowledge and skills to facilitate learning in selected Inductive Teaching and Learning Methods.

LCM	SA		A		Not sure		D		SD		Cumulative	
	f	%	f	%	f	%	f	%	f	%	Agree %	Disagree %
Inquiry	10	1.8	90	16	77	13.7	191	34	193	34.4	17.8	68.4
Problem-based	8	1.4	32	5.7	92	16.4	242	43.1	187	33.3	7.1	76.4
Project-based	7	1.2	57	10.2	66	11.8	238	42.4	193	34.4	11.4	76.8
Field work	193	34.4	278	49.6	50	8.9	16	2.9	24	4.3	84	7.2
Survey	168	29.9	31	5.5	137	24.4	130	23.2	95	16.9	35.4	40.1
Average	77.2	13.7	97.6	17.4	84.4	15	163.4	29.1	138.4	24.7	31.2	53.8

Student teachers in the survey were asked statements to examine their ability to teach social studies using Inductive learner centred methods in primary schools, their responses are displayed in Table 1.0. The overall picture which emerges is a negative one. As depicted in the table above, the average cumulative percentages of those who disagreed is 53.8% and those who were not sure of what inductive learner centred methods were, were about 15.0%. The table also reveals that 76.8% of the respondents disagreed to having acquired knowledge and skills to facilitate learning in Project based method and 76.4% were also of the same view with regards to Problem based method. Inquiry based methods and survey method scored lowest at 17.8% and 35.4% respectively in terms of students having the knowledge and skills to teach using these two methods. However from the analysis most respondents at 84% agreed to being able to facilitate teaching using fieldwork.

During face to face interviews, student teachers lamented the lack of pedagogical practice during teacher preparation arguing that more time is spent on content knowledge and pedagogical theory (knowledge) as opposed to pedagogical practice. This was typical of one female student teacher who pointed out that:

I presented on settlement and used discussion method and group work. For group work i divided my class into groups and then i gave them a question regarding settlement, but not all the students were given chance to present during peer teaching because of time. We were alot in class, time was a challenge. Mostly those who presented used discussion, group work and questiona and answer, I did not observe a lesson where Map study, Picture study, Project, Debate, role play was used.

May be we were too many by then (57 in class). The last time when we had peer teaching, it's not everyone who did that peer teaching because of time". And almost all of us we just concentrated on discussion, question & answer and pair work methods. And those who did not experience pedagogical practice were assessed by observing how the others were doing.

One male participant during interviews also had this to say:

Learner-centred is emphasised by our lecturers. In fact you score less marks if you don't employ learner-centred methods during school attachment (commonly referred to as school experience). However lecturers should demonstrate to us how to organise and apply these methods. We were not really told like which method we should use when presenting during peer teaching. We were just given topics like choose a topic and then come and present. So most of us used discussion method. The other learner-centred methods were not really utilized by students during peer teaching because students choose what they were comfortable with.

Another student teacher recounted the continuous use of lecture methods by most lecturers in class as a reason why student felt not competent enough to use other learner-centred methods:

Lecturers mostly used lecture methods. We rarely are prepared in learner-centred methods like problem-based learning, project-based and all that. Yes group work is usually emphasised but even then, it is more of telling us what they are, advantages and disadvantages and not the application of it. So I wouldn't say that I have Knowledge in a number of Inductive methods because at this college they mentioned some methods and some they didn't. So if I say that I have knowledge in a number of Inductive methods it means am lying.

This the above findings it was evident that most student teachers felt not adequately prepared on how to teach but rather that they learnt more of the content knowledge. This could be a reason for students' low self-efficacy in inductive teaching and learning methods because through practice of these methods student teachers would build their confidence levels and skills to apply these learner-centred methods in a classroom situation. Participants' low self-efficacy in inductive teaching methods was also indicative from their responses on the type of methods commonly used in the classroom. Most student teachers did not cite inductive teaching and learning methods.

These findings are in contrast with Kangwa (2018) whose case study at Evelyn Hone College (EHC) revealed that students acquired and developed pedagogic skills necessary for them to teach well. The study findings are however in agreement with Simuyaba, et. al. (2015) whose study titled '*Theory against Practice: Training of Teachers in a Vacuum*' reported that the training offered to colleges students did not prepare them for real life situations in the field. The commonwealth of learning (2005, p.2) report on Zambia's Teacher Education Curriculum also is in line with this finding when it recorded that "teacher education curriculum in colleges remained tilted towards content and examination, leaving very little room for learning problem-solving skills".

The findings are also in agreement with Manchishi and Mwanza (2016) whose qualitative study involving 16 lecturers and 40 final year students under School of Education aimed at establishing whether or not peer teaching was still a useful technique in introducing student teachers to practicalities of teaching, revealed that though useful, its implementation was still a challenge and the inconsistencies made it less effective. Though Manchishi and Mwanza's (2016) study focussed on peer teaching and was based on the views and experiences of lecturers and student teachers at the University of Zambia, the findings are an indication that something is not right with how teacher preparation is being done in Zambia. Writing about the quality of prospective teachers of history graduating from the University of Zambia, Chabatama (2012, p.14) also revealed that 'there seems

to be no link between knowledge and skills the graduates from the University of Zambia go with and the school syllabuses'. The relevance of Chabatama's findings to this study lies in the fact that the study questioned the skills that graduate teachers exhibit after graduation.

Table 2.0: Distribution of student teachers' views regarding their knowledge and skills to teach using Inductive methods by category (Pre-Service and In-Service).

Category	Inquiry			Problem based method			Project based method			Fieldwork/excursions		
	Agree	Disagree	Not sure	Agree	Disagree	Not sure	Agree	Disagree	Not sure	Agree	Disagree	Not sure
Pre-service teachers	53	287	125	37	357	71	58	351	56	386	35	44
	11.4%	61.7%	26.9%	8.0%	76.8%	15.3%	12.5%	75.5%	12.0%	83.0%	7.5%	9.5%
In-service teachers	5	74	17	3	72	21	6	80	10	85	5	6
	5.2%	77.1%	17.7%	3.1%	75.1%	21.9%	6.2%	83.4%	10.4%	88.5%	5.2%	6.3%
Total	58	361	142	40	429	92	64	431	66	471	40	50
	10.4%	64.4%	25.3%	7.1%	76.4%	16.4%	11.4%	76.8%	11.8%	84.0%	7.2%	8.9%

Table 2.0 above shows the distribution of student teachers' views on how they felt about their knowledge and skills to teach using inductive method across the categories of student teachers namely Pre-service and In-service student teachers. The overall picture which emerges is a negative one, the majority of the student teachers felt that they did not have the knowledge and skills to teach using selected Inductive learner-centred methods as depicted in the table above. The results indicate that 83.4% of in-service student teachers disagreed to having the knowledge and skills to teach using Project based method compared to 75.5% of Pre-service student. Furthermore, the result show that 77.1% of in-service student teachers disagreed that they had the knowledge and skills to teach using Model building compared to 61.7% of In-service student teachers. On the other hand, however, there seemed to be a positive view towards Field trips/excursions by the all the categories of student teachers. As revealed in the table above, 88.5% of In-service student teachers agreed that they had the knowledge and skills to teach using Field trips/excursions compared to 83.0% of Pre-service student teachers who were also of the same view.

Table 3.0 T-test for equality of means between Pre-service and In-service student teachers' views on teacher preparation for Inductive Teaching and Learning Methods

Method	t-statistic	P-value	95% Confidence Interval of the difference	
			Lower	Upper
Inquiry	-0.998	0.319	-0.413	0.135
Problem based	1.100	0.272	-0.150	0.531
Project based	1.125	0.061	-0.115	0.424
Field trips	1.499	0.134	-0.062	0.462

The *t*-test was used to compare pre-service and in-service student teachers' views regarding their knowledge and skills to teach using selected learner-centred methods. The table above shows that there is no statistically significant difference in the views of pre-service and in-service student teachers regarding their knowledge and skills to teach using project-based method (P-value 0.061, 95% CI), Field trip (P-value 0.134, 95% CI), inquiry method (P-value 0.319, 95% CI) and Problem-based method (P-value 0.028, 95% CI).

Furthermore, the *t*-test for equality of means between Pre-service and In-service student teachers' views on whether students believed they had knowledge and skills to facilitate learning in selected Inductive Teaching and Learning Methods revealed no significant difference between the pre-service and in-service student teachers. This calls for concern on the appropriateness of in-service programmes designed to upgrade in-service teachers' knowledge and skills in both content and pedagogical knowledge. It would appear from this study that teacher preparation programmes in Zambia achieves little in equipping student teachers with pedagogical knowledge and skills.

Objective 2. To assess student teachers' views on being given opportunity to practice Inductive Teaching and Learning methods during teacher preparation.

Ball and Forzani (2009) presented a proposal for reform in teacher education similar to that of Grossman et al. (2009). Redesigned around practice, Grossman et al. (2009) proposed that the teacher education curriculum needed to include at its core opportunities to learn to perform a repertoire of teaching tasks and to choose among them with deliberate attention to pupils, as well as opportunities to acquire content and foundational knowledge centrally important to the work of teaching. Therefore in trying to address objective 2 of this study, one of the question asked to respondent student teachers was aimed at finding out what the student teachers felt about opportunities given to them during teacher preparation to practice Inductive Teaching and Learning to which participants expressed their agreement, disagreement and undecided.

Table 4.0 Distribution of student teachers' views on whether teacher preparation had provided them with opportunity to learn and practice Inductive Teaching and Learning methods

Statement	SA		A		Undecided		D		SD		Cumulative	
	f	%	f	%	f	%	f	%	f	%	Agree %	Disagree %
Teacher training adequately provides enough opportunities to learn and practice Inductive methods	280	49.9	219	39	27	4.8	22	3.9	13	2.3	88.9	6.2
Lecturers taught more of what teaching methods are and not how they should be used	174	31	176	31.4	57	10.2	108	19.3	46	8.2	62.4	27.5

As can be shown from table 4.0 above, the cumulative figure for those who agreed to the statements that teacher training provided opportunities to learn and practice different learner centred methods were 88.9% while 62.4% felt that lecturers taught more of what teaching methods were and not how they should be used. During face to face interviews most student teachers were of the view that lecturers taught what learner-centred methods were and not how they should be applied. This was also echoed during interviews by one student teacher who commented that:

Lecturers should teach us how to use these methods not telling us what they are and not advantages and disadvantages because that we can read on our own. So that we don't make mistakes. Because when you say map study, I have never done map study how can I go and teach my pupils when I haven't practiced really how to do it. Mostly we are told what they are, definitions, advantages, and disadvantages of some of these methods but not really like teaching when and how they are supposed to be used.

Table 5.0 Distribution of participants on being given opportunities to learn, observe and practice how Inductive learner centred methods should be used in the classroom situation.

LCM	SA		A		Undecided		D		SD		Cumulative	
	f	%	f	%	f	%	f	%	f	%	Agree %	Disagree %
Inquiry	86	15.3	110	19.6	118	21	111	19.8	136	24.2	34.9	44
Problem based	86	15.3	103	18.4	130	23.2	123	21.9	119	21.2	33.7	43.1

Project based	89	15.9	107	19.1	117	20.9	121	21.6	127	22.6	35	44.2
Field trips	89	15.9	109	19.4	117	20.9	94	16.8	152	27.1	35.3	43.9
Survey	95	16.9	126	22.5	143	25.5	126	22.5	71	12.7	39.4	35.2
Average	89.0	15.9	111.0	19.8	125.0	22.3	115.0	20.5	121.0	21.6	35.7	42.1

Student teachers in the survey were asked a series of statements reflecting positive and negative attitudes towards being given enough opportunities to learn, observe and practice how Inductive learner centred methods should be used in the classroom to which participants indicated their agreement, disagreement and being undecided. The table above gives the average cumulative percentages of those who disagreed at 42.1%, those who agreed 35.7 % and those who were undecided at 22.3 %. The results further show that 44.2% of the participants disagreed to being given enough opportunities to learn, observe and practice how Project based method should be used. On the other hand, however, 34.9% agreed to being given enough opportunities to learn, observe and practice how Inquiry based methods should be used.

When asked to comment on whether students felt they were given enough opportunities to learn and practice inductive teaching and learning methods, most participants felt the opportunities were not enough. This was typical of many student teachers who expressed dissatisfaction with the opportunities given to them to practice learner-centred methods during peer teaching (micro-teaching). This was exemplified by one female student teacher:

I feel there is more to be done in the sense that in classes we are a lot. So it is very difficult for each individual to teaching experience by way of peer teaching. What happens when they (lecturers) are teaching is that they teach the methods theoretically (pedagogical knowledge) but during the peer teaching period Micro-teaching) where we teach our fellow students who act as learners, it's not everyone who teaches so some are not familiar with the methods they have learnt because they don't practice them when it comes to peer teaching practice.

Similarly, views from three other student teachers from other colleges of education showed that this might be a rather widespread student teacher experiences across other colleges of education:

We do have peer teaching, but if there will be other opportunities where you go there and teach for one day it would be good. People should have more practical work rather than just doing it for the sake of practising. When it comes to peer teaching we participate but with minimal time limit, in which people are judged based on what they have introduced. There is no interogation among the students.

Sometimes when we are only remaining with few weeks to the end of a term is when we start peer teaching and only few manages to do peer teaching because instructors (lecturers) say there is no enough time, so you will only present what you have using you own methods.

Not everyone is given the opportunity to practice teaching methods through peer teaching. In fact we are given 10 minutes to do that, so when you want to do introduction its two mins and sometimes you won't even reach to 10 minutes may be 5 minutes or 4, you will just hear its time up. We are not given enough time to practice, it becomes a challenge when you go now to teach in schools.

These findings resonate well with the qualitative case study by Mtika and Gates (2010) which mainly addressed the capability of trainee teachers to implement learner-centred practice at one of the teacher education institutions in Malawi. In that study, the authors indicated that progressive pedagogical notions aligned with social constructivism promoted in teacher education institutions have not resulted in widespread change in classroom practice. Mtika and Gates (2010) were of the view that college student teachers' failure to implement learner-centred approaches may have been due to the inability by college lecturers to adopt and practice learner-centred strategies in their own teaching.

According to Vavrus (2009, p. 309) cited in Mtika and Gates (2010, p. 402), the quality of teacher education is a limiting factor to the successful implementation of the pedagogical shift to social constructivist based approaches.

8.0 Conclusion

Results of this study showed low self-efficacy beliefs among student teachers on having the knowledge and skills to teach using Inquiry, Problem based, Project based, Fieldwork, and Survey inductive methods. Based on student narrative responses to qualitative questions, it can be inferred that low utilization of these methods by lecturers during teacher preparation could be one contributing factor to low confidence levels among student teachers because student teachers are not exposed to these methods during teacher preparation and these denies them opportunity to experience these methods hence the low self-efficacy. This finding is agreement with a study by Barends (2004) in Namibia that attributed lack of training and confidence by teachers as some of the obstacles in the implementation of learner-centred methods and suggested the need for further training by teachers in order to understand the difference between learner-centred and teacher-centred education (TCE). Thus without adequate pedagogical knowledge and practice, student teachers end up using teaching and learning approaches which mimicked their lecturers (Mtika and Gates, 2009). Russell (2002) cited in Mtika and Gates (2010, p. 399) noted that;

As long as teacher educators advocated innovative pedagogy and did not model, illustrate, and read it as text in their own teacher education classrooms, teacher education reform was bound to fail.

Since knowledge and skills for inductive teaching and learning are not adequately natured in students during teacher preparation, it is very unlikely that student teachers would utilize such teaching methods with easy in their lessons once they graduate. As a result, learners may not benefit from high cognitive thinking skills, problem solving skills, enhanced retention of learnt facts or knowledge and development of logical thinking and creativity skills that came with inductive teaching skills. In this regard Mtika and Gates (2010) further raises doubt on the practical expertise of lecturers themselves in learner-centred education arguing that student teachers' lack of knowledge and skills in learner-centred education be as a result of their lecturers lacking adequate expertise in learner-centred education themselves.

Even though lecturers wanted to supervise student teachers who applied learner-centred education as required by the college, the lecturers may not have modelled

student teachers on learner-centred education. Of course it may be that the lecturers themselves did not have adequate practical expertise to enact learner-centred pedagogy in their own practice. Their only alternative then was to adopt a ‘‘don’t do as I do, do as I say’’ pedagogy, (Mtika and Gates (2010, pp.399-400).

It is important therefore that if governments’ policy reform towards constructivist based teaching and learning (such as inductive teaching and learning) is to be translated into practice, lecturers in colleges of education will have to emphasise on pedagogical practice in addition to pedagogical theory by way of not just advocating for innovative pedagogy but model and illustrate these inductive teaching methods in teacher education classrooms. This will build the levels of self-efficacy among student teachers which in turn will increase the chances appropriating and implementing innovative pedagogies other than the traditional teacher-centred (lecture) methods.

There is also need to allocate more time to pedagogical teaching and learning experiences in colleges of education such as peer teaching (micro-teaching) because it is the only window through which students can be assessed in the knowledge and practice of learner-centred methods. This came out very clearly from student teachers who desired to have more opportunities to learn and practice learner-centred methods including inductive teaching and learning methods.

There is also need to create parallel sessions (groups) of peer teaching with reduced numbers of students per group. This will help afford student teachers with more opportunities to experience and practice various pedagogies.

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