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PHILOSOPHICAL ORIENTATION OF PRIMARY SCHOOL TEACHERS IN UGANDA: A CASE OF TEACHERS IN IGANGA MUNICIPALITY

(Case study)

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PHILOSOPHICAL ORIENTATION OF PRIMARY SCHOOL TEACHERS IN UGANDA: A CASE OF TEACHERS IN IGANGA MUNICIPALITY

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Abstract

This study explored primary teacher's philosophical orientation towards teaching, here defined as a teacher's set of interrelated beliefs that they develop and utilize when teaching. Teachers are expected to conflate epistemological beliefs, instructional training and societal expectations of effective instruction to construct a single perceptual identity and cause learning, but since 2009-2019 pupils in Eastern region of Uganda have persistently continued to perform poorly in Primary Leaving examination hence a need to examine the epistemological and ontological position of teachers. To accomplish this task, a qualitative research approach was used; interview and non-participant observation were the data collection instruments. A key finding of this work was that teachers do not practice the methods of teaching they learnt during their teacher education programs. The study suggests infusion of Karl Popper's Falsification principle, Michael Gibbons Mode 2 Knowledge Production and Epistemological codes in teacher education programs. The nature of subjects, learning and teaching must also be well aligned mutually to form a good base for teaching.

Key words: Philosophy, Orientation, Teaching, Learning

1. Introduction

The issue of pupils 'performance at school is of concern ever since modern education was introduced in Uganda by the colonialist (Ssekamwa, 1997). It is evident that pupils are the heart of educational process and without good performance, all innovations and initiations in education are useless. In Uganda, the Minister of Education and sports directed that primary schools should be monitored to probe the consistent poor performance of pupils (Newvision.co.ug/newvision/news/1468915/Eastern-Uganda- results- failure rate).

Districts in Eastern Uganda are listed as the worst performing after recording the highest failure rates. Among them are Kwen, Bukwo and Tororo with failure rates of 29.1, 25.5 and 19.1% respectively. Kayunga and Mbale Districts recorded 18.7% followed by Mayuge, Kamuli, Iganga, Budaka and Bududa districts (newvision.co.ug/newvision/news/1468915). Eastern Uganda has the highest enrollment pupils in primary schools the country, currently standing at 2.6 million compared 8.8,405,589 million pupils from the rest of the regions in the country (UNESCO Institute for Statistics, 2017, Ministry of Education and Sports). The Primary Leaving Examinations from Iganga District Education Office indicate that before the introduction of Universal Primary education in in 1996, 12.6% of the pupils obtained division one as compared to the results of the first UPE graduates in 2003 where only 4.4 %passed in division one.



Iganga has been performing poorly in Primary leaving examinations and many researches have been carried out on the causes of poor performance (Namulondo, 2008), but none on the philosophical orientation of teachers. Teachers 'epistemological beliefs influence pupils 'literacy, motivation, moral development, critical thinking, decision making and a number of key learning outcomes, (Yang 2005). Therefore, there is need to establish the philosophical orientation of teachers and examine how it influences quality teaching.

2. Contextual Perspective

Iganga district has one hundred fifty-three (153) government aided primary schools (Iganga Local Government, 2007). There are twelve (12) government aided secondary schools while the private and recognized secondary schools are thirty-five (35) on Universal Secondary Education. The district has benefited from thegovernmentgrantof US1.9 million, about 6 billion released for the renovation of Iganga Technical Institute. This project comes on the heels of another grant from government released towards construction of Busesa technical Institutions alongside private ones that are crucial in the promotion of vocational skills of young people in the district. The performance of Iganga municipality primary schools in the last seven years, 2013-2019 is shown in Tables 1.

Table 1: Primary leaving examinations results (2013-2019).

Name of	DIV: I	DIV: II	DIV: III	DIV : IV	DIV: U	DIV: X	Total
school							candidates
Bugumba	07	86	50	33	76	17	269
Noor							
Buligo P/s	01	28	15	23	53	02	122
Kasokoso P/s	12	125	47	36	34	11	265
Iganga P/s	54	37	00	00	01	00	92
Iganga T/C P/s	33	21	02	00	00	00	56
Nakavule P/s	10	57	06	03	01	03	80
Noor Islamic	07	86	50	33	67	17	260
D/c	104	440	150	120	222	50	1144
Total	124	440	170	128	232	50	1144
Percentage	10.8	38.5	14.9	11.2	20.2	4.4	100
2018							
Bugumba	11	39	15	13	00	06	84
Noor Islamic							
Buligo P/s	40	60	11	08	01	00	120
Kasokoso P/s	08	124	42	16	32	01	223
Iganga P/s	25	129	29	07	05	02	197
IgangaT/C P/s	36	68	00	00	01	00	105
Nakavule P/s	16	68	00	00	00	01	85
Noor Islamic	03	63	61	36	41	05	209
Total	139	551	158	80	80	15	1023



Percentage	13.6	53.9	15.4	7.8	7.8	1.5	100
2017							
Bugumba	01	11	21	06	03	04	46
Noor Islamic							
Buligo P/s	48	60	12	13	00	02	135
Kasokoso P/s	09	49	08	01	02	02	71
Iganga P/s	07	43	01	01	00	02	54
Iganga T/C P/s	48	54	00	00	00	02	104
Nakavule P/S	13	43	02	00	00	00	58
Noor Islamic	01	30	07	04	01	01	44
Total	127	290	51	25	06	13	512
Percentage	24.8	56.6	10.0	4.9	1.2	2.5	100
2016							
Bugumba	00	22	11	05	02	00	40
Noor							
Buligo P/s	15	91	05	01	00	00	112
Kasokoso P/s	09	59	07	01	00	04	80
Iganga P/s	06	56	00	01	00	00	63
Iganga T/C P/s	13	91	05	01	00	00	110
Nakavule P/s	03	44	08	01	00	00	56
Noor Islamic	04	38	06	02	00	01	51
Total	50	401	42	12	02	05	512
Percentage	9.8	78.3	8.2	2.3	0.4	1.0	100
2015							
Bugumba	01	13	05	02	01	00	22
Noor							
Buligo P/s	01	18	01	00	00	00	20
Kasokoso P/s	22	46	01	00	01	00	70
Iganga P/s	20	78	03	01	01	00	103
IgangaT/C P/s	09	23	01	00	00	00	33
Nakavule P/s	03	45	03	00	05	00	56
Noor Islamic	02	33	07	01	00	00	43
Total	58	256	21	04	08	00	347
Percentage	16.7	73.8	6.1	1.2	2.3	00	100
2014							
Bugumba	08	56	11	00	00	00	75
Noor							
Buligo P/s	00	13	12	00	00	00	25
Kasokoso P/s	12	37	01	00	00	00	50
Iganga P/s	21	28	08	01	00	00	58
IgangaT/C P/s	34	124	23	12	00	00	193
Nakavule P/s	08	29	01	00	00	00	38
Noor Islamic	23	28	00	00	00	00	51
Total	106	315	56	13	00	00	490
Percentage	21.6	64.3	11.4	2.7	00	00	100
2013					30		
Bugumba	02	18	09	03	12	00	40
Noor	~ _		<u> </u>				. •
Buligo P/s	12	121	03	02	12	00	150



Kasokoso P/s	07	63	08	02	12	04	96	
Iganga P/s	13	47	00	00	01	00	61	
IgangaT/C P/s	18	132	02	02	20	00		174
Nakavule P/s	07	34	07	02	13	00		63
Noor Islamic	00	47	08	03	12	00		70
Total	59	462	37	14	82	04		658
Percentage	9.0	70.2	5.6	2.1	12.5	0.6		100

Division 1: represents Pupils who obtained first grade

Division II: represents pupils who obtained Second grade

Division III: represents pupils who obtained Third grade

Division 1V: represents pupils who obtained Fourth grade
Division U: represents pupils who were ungraded because of poor Performance

Division X: represents Pupils who missed Primary Leaving Examinations

Source: School records from Iganga Municipal Education Office

From the foregoing information, pupils have persistently performed poorly in Eastern Uganda since 2013, yet teachers 'on- transcendental epistemologies have a very big impact on the performance of pupils at any education level because effective teachers should understand and use numerous strategies, theories and processes to solve instructional and contextual issues and problems (Fives and Buehl, 2008). Thus, teachers whose pupils persistently perform poorly do not have epistemological beliefs which can help learners perform to their expectations. From a curricular perspective, teachers who understand and appreciate how knowledge is constructed, not in terms of learning theories but in terms of arbiters of knowledge exchange and view learning holistically, never being greater than the sum of its parts realize good results (Kincheloe, 1999). Ultimately, there is need to consider ontological and epistemological position of teachers and their philosophical underpinning to pedagogy and how they act during teaching – learning process.

3. Statement of the Problem

The purpose of the study was to establish the philosophical orientation of primary school teachers in Uganda.

Teachers have a duty to conflate epistemological beliefs, instructional training and societal expectations of effective instruction to construct a single perceptual identity and cause learning(Korthagen and Kessel, 1999)). Yet, pupils in Eastern region of Uganda have persistently continued to perform poorly in Primary Leaving examination (newvision.com.ug/new-vision/new/1468915/ eastern Uganda – results – failure rate). In the recent report of 2017 by the daily Monitor Newspaper, it was reported that Iganga District in eastern Uganda was among the poor performers in the country, with nearly 30 percent of the total pupil's failing the examinations. Many critics have consistently blamed the poor performance on government's failure to prioritize funding of the Universal Primary Education (UPE) Programme, (Musana, 2006) (https://www.the research gate.net/publication/235437913).

Based on the above, considerable research has been carried out on poor performance of pupils and many causes have been advanced like environmental factors, parental factors and low pedagogical competence, among others (Kamal and Bener, 2009). However, little attention has been given to the epistemological position of the knowledge givers, even as teachers are central to the teaching and learning process. So, the critical issue of this research was to establish the epistemological and ontological beliefs of primary school teachers in Iganga Municipality, Uganda.



3.1.Perry and Teachers epistemological beliefs

Perry (1970) developed a scheme for classifying epistemological development through four major positions: Dualism, Multiplism, Relativism and Relativism Commitment. These four positions are not conceptualized as fixed but they are situated on a continuum of signing progression. Teachers who value Dualism believe that knowledge is absolute and total, henceforth, the teacher is the repository of knowledge during teaching-learning process, and knowledge is dispensed by authority figure to passive recipients (Perry, 1970)

On the other hand, Multiplism asserts that Knowledge is unsolidified, instead of composed of facts and opinions. Teachers are innovative and give knowledge based on situations. With Relativism, there is growth in terms of epistemological sophistication; a key feature of relativistic thinking is the notion that Knowledge is the result of effort and they assume that knowledge may be individually and contextually constructed. Teachers are innovative and give knowledge based on situations. With Relativism commitment, relativistic thinking remains a key feature, however, fluidity among truths exists in which individuals value some beliefs over others (Perry, 1970).

3.2. Roberts and Montagery perceptual identities of Educators

In their study of establishing the epistemological position and orientations to instruction and explore school-based agricultural educator perceptual identities, Robert and Montagery (2017), identified three common perceptual identities of educators which are common among agricultural educators. These include devoted teachers, daring teachers and diligent teachers.

For devoted teachers, emphasis is placed on the support given to learners, the educators emphasize that learning must be applicable through everyday lives and that there should be proper facilitation and shared approach among those involved in the teaching learning process.

In contrast, the daring teachers are those driven by the passion to explore the depth of learning terrain; the educators attempt to stretch their ways of thinking by encouraging learners to dig deeper into the concepts, therefore memorization is not valued but instead learners are provided with learning experiences.

On the other hand, for diligent educators, learning is a process involving persistence and follow up through much like the farmer following up his crops. Effort is key to successful teaching and learning, so hard work is the major element of learning process. Nevertheless, all the findings of Robert and Montagery (2017) stressed the need for hands on learning to enrich the acquisition of knowledge and skills.

3.3.Phenomenographic Pedagogy

The use of appropriate educational practices as conceptions of learning underpin Phenomenographic pedagogy (Trigwell et al., 2005). Bowden (1990) explained that in a sense, Phenomenographic research mirrors what good teachers do, it tries to understand what learners are doing in their learning. Phenomenographic pedagogy attempts to discover what different approaches learners are taking and to understand the outcome of their activities, thus, good teachers do this as a preliminary to further action to help learners come to understand the concept and many do it instinctively (Bowden 1990).

A key assumption of Phenomenographic pedagogy is the notion that complete approach to teaching and learning exits and learning can take place (Bowden 1990). This awareness predicates teachers' ability to facilitate conceptual change learning for the learners. Conceptual change learning is an advanced pedagogy in which learners are challenged to problem solve, learn experientially and develop key learning assumptions and conclusions by themselves for themselves. As such, this approach involves teachers moving



from teacher-centered instruction to more student approaches. The theory involves many teaching and learning methods, however, it conceptualizes each on a continuum between teacher and student centered (Trigwells, 2005). For Phenomenographic pedagogy, what matters in the classroom is how teachers create the necessary conditions for students to appropriate the critical aspects of the object of learning, hence enabling learners to experience the object of learning in the manner and extent that enable learners to discern the critical features of learning.

3.4. Philosophy of Teaching for Teacher Trainers of in Teacher Training Programs

In teacher Education Programs, teachers are urged to emphasize their Philosophy of teaching in their operations during teaching learning process so as to realize academic excellence (Meizlish and Kaplan, 2008). Emphasis is put on the behavior trend of the teacher in the classroom in order to carry out their philosophical position, basically the nature of the learner is given respect in terms of extremes of the continuum by using lockean principle-(where the learner is passive in class) and Platonic stance –(where the learner is active in class).

Lockean is a position as put by John Locke in his essay concerning human understanding, that the mind is a tabula rasa, where knowledge comes from outside, hence the teacher`s role is central. With lockean position, the learner is not active and this affects the teaching learning process. On the contrary, Platonic image, where the pupil is fully involved in the teaching learning process, the teacher has so much respect for what the learner can contribute. Therefore, pre-service teachers are guided to emphasize:

- Usage of Learner centered methods. This involves the use of applications in the classroom and laboratory.
- Task-based teaching in which the teacher creates many learning activities.
- Interactive approach in which the teachers should link the topics to be taught to the other subjects.
- Peer collaboration; Apart from making teaching learning process friendly, teachers are encouraged to initiate instructional materials that are based on learners `interests and feelings.

There is scholarly evidence that the implementation of the above views will lead to realization of academic excellence (Ranga, 2005). The Constructivist educators have time and again urged modern teachers to allow intercommunication, move from what is known by the learner to unknown, involve learners and show care and concern to the learners so as to ensure that learning takes place.

4. METHODOLOGY

Historically, research considering personal epistemological beliefs and orientations to instruction has been conducted using interviews and other forms of qualitative data (Baxter and Magolda, 2004), More recently, researchers have attempted to use qualitative instruments to measure personal epistemological beliefs and orientations. Many existing quantitative scales have produced inconsistent factor structures, exhibiting low internal consistence reliability estimates, hence qualitative method was the best design for this study.

4.1.Participants

The participants 'included twenty-seven (27) teachers, all from the Government aided primary schools in Iganga Municipality. The concept of saturation was central in identifying the above-mentioned figure. The participants were asked five pre-set questions. Teachers 'of



P.6 and P.7 classes were the target since they are expected to exhibit professionalism and commitment in preparation for Primary leaving examinations.

4.2.Data Collection Instruments

For data collection, the study used two research instruments: Interview and Direct Observation of the live lessons.

a. Interview

This was the first instrument used for data collection and it consisted of direct interviews with teachers. Using already prepared guideline, the research conducted in-depth interviews with a few teachers in the selected schools. Teachers were asked to state the common method of teaching and give the philosophical underpinning of their desired mode. In the proceedings, teachers gave lengthy responses that the researcher used to supplement information generated from direct observation of live lessons.

b. Classroom Observation

There was the second instrument used to elicit another dimension of the needed information. Classroom observation was limited to direct observation of the lessons in the sampled schools. With the researcher seated among the students, he recorded down notes as the teaching proceeded. At the end of teaching, the notes were broadened.

4.3.Data Analysis.

Information from the research instruments was analyzed using coding and content analysis. These were used to generate epistemological beliefs held by primary school teachers. Key features of a dominantly qualitative study are that much of the data is generated in words, and not in numbers. Secondly, in qualitative studies, the process of data analysis begins with data collection and continues up to the time of writing the final research paper. In this study, the analysis of the qualitative data began in the field with continuous recording of interviews and focus group discussions. The researcher continued the analysis after every field work, whereby at the end of the day, he sat and transcribed all the tape-recorded interviews and discussions according to different schools. This helped in the development of epistemological beliefs held by different primary school teachers. All the epistemological beliefs were developed based on the concept of the research objective. Coding requires the analyst to read the data and demarcate segments within it. Each segment is labeled with a code that shows how the associated data segment relates to the research objective.

Tentative codes were given to the epistemological beliefs from each school to facilitate retrieval and further organization of data. This helped the researcher to categorize data relating to a particular epistemological belief. The next stage of analysis was the crosscase analysis of data from the twenty-seven (27) teachers in Iganga Municipality. In other words, data about the epistemological beliefs from the teachers were compared and matched. Conflicting evidence prompted deeper probing to identify the source of conflict. The evidentialist and epistemological belief of each teacher in the sample was treated separately, and as objectively as possible. The cross-case analysis allowed confirmation or rejection of the emerging epistemological belief, and this is one of the roles of Philosophy, that is, to reject, to reconstruct, or confirm existing beliefs. At this point, a holistic picture of the epistemological orientation of Primary school teachers was constructed and presented in form of a report.



5 Results

Research Question: What is the epistemological Orientation of Primary School teachers in Iganga Municipality? In particular, the following were some of the questions which were asked during the interview sessions:

- How do you perceive the learner during teaching learning process?
- How do you acquire knowledge you give to your students?
- How do pupils acquire knowledge during teaching learning process?
- Are you sure pupils benefit from the teaching method you employ?
- Does your method of teaching have any weakness?

The information presented under this section is the response given by the participants in relation to the research question and the interview guide.

Twenty-seven (27) teachers loaded significantly on one of the three emergence perceptual identities as put forward by Roberts and Montagery (2017)(See sub-section 2.1). Thus, either they are Authority Figure teachers, Daring teachers or Devoted teachers. All the three perception identities stressed the need for hands-on learning to enrich the acquisition of knowledge for the learners. Nevertheless, each position held a unique perspective concerning the role of teachers in facilitating teaching-learning process.

Twenty four (24) teachers out of twenty seven (27) (86 %) believe in formal discipline theory, where learning involves effort by the teacher, thus the teachers is the repository of Knowledge.

Distinguishing statements given by the Authority Figure teachers

- I see teaching as helping students to know, so I prefer vigorous discipline and swift obedience
- 2 The more you know about subject, the more there is to know
- It is important to present a lot of content to students so they know what they have to learn for this subject
- 4 In my subject courses, learners just need to follow instructions
- 5 I usually discourage verbal exchange and discussions in the class room, this helps me to move faster

The teachers though, did not report directly that they do not see value in stimulating debates, direct observations of the lessons by the researcher, clearly indicated that the teachers do not seek and value learners` contributions. Teachers presented valuable evidence-based information to learners rather than letting them discover knowledge for their own, the learners took a passive role during the teaching —learning process.

One teacher had this to say:

"Teaching is about sharing what you know, sometimes You can't find this information in text books".

Other teachers reported that:

"I mainly concentrate on covering the content available from key texts and readings"

One teacher had this to say:

"Teaching is giving knowledge to pupils. Most of them are Weak so when they come for lessons, we dispense total Knowledge"



Further, observation was made that the teachers knew their students well, they were calling learners by names, and lesson development was carefully planned and done by the educator based on experience. However, teachers do not attach importance to stimulating debates or questioning the learners; learners were given less or no time at all to discover knowledge from text books. Knowledge is not self-constructed, instead teachers acquire knowledge from multiple sources of evidence, social interaction and researching.

Authority figure teachers: From the foregoing, 86% of teachers subscribe to the views of authority figures as advocated for by Perry (1970) and John Locke, thus all knowledge is given to the pupil by the teacher. The teachers are not aware that Knowledge should be analyzed and synthesized before it is given to students; teachers do not go through analysis and synthesizing information process. Their position is that learning is a process involving persistence and follow through -implying that effort is the key to successful teaching and learning. They strive to ensure that learners understand the content before moving to other levels of abstraction. Bottom line is that teachers exert the necessary effort for learners to grasp content and learning is from without in.

Acknowledge gap was identified in relation to epistemological orientation of the mentioned Primary school teachers - they do not analyze and synthesize knowledge.

The epistemological views of the Authority Figure educators in Eastern Uganda include the following:

- *Knowing to learn is more important than the acquired facts.*
- They cover information available from Key texts and readings.
- Consider the lockean position that is, the mind is a Tabula rasa

The area of concern is changeability of knowledge. Knowledge changes over time and does so regardless of the subject. Clearly this explains why Eastern region schools perform poorly; students are given content which has not been re-evaluated and the learner is not given an opportunity to search knowledge himself. Consequently, pupils fail to interpret thought-provoking questions which feature commonly in Primary Leaving Examinations, leading to high failure rate in the region.

Two teachers out of twenty-seven (7%) were driven by the passion to explore depth of the learning terrain. It was observed that these teachers stretch their learners 'ways of thinking, by provoking them to dig deeper into concepts and knowledge items. They provide learning experiences that ask learners to question and possibly alter their existing thoughts about the content and later pupils draw conclusions. The teachers encourage pupils to think through self-directed experiences.



Distinguishing statements given by Daring teachers

- In my subject, am concerned about both what students learn and how they learn.
- 2 I structure my teaching in my subject to help students first understand the topic and then be able to apply it to the real world.
- 3 Knowing how to learn is more important than the acquired facts in the subject I teach.
- 4 When teaching, I always ask thought-provoking questions.

5The emotional wellbeing of my pupils is more important than classroom control that is how they can learn best

One teacher had this to say

"Sometimes to get your goal as a teacher, you put a task before them, so that they get knowledge on their own, for their own, otherwise it just does not make sense to them."

Teachers further reported that students should be stimulated to think and based on live lessons observed, teachers stress their students' ways of thinking by daring them to dig deeper into concepts. Thus, they do not value rote learning, instead, they play the role of facilitators in the teaching-learning process. Further, they do not put emphasis on the amount of content to be learnt but they try to help students connect the new knowledge with already existing content. It was also observed that these teachers employ dissonance to challenge their learners' perception, they throw their learners into a situation so that they can figure out themselves and discover knowledge.

Daring teachers: The above-mentioned category falls under Daring Teachers and these are some of the key statements of the above-mentioned type of teachers in Eastern region.

- > I see teaching as helping pupils to reason on their own.
- > Teaching is a private sanctuary; no teacher should enter into that sanctuary.
- ➤ The teacher is like a gardener, he/she cannot change the nature of learners.

By implication, such teachers do not put much emphasis on the amount of learnt content but more about the depth of learning. They accord guidance to pupils to connect new ideas with existing knowledge concepts which learners can later apply in their lives. If all teachers advocate for this epistemological orientation in teaching, performance of pupils would be better, because pupils would be in position to interpret questions set and reason, than relying on content from teachers.

On the other hand, two teachers out of twenty-seven (7%) reported that they give support to pupils throughout the learning process.

Distinguishing statements by devoted teachers

- 1. I structure my teaching in such a way that I help students first understand the topic and then be able to apply it to the real world
- 2. I set aside some teaching time so that the students can discuss among themselves, key concepts and ideas in this subject
- 3. I see teaching as helping students develop new ways of thinking
- 4. I don't just teach students Just teaching students only facts about in any subject is not appropriate
- 5. How much pupils get from teaching depends mostly on the learners 'effort.



One teacher asserted that:

"Learning is an intuitive process requiring proper facilitation, devotion and a shared appreciation among all the players involved. Having a connection with my pupils is key. When they are bored, I try to tell a personal story to make them active"

For such teachers, learning majorly depends on the amount of support given to learners

Teachers stated that that learning should challenge students to think differently. These teachers monitor students' feelings and provide proper support, they give much time to students so that they can discuss and form their own conclusions. To them, the amount of content is not their concern, but the new knowledge they have generated. The central point is the new thinking, seeing the same item differently.

Devoted teachers: From the above assertions,07% of the teachers in Iganga Municipality subscribe to the views of devoted teachers as given by Perry (1970). The teachers believe that teaching content in different subjects is not essential, what is fundamental is the applications of the subject. The teachers defined learning as a process of moving from teaching theory to hands on application of the subject.

6. Conclusion and Recommendations

The purpose of the study was to establish the non-transcendental orientations of Primary schoolteachers in the Eastern region of Uganda, using Iganga Municipality as a case study.

Three common epistemological identities of teachers were established in the Eastern region thus; Authority Figure Teachers, the Daring teachers and devoted teachers, so the findings are in line with Richie and Montagery (2017). Nevertheless, all the three types of teachers have strong points and weaknesses, so they need to make pedagogical decisions and be open to transitioning into positions that go against their natural preference.

There is need to increase the number of devoted and daring teachers in Eastern region. Learners should be challenged to think differently and form their own conclusions; if this is done, good performance will be realized.

The Three Epistemological Identities of teachers in Eastern Uganda

Classification of	Percentage of Teachers	Recommendation
Epistemological	in Eastern Region	
development		
Authority Figure	86 %	Introduction of Karl Popper `s Falsification
Teachers		principle, Michael Gibbons Mode 2
		Knowledge Production and Epistemological
		code methods in all Education endeavors
Multiplism - Daring	07%	Introduction of Popper's Falsification
Teachers		principle, Michael Gibbons Mode 2
		Knowledge Production and Epistemological
		code methods in all Education endeavors
Relativism - Devoted	07%	Introduction of Popper's Falsification
Teachers		principle, Michael Gibbons Mode 2
		Knowledge Production and Epistemological
		code methods in all Education endeavors
TOTAL	100%	

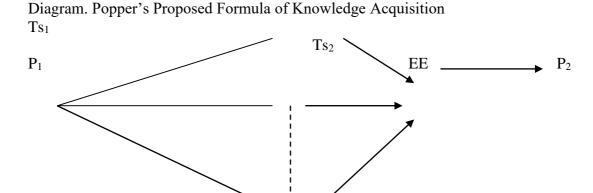


The study focused on the Primary teachers Philosophical orientation towards teaching in Uganda. It established that teachers do not practice the teaching methods they were introduced to, at their teacher training level and this affects content delivery. So basing on the foregoing, the study suggests the following:

Karl Popper's falsifiability principle is a required characteristic in today's modern teacher education Program. Popper (1972) does not believe in the possibility of attaining the ultimate truth. Teachers understanding can grow and expand. Popper's theory is similar to the notion of natural selection of Darwin (Koestler, 1956) and also related to Spinoza's theory of Knowledge. By implication, the theory of Knowledge is more of a theory of error than a theory of truth. Therefore, teachers should try to solve their problems or obtain knowledge by a process of elimination. This involves something approaching adequacy in their tentative solution and Popper proposed this formula

P1-TT-EE-P2

Hence to acquire knowledge, there must be a problem (P1), a theory is later developed (P2) then error elimination (EE) and a new problem crops up (Popper, 1972) Specifically, what is missing is the multiplicity of the trials. (*See the diagram below*)



Source (*Popper 1972*, *page 243*)

With the infusion of Karl Popper's principle in education programs, teachers will be urged to guide learners, question, discover, discuss, appreciate, verbalize the new knowledge, stimulate the interests and go beyond the 3Rs. Henceforth, teachers shall view schools as places where students are provided with opportunities to discover errors, inadequacies and provide conducive learning environment for learners to reveal their knowledge insufficiencies without receiving any penalty, this will ensure improvement in academic performance.

In addition, Michael Gibbons Mode 2 Knowledge Production should also be another substitutes in teacher education Programs, it is coined in the new production of knowledge. With the incorporation of Michael Gibbons mode 2 knowledge production, teachers are required to produce knowledge which is problem focused. Knowledge is produced in the context of application and achieve transdisplinarity, organizational diversity and practicality



of solutions as a quality control. This mode will interest teachers to always innovate, create, transform knowledge and solve real world problems. The implication of this is that teachers will avoid promotion of rote learning, instead pupils will be involved in knowledge production and teaching will be practical. This will help learners to remember knowledge items during examination.

Further, emphasis should be placed on usage of Epistemological code method during teaching learning process by the practicing teachers in schools. Epistemological code; involves the fabrication of numbers, letters, words or sentences which serve as a master key to understanding a particular concept. It is based on a truism that when these numbers, letters or sentences are readily available, the study content of interest can easily be remembered with little or no efforts. If teachers can adopt epistemological codes performance especially in science and social studies will improve. Epistemological codes methods work on the philosophy that human brain is a natural computer designed for the storage of information, so it can be adopted in the practical realism of classroom practices by teacher in the preparation and dissemination of the information to students in a logical and understandable manner. The method keeps the pupils in suspense and learning can take place.



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