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Research Article

Continuous professional development: Perceptions of secondary school teachers in Zambia

Gift Muyunda*

Faculty of Education, Southwest University, Chongqing, PR. China
*Corresponding Author: muyundagifted@icloud.com

ABSTRACT

Teacher professional development (TPD) is not only an ongoing process that contributes towards individual growth of teachers but also an integral element in school improvement. This paper reports the Zambian secondary school teachers' perceptions of their continuous professional development in teacher engagement in CPD activities, perceived importance of different CPD programs/activities, needs to be focused on future training, and barriers using quantitative data. A self-created questionnaire was distributed to 700 conveniently selected secondary school teachers from four schools. The data was examined using descriptive statistics such as frequency of responses, mean scores, and standard deviation, as well as the t-test of independent samples for comparing the perspectives of respondents from different categories. From the findings, teachers were moderately engaged in TPD programs/activities and perceived developing teaching and learning materials as highly important. The impact of their perceptions was evident as there was no significant difference between female and male perceptions about their engagement in teacher CPD programs. Thus, the importance of recognizing and addressing teachers' perceptions of CPD is argued in this study because teachers play an important role in how they learn and how their perceptions impact the changes they make in their teaching practice.

Keywords: professional development; teacher perceptions; secondary school teacher; Zambia

1. INTRODUCTION

Most education systems in Africa, and arguably the rest of the globe, have undergone an ongoing transformation to pursue relevance and better practices. Fiscal constraints have caused changes in education delivery in some circumstances, as governments have had to alter their budgets to fit the available resources. Kelly (1991), for example, observes that Zambia experienced increasingly severe financial issues in the mid-1980s, resulting in a collapse in the economy that affected all sectors, including education. He claims that because the deterioration occurred during rapid population growth, the education sector has been confined to two opposing pressures: fiscal stress to reduce the government's financial commitments and demographic pressure to increase the provision of quality education. Muyunda (2021) says that the result has been a virtual stasis in resource allocation, a significant increase in enrollments, and, as a result, a drop in unit expenditure.

The effects of these demographic and fiscal constraints on the Zambian economy had to be offset by launching programs that assist the creation of instructional materials and teacher training. According to the Ministry of Education (MoE,1992), donor countries such as Finland and Sweden assisted some of the malfunctioning education systems through the FINIDA book authoring project and the Self Help Plan for Education (SHAPE) initiative sponsored by the Swedish International Development Agency (SIDA). These also facilitated teacher professional development through in-service education at selected colleges and resource centers built throughout the country with UK assistance in the Action to Improve English, Mathematics, and Science (AEIMS) project, which supported in the development of materials in the three subjects of English, Mathematics, and Science. The Ministry of Education also noted that instructors' classroom success is strongly dependent on their subject knowledge and pedagogical skills. In that same vein, the Ministry recognized that teachers must be provided with regular self-improvement chances in each area and that future in-service education programs must be comprehensive and systematic. However, the Ministry of Education was wary that these would be provided solely for the purpose of making participants more effective as classroom teachers and hence more suited to facilitate student learning. In Zambia, the Ministry of Education (MoE,1996) resolved that for many years to come, the primary purpose of in-service education would be to familiarize teachers with new curriculum content and materials, to upgrade their fundamental instructional skills, and to promote their resourcefulness in using locally available items as teaching materials. As a result, the Ministry of Education recognized the monumental task of teacher professional development and adopted more practical methods of providing much-needed in-service training through professional networks of school inspectors and organizational networks of resource centers and resource teachers within the frameworks of SHAPE and AEIMS. Continuous Professional Development (CPD) was born in Zambia due to this.

Like many other countries across the world, Zambia has been working with the Ministry of Education to enhance teacher practice to have effective teaching and learning in schools. First and foremost, the Ministry of Education recognizes that school-based Continuing Professional Development is one of the most successful methods of improving education in teaching (Ministry of Education, 2001). Additionally, the MoE has established methods to develop CPD systems, including monitoring CPD activities and stakeholder workshops in Zambia's ten provinces. The District Education Standards Officer (DESO) oversees this at the district level. Likewise, CPD has existed in schools for over a decade and is carried out by teachers at the zonal and school levels in separate schools. A zone is made up of four or five schools. At least once a semester, zone meetings are held. Furthermore, schools are supposed to provide in-house CPD, commonly known as school-based CPD. Teachers in primary schools do lesson studies as part of the ongoing school-based Continuing Professional Development (SBCPD) project (Ministry of Education,2009;2016). Secondary school instructors, on the other hand, meet at least once a week at the school level to perform lesson study for 80 minutes or as agreed within separate schools. This is noncredit professional development; it can be linked to the educational reform document's point of view on Education for Development.

Education policy in Zambia explicitly supports teachers' Continuing Professional Development. This is supported by the national policy mission statement and the educational system's aims, which state:

> *The Ministry of Education is responsible for guiding the provision of education for all Zambians so that they are able to pursue knowledge and skills, demonstrate excellence in performance and moral uprightness, defend democratic ideals, and accept the worth and dignity of others, regardless of gender, religion, ethnic origin, or any other discriminatory characteristics (Ministry of Education, 1996: xi).*

Additionally, the Ministry of Education policy emphasizes the importance of continued teacher development, stating that "teacher education is an going process that must be extended throughout the individual's years of real teaching." According to the Ministry, the foundation created in the pre-service program is robust and acceptable as a starting point, but it is insufficient for life. In particular, the Ministry of Education considers professional development to be a responsibility of all instructors for all teachers in order to enrich their knowledge, enhance their professional abilities, and stay current on key advancements affecting their field. Education is dynamic, promoting change in response to societal needs and expectations in areas such as subject content, pedagogical approaches, pastoral care for students, assessment procedures, school organization and management, and relationships with parents and the community (MoE ,1996).

Developments in all of these areas are taking place in Zambian schools, necessitating the need for teachers to be prepared and ready to deal with them and incorporate them into their professional activities. TPD (Teacher Professional Development) is so more than just teaching and learning. Moreover, the Ministry of Education (MoE) promotes the importance of Continuing Professional Development (CPD) in a wide spectrum of human endeavors. It has served a similar purpose in education and has been implemented in several educational systems as an intervention to increase effective teaching and learning. The literature highlighted above indicates that there is limited research conducted in Zambia to look into the issues related to the professional development of secondary school teachers. A reasonably good number of studies (e.g., Banda,2014; Mutambo, 2016) have focused on investment in research in the professional development of teachers and teacher education. Amongst a few kinds of research conducted on teacher continuous professional development, Josephine et al. (2018) attempted to explore the possibilities of continuous professional development of school teachers in the Lusaka Zone to establish whether it could enhance action research among teachers. Hence, the purpose of this study was to explore the Zambian secondary school teachers' perceptions of their continuous professional development in teacher engagement in CPD activities, perceived importance of different CPD programs/activities, needs to be focused on future training, and barriers.

2. LITERATURE REVIEW

This study employed adult learning theory as a theoretical framework. Originally referred to as andragogy, adult learning theory is attributed to renowned American educator Malcolm Knowles, often considered the father of adult learning. Knowles (1984) asserted five assumptions of adult learning, including Self Concept: Adult learners are self-directed and autonomous; Adult Learner Experience: Adult learners bring their life experiences to learning situations; Readiness to Learn: Adult learners are motivated by learning that addresses social roles; Orientation to Learning: Adult learners seek immediate application for problem based concerns; Motivation to Learn: Adult learners often are motivated by intrinsic rather than by extrinsic factors. Furthermore, Knowles (1980, 1984) posited four implications of these assumptions, including adults need to participate in planning and evaluating their learning experiences, life experiences help contextualize adult learning, adults want learning experiences to have immediate relevance for their professional or personal life, and adults want opportunities with time to engage in problem-oriented learning. This study's use of adult learning theory helps to examine teachers' perceptions of a CPD experience based on the premise that teachers are adult learners with specific and unique learning needs. This framework provides a lens through which the researchers can examine the extent to which those learning needs are operationalized, which holds the potential to impact CPD design and implementation. Likewise, research supported teacher PD and constructivism (Eun, 2008; Keiny, 1994; Ruey, 2010). Eun (2008) asserted effective teacher PD included constructivist principles such as social interaction, time, reflection, and ongoing support. Whitehouse et al. (2006) asserted social constructivism influenced most of the 40 studies they examined, revealing the contextual significance of social interactions that can enhance practice and support constructivist pedagogies. Likewise, Duffy et al. (2006) utilized a constructivist framework to develop over 60 inquiry-based, K-12 CPD courses because it provided an "environment that is theoretically, pedagogically, and practically consistent" (p. 175) with effective PD literature. This theoretical framework correlated to this study because it provided a lens through which the researcher could examine the extent to which the CPD experience included constructivist design and implementation features.

3. RESEARCH METHOD

3.1 Participants and data collection

The purpose of this study was to explore the Zambian secondary school teachers' perceptions of their continuous professional development in teacher engagement in CPD activities, perceived importance of different CPD programs/activities, needs to be focused on future training, and barriers. Participants were selected from a medium-size five secondary schools in the Lusaka district using a convenient sampling technique and consisted of 700 teachers. The rate of the questionnaire was 82.14%. Teachers' CPD perceptions were analyzed by working out mean values standard deviation, and applying t-test of an independent sample using Statistical Package for Social Sciences (SPSS). The statistical significance for the t-test was determined at 0.05 alpha level. Demographic data shows that out of 575 teachers, who filled the questionnaires, 56% were male, and 44% were female teachers. Regarding designations of teachers, 47.8% were Geography teachers, 30% were Mathematics teachers, 14.6% were English teachers, and 7.5% were Science teachers. Thirty-three percent of respondents had master qualifications, 31% were degree qualifications, and 36% had advanced diploma qualifications. The majority of teachers (61%) had 1-8 years of teaching experience. The departments were grouped into two major categories to compare teachers' professional development activities, i.e., arts and science. 63% of the teachers were from the art department, and 37% belonged to science departments.

3.2 Research Instrument

The research instrument used in this study employed a self-designed questionnaire with 30 close-ended and three open-ended questions related to different barriers, skills teachers needed, and suggestions for their professional growth. Fifteen close-ended items were focused on teachers' involvement in different professional development activities and were asked on a five-point Likert scale (from 'no extent' to 'a great extent'). The importance of different professional development activities were asked in other 15 close-ended items on a five-point Likert scale (from 'little important' to 'highly important). The Cronbach Alpha values (0.74 for subscale I and 0.71 for subscale II) indicate reasonably good reliability of the instrument. Demographic information such as gender, qualification, designation, etc., were also included in the questionnaire.

3.3 Data Analysis

Data were analyzed by using Statistical Package for Social Sciences (SPSS). For item analysis, the researcher calculated frequency, percentage, mean and standard deviation for each item. Comparison of opinions about different groups was made by applying t-test of independent samples. The significance of the difference was checked at 0.05 level of significance. Following mean range was used to determine levels of teachers' involvement in professional development activities: 1.00 to 2.33(low involvement), 2.34 to 3.66 (moderate involvement), and 3.67 to 5.00 (high involvement). Similarly, following mean range was used to determine the importance of different professional development activities: 1.00 to 2.33 (little important), 2.34 to 3.66 (moderately important), and 3.67 to 5.00 (high important).

4. RESULTS AND DISCUSSION

Table 1 below shows teachers' opinions about their involvement in professional development activities. The mean score (3.08) falls in the range of moderate level. The results show that secondary school teachers in Lusaka district were moderately engaged in professional development activities. Harris (2002) observes that due to shortage of appropriate training facilities for the school departments, the current status of teachers regarding adequate professional skills and training is alarmingly low. The data of current study reflect that teacher were mostly involved in 'reading books/ articles' (M = 3.31), followed by 'studying for higher qualification' (M = 3.25), 'developing teaching- learning materials' (M = 3.18), 'attending teaching-learning workshops etc.' (M = 3.16), and 'producing research papers/ reports' (M = 3.14). The activity in which teachers were least involved was applying for funded research projects (M = 2.88). Banda (2014) conducted a study to analyze the CPD activities of secondary school teachers in Zambia. She concluded that discussions with colleagues in their departments, supporting colleagues to develop their teaching, networking with colleagues from other institutions, reading books / articles on learning & teaching, reading web-based information, and participating in learning & teaching workshops were some of major activities the Zambia teachers were engaged in (Mutambo, 2016).

Table 2 below shows teachers' opinions about importance of different professional development activities. Teachers perceived 'producing research papers/reports' and 'reading books/ articles' highly important for professional development of faculty as mean scores were noted 3.72 and 3.62 respectively. However, all the remaining activities were rated moderately important by the teachers. Some of them included 'reviewing research papers' (M = 3.49), 'developing teaching and learning materials' (M = 3.48), 'obtaining membership of academic/professional organizations' (M = 3.43), 'conducting research' (M = 3.42), and 'studying for higher qualification' (M = 3.41). It is important to note that 'attending short training courses' (M = 3.28) got least rating by the secondary school teachers.

Additionally, as depicted in Table 3 below, t-value is not significant at 0.05 level of significance for male and female teachers' involvement in professional development. It means that as a whole there was similarity in the pattern of male and female teachers' participation in professional development activities. However, for two individual items, significant difference was observed. For both the items mean scores were in favour of male staff members. As compared to female teachers, male secondary school teachers produced more research papers/ reports, and reviewed more research papers for journals. When teachers however were asked to rate different professional development activities, t-value indicates significant difference in the opinions of male and female teachers. It may be inferred that male teachers, as compared to female faculty, attach more importance to CPD activities in their careers.

Table 1. Teachers' opinions about their involvement in professional development activities

Sr. No	Activities	Mean	S.D.
1	Read books/ articles in your academic area	3.31	1.200
2	Studied for higher qualification (M.Phil./Ph.D./Post-doc.)	3.25	1.350
3	Developed teaching learning materials (books)	3.18	1.295
4	Attended teaching and learning workshops/ seminars	3.16	1.259
5	Produced research papers/ reports	3.14	1.336
6	Conducted research	3.11	1.296
7	Participated as presenter/resource person in teaching and learning workshops/ seminars/ conferences	3.11	1.317
8	Mentored your colleagues	3.09	1.318
9	Reviewed books of other authors	3.07	1.283
10	Reviewed research papers for journals	3.07	1.351
11	Attended short training courses	3.06	1.278
12	Obtained membership of academic/ professional organizations	2.95	1.303
13	Developed online academic resources (website etc.)	2.95	1.407
14	Developed networking with colleagues from other institutions	2.89	1.301
15	Applied for funded research projects	2.88	1.376
	Total Scale	3.08	1.311

Table 2. Teachers' opinions about importance of professional development activities

Sr. No	Activities	Mean	SD
1	Producing research papers/ reports	3.72	1 .253
2	Reading books/ articles in your academic area	3.68	1 .252
3	Reviewing research papers for journals	3.49	1 .171
4	Developing teaching and learning materials (books/ manuals etc.)	3.48	1 .209
5	Obtaining membership of academic/ professional organizations	3.43	1 .189
6	Conducting research	3.42	1 .248
7	Studying for higher qualification (M.Phil./Ph.D./Post-doc.)	3.41	1 .247
8	Attending teaching and learning workshops/ seminars/ conferences	3.39	1 .200
9	Developing online academic resources (website etc.)	3.36	1 .194
10	Participating as presenter/ resource person in teaching and learning workshops/ seminars/ conferences	3.35	1 .180
11	Reviewing books of other authors	3.35	1 .152
12	Applying for funded research projects	3.30	1 .271
13	Networking with colleagues from other institutions	3.30	1 .320
14	Mentoring your colleagues	3.29	1 .219
15	Attending short training courses	3.28	1 .198

Table 3. Comparison of teachers' opinions by gender

Variables	Discipline	N	Mean	SD	t-value	Sig
Involvement	Male	323	3.07	.658		
	Female	352	3.09	.613	-.478	.633
Importance	Male	323	3.40	.629	.437	.022*
	Female	352	3.37	.599		

Table 4. Comparison of teachers' opinions by discipline

Variables	Discipline	N	Mean	SD	t-value	Sig.
Involvement	Arts	364	3.04	.608		.003*
	Science	211	3.13	.630.	-.066	
Importance	Arts	364	3.08	.615	.334	.738
	Science	211	3.07	.678		

It is clear from the data of Table 4 that there was significant difference in arts and science teachers' involvement in professional development activities. As compared to arts teachers (M = 3.04) faculty of science disciplines (M = 3.13) were more engaged in their professional development. On the other hand, similarity was observed in arts and science teachers' rating of different professional development activities. It means that CPD activities were considered equally important by the faculty of both arts and science disciplines. The analysis of individual items suggests significant difference in the engagement of faculty from arts and science departments in several CPD activities. The results highlight that teacher of science disciplines were more into obtaining membership of academic/ professional organizations, and developing teaching and learning materials (books/manuals etc.) in their respective fields. As compared to faculty of social science departments, teachers of science subjects reviewed more research papers for journals, and were more engaged more in mentoring their colleagues. There may be multiple reasons for higher involvement of science subjects' teachers in CPD activities. Comparatively faculty of science disciplines may have varied and increased opportunities for training workshops, seminars etc.,funded research projects and publication of their research papers in local and international journals. Above all, secondary school teachers of science backgrounds are likely to have higher motivation for enhancement of their professional growth and expertise.

Table 5. Teachers' opinions about the skills needed to be more effective teachers

Skills	Little Important (%)	Moderately Important (%)	Highly	Mean important (%)	SD
1. Communication skill	39	20	41	2.16	.777
2. Management skill	22.9	44.2	32.9	2.10	.742
3. Research skill	30	33.6	36.4	2.07	.812
4. Computer skill	23.4	37.2	39.4	2.01	.897
5. Teaching skill	33	39	28	1.96	.784
6. Writing research paper skill	42	38.2	19.8	1.79	.762
7. Developing grant research proposal	52.2	27.8	20	1.67	.784

Table 5 shows teachers' opinions about the skills needed to be more effective teachers. The mean score (2.16) shows that "communication skill" was highly important skill that needed to be more developed for being effective teachers at university level. Likewise, "management skill" (M = 2.10), "research skill" (M = 2.07) and "teaching skill" (M = 1.96) were major important skills for professional development. However mean score (1.67) shows that "developing grant research proposal" was perceived least important skill for continuous professional development at school level.

Table 6. Teachers' opinions about barriers that affect professional development of teachers

Item	Little important (%)	Moderately important (%)	Highly	Mean important (%)	SD
1. Time	17	15.1	67.9	2.52	.763
2. Funding	24.2	45	30.8	2.07	.742
3. Unavailability of study leaves	33.3	42.3	24.4	1.91	.758
4. Lack of encouragement	42.0	26.1	31.9	1.90	.856
5. Lack of opportunity	37.3	37	25.7	1.89	.789
6. Work-life-balance	31.9	48.1	20	1.87	.716
7. Over-emphasis on teaching	40.3	32.4	27.3	1.87	.815
8. Lack of personal interest	38	46.8	15.2	1.78	.700
9. External demands	66.2	26.4	7.4	1.41	.628

Table 6 shows teachers' opinions about the barriers in professional development of secondary school teachers in Lusaka district. The mean score show that "lack of time" (M = 2.52) and "funding" (M = 2.07) were highly important barriers that affected professional development of secondary school teachers. Besides them, "un-availability of study leaves" (M = 1.91), "lack of encouragement" (M = 1.90) and "lack of opportunity" (M = 1.89) were little important barriers of professional development. However, the mean score (1.41) shows that "external demands" was least important barrier for professional development of secondary school teachers working in Lusaka district, in Zambia. According to the findings of Banda (2014) study, lack of time and pressures from other assignments (i.e., research) were major barriers in professional development of secondary school teachers in Zambia.

5. CONCLUSION

In conclusion, this study argues that secondary school teachers are aware of the existence of CPD and its activities in the schools, and they are engagement in CPD activities, perceived importance of different CPD activities, skills to be focused in future training, and barriers in the professional development of teachers. A comparison of teachers' opinions was also made by gender and discipline. Finally, the study concluded that teachers met a lot of challenges in CPD. These range from the design, content management, and facilitation of CPD.

RECOMMENDATIONS

This study recommended that: For CPD to flourish in the Lusaka district, Education management at both the district educational board secretariat (DEBS) and school levels should sensitize secondary school teachers on the values of engaging in professional development activities/programs more. This study further recommends that another research be done on online teacher CPD on teaching and learning practices during the Covid-19 Era in Zambia.

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AUTHOR'S CONTRIBUTIONS

The author discussed the results and contributed to from the start to final manuscript.

CONFLICT OF INTEREST

The author declare that he has no competing interests.

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