



Correlations Between Effective Teachers' Clusters System and Enhanced Classroom Practices in South Africa

Oluwatoyin Ayodele Ajani

Department of Social Sciences Education University of Zululand, South Africa

Abstract

In-service professional development of teachers plays prominent roles in determining quality education in any country. Professional development of teachers has become fundamental to education system in developing African countries. This study evaluated the use of clusters system as one of the in-service professional development approaches for teachers in South African high school. Andragogy theory was used as theoretical framework to underpin the study. Questionnaire was administered with 40 teachers; 3 Heads of Departments were engaged in semi-structured individual interviews while 5 teachers were engaged in a focus group interview. Findings revealed that clusters system existed among the various subject-teachers, and these clusters were beneficial to teachers; classroom practices were enhanced, and teachers could be supported by experienced colleagues. However, findings revealed that contents of these meeting were not relevant to the teachers, there was no proper monitoring or follow-up on the teachers' activities there. The study therefore recommends that clusters system should be well structured to attend to classroom needs of the teachers, while proper follow-up mechanisms should be put in place.

Keywords: Classroom practices; In-service; Professional development; Content-based; Improvement; Cluster system.



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1. Introduction

Professional development activities of teachers have been taken serious in developed countries where teachers access various in-service professional development programmes or activities to enhance their classroom activities. The teachers are supported with fund and motivation to participate in such in-service training. The reason for these is the significant role of teachers in determining the quality of education or improving quality of education in those countries. Education is the wheel of national development of any nation, the quality of teachers determines the quality of education found in any country (Ajani, 2018).

Quality education is a great concern in different parts of the world, quality teachers translate into quality education which is manifested in learners' dispositions of knowledge and skills. Teachers in developed countries are regularly and adequately empowered with varied IPD programmes. African countries have been making attempts to improve teachers' instructional delivery for better classroom teaching and learning.

South African teachers just like their contemporaries from developed countries stand to gain a lot from this professional development. However, an area of focus that seems to be left-out in the issue of professional development of teachers is which approach is more appropriate?

In-service professional development of teachers is a long-term process that requires consistent development to meet up with learning dynamics and to prepare societal-fit learners (Santoro *et al.*, 2012). It improves teachers' knowledge and skills for effective teaching and learning (Ajani, 2018; Naidu *et al.*, 2008). Professional development of teachers entails variety of programmes; one of such is school cluster system for mutual activities and support. Clusters refer to grouping of schools or teachers within the same contexts to improve the quality of the education in schools (Chikoko, 2007).

School cluster is an effective approach that can promote collaboration, reflection, sharing and learning among the teaching fraternity (Turkey, 2004). identified networking and inter-school collaboration as an effective model of in-service professional development for teachers (OECD, 2009). Teachers share experiences and resources with each other within the and amongst clustered schools. The cluster system can improve teachers' pedagogy through innovative, collaborative and interactive programmes for clustered teachers.

1.1. Aim of the Study

This study advocates for cluster system as an effective structure that can empower teachers with opportunities to improve their pedagogies, classroom practices and learners' performance (Jita and Ndjalane, 2009).

2. Theoretical Framework

Cluster system promotes acquisition of new knowledge and relevant skills that can be adopted into classroom teaching. Teachers are considered as learners, while the facilitators facilitate learning through interactive activities, lesson are observed, learning/resource materials provided, group or individual class activities, and evaluation/assessments. This is known as adult learning.

Adult learning was coined as andragogy by Knowles (1984), he described learning in adults as striving, whose learning contradicts that of the children where their experiences promote learning in them through conceptualization of ideas for learning (Merriam and Brockett, 2007); Rationale for this theory in the study are:

- Teachers as learners possess self-concept that motivates what to learn.
- They have experiences that serve as building foundation for new knowledge.
- Their readiness for new knowledge is based on their learning needs for expected responsibilities.
- Learning is prompted by the problem-solving nature of learning for classroom application.
- Their intrinsic motivation overweighs their extrinsic motivation for new knowledge.

Teachers’ in-service professional development

Professional development of teachers is a significant approach to improve teachers’ behavioural attitudes towards improved classroom teaching (Stout, 1996). In the education system, professional development of teachers is also referred to as professional learning, in-service training and staff development. Jones and Lowe (1990), described professional development as continuous process of developing or improving teachers’ classroom practices. There is need for teachers to engage in classroom research to enhance their classroom practices. Teachers’ professional development practices should equip the teachers with new phases of knowledge, techniques, methods, strategies, approaches and skills with feedbacks in classroom environments (Barnard, 2004). These learning experiences or opportunities are all opportunities for teachers to improve their learners’ academic disposition or performance based on the improved classroom practices of the teachers (Thakral, 2011).

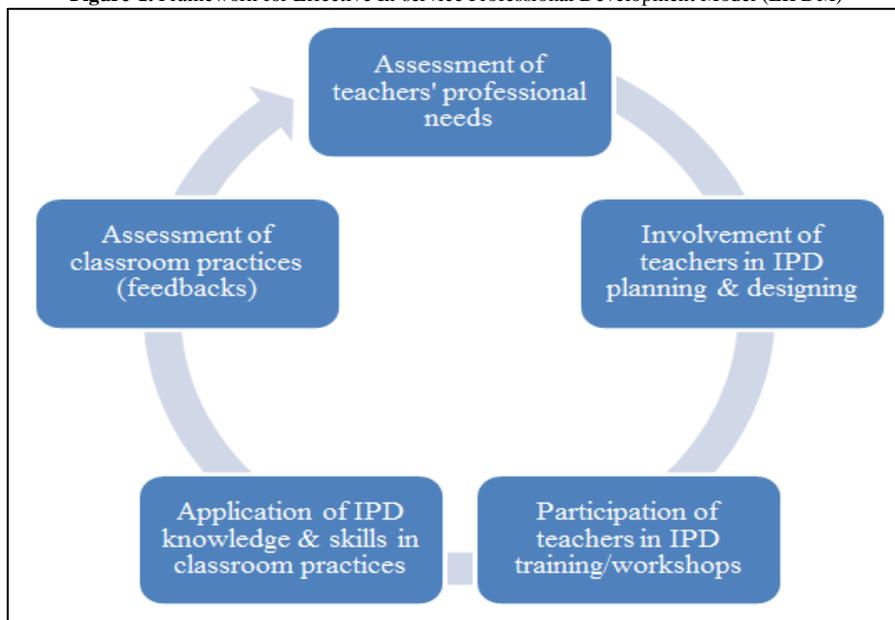
In a similar view, Guskey (2000) agreed that in-service professional development of teachers are ways by which teachers’ beliefs, practices, skills, knowledge and attitudes can be driven or improved to achieve desired results in education system. The more the teachers are being improved, the more there will be evident-based changes in the professional duties. Therefore, in-service professional development of teachers should lead to a change in their classroom practices. In-service training of teachers includes workshops, conferences, etc. All forms of in-service professional development activities of teachers can be structured into cluster system. Cluster system is the grouping of teachers according to common characteristics such as teaching subjects, field of specialization, geographical locations of schools, etc. cluster system promotes intimacy and better interaction, networking among the clustered teachers.

2.1. Influence of Cluster System of Teachers’ in-Service Professional Development

Ajani (2018), described in-service professional development of teachers is significant to the quality of education that can be found in any education system of a country. Influence of teachers’ in-service professional development can also be quantified from the academic performance of the learners. It should be known that quality classroom practices result into effective teaching and learning, which can lead to improvement in learners’ disposition of knowledge and skills. Guskey (2000), posited that the main goal of teachers’ professional development activities is the empowerment of teachers with knowledge, skills and attitudes that can reflect or improve their classroom practices.

Participation of teachers on a regular basis increases their professional knowledge and skills, these knowledge and skills are used to improve teaching and learning, the improvement in the teaching and learning ultimately increases learners’ disposition of knowledge and academic performance; when this is achieved, quality education is established. Teachers must be involved in the planning of their in-service professional development, teachers need to be assessed to determine their professional needs and be involved in the planning of their desired professional training. These processes make in-service professional development of teachers to be classroom effective, this study therefore proposes this model as framework for effective teachers’ in-service professional development:

Figure-1. Framework for Effective In-service Professional Development Model (EIPDM)



2.2. Effective in-Service Professional Development Model

This model proposes a framework that can promote effectiveness of various teachers' in-service professional development. The model follows a continuous cyclical process to attain needed change in classroom practices and learners' performance.

2.2.1. Assessment of Teachers' Professional Needs

This is the first step in this process, the teachers need to be assessed or evaluated by the subject advisor, Heads of Departments, the Deputy Principal, Principal, senior and experienced colleagues or designated person. The assessment can be done through observations of teachers' classroom practices, one-on-one interactive session with the teachers to know the professional needs of the teachers, the teachers are then recommended for specific IPD activities that will address their professional needs. Most professional development activities have been ineffective when it comes to classroom application because teachers' needs have not been noted to know what IPD can be relevant or appropriate to teachers and not one-size-fits-all initiatives (Sharma, 2011).

2.2.2. Involvement of Teachers in IPD Planning and Designing

The second step of this model recommends that teachers should be involved in the planning and designing of the desired professional needs to structure how, what, when and why in the mapping of contents for the professional development activities. Involvement of the teachers promotes appropriate contents that can benefit their classroom practices. According to Archibald *et al.* (2011), isolation of teachers from the planning and designing of their IPD is a major barrier to professional development of teachers.

2.2.3. Participation of Teachers in the IPD Training/Workshop

There is need for teachers to be encouraged to participate or attend in-service professional development activities. Their participation makes them to actively participate in available learning experience in the IPD.

The only way to establish the effectiveness of IPD in classroom practices of teachers is through the feedbacks on the application or integration of the acquired skills, knowledge and strategies. Assessment can be done through observation of their classroom practices or lessons, whereby subject advisors, HoDs, Deputy Principals or assigned senior colleagues who conducted earlier assessment of teachers' professional needs may need to conduct post assessment after teachers' attendance at IPD activities to assess the change in classroom practices of the teachers; learners' academic performance after teachers' attendance at IPD may also be used to determine the change in classroom practices of teachers. At this step, if changes are not established in classroom practices of the teachers, the process is hereby repeated until desired results are established (Ravhuhali *et al.*, 2015).

3. Research Methodology

This interpretive paradigm study used mixed method design to collect data from 48 participants, the Economics teaching participants were selected from 20 high schools in Richards Bay and Empangeni circuits of Kwazulu-Natal province of South Africa. South Africa is categorised developing nation. Purposive Sampling procedure was followed in selecting the participants for the interviews while random sampling procedure was followed in selecting the respondents for the questionnaires. 3 Economics teaching Heads of Departments were selected for one-on-one interviews while 5 Economics teachers were selected for focus group interview, in addition 40 Economics teachers were respondents to questionnaire.

This design is concurrent but entails separate collection and analysis of both quantitative and qualitative data to get valid findings De Vos *et al.* (2011). This design enabled the researcher to gain deep insight into Economics teachers' perspectives on in-service training. The researcher specifically selected this design on the basis that the use of both methods-quantitative and qualitative in the same combination, provided a better knowledge of the research problem and questions, rather than using only each of these methods (Creswell, 2011).

4. Results

In this section, the researcher presents the results and discussion of the findings. The findings from the quantitative study are first presented, followed by those of the qualitative.

4.1. Existence of Subject-Clusters System

Views of the participants were sought on the existence of different subject-clusters system for the professional development of teachers. Their responses indicated that clusters-system existed for subject teachers for development of their classroom practices.

Table-1. Regular clusters system for teachers

Responses	Frequency	Percentage
Strongly Agree	16	40%
Agree	20	50%
Disagree	4	10%
Total	40	100%

Most of the respondents (90%) agreed that subject-cluster system exists as in-service professional development approach for teachers in South African high schools while 10% did not agree to the existence of subject-cluster system.

Table-2. Continuity of professional development activities

Responses	Frequency	Percentage
Strongly Agree	20	50%
Agree	9	22.5%
Disagree	11	27.5%
Total	40	100%

72.5% of the teachers agreed that there was continuity in their various professional development activities while 27.5% were not satisfied with the level of continuity for their professional development activities.

4.2. Contents of the Clusters System are Appropriate to Classroom Practices

Several activities are usually included as the contents of teachers' in-service professional development activities, the aim of these contents is to develop teachers into better learning facilitators in schools.

Table-3. Contents suitability to classroom practices

Responses	Frequency	Percentage
Strongly Agree	21	52.5%
Agree	14	35%
Disagree	5	12.5%
Total	40	100%

Respondents' views on the available contents of their cluster meetings were expressed differently. 88.5% of the South African teachers unanimously agreed that the contents of their cluster meetings were suitably appropriate to their classroom practices. However, 12.5% teachers disagreed with the suitability of the contents of cluster meetings to their classroom teaching.

4.3. Wrong timing of Cluster Meetings

Teachers are called for in-service trainings at different times of the year, their views on appropriate time for cluster meetings were sought. The table below shows their views on wrong timing of the meetings.

Table-4. Wrong time for cluster meetings

Responses	Frequency	Percentage
Strongly Agree	20	50%
Agree	10	25%
Strongly Disagree	5	12.5%
Disagree	5	12.5%
Total	40	100%

Timing is important in pulling out teachers for professional development activities, 75% of the respondent teachers agreed that the timing for their cluster meetings was not convenient to their classroom practices while 25% were satisfied with the timing.

4.4. Convenient Locations for Cluster Meetings

Cluster meetings are held for teachers at different locations, teachers expressed their views on the convenience of the locations to them to access the venues.

Table-5. Convenient cluster meetings' locations

Responses	Frequency	Percentage
Agree	25	62.5%
Disagree	15	37.5%
Total	40	100%

Locations for clusters' meetings were viewed convenient and inconvenient by the teachers, 62.5% teachers agreed the locations were convenient while 37.5% teachers viewed the locations as not convenient.

4.5. Adequate Support from SMT for Teaching and Learning in Schools

Teachers need support from school management team members for classroom delivery. The support from the SMT promotes effective classroom practices of teachers, the teachers need maximum support that can promote effective classroom teaching and learning. [Table 6](#) below indicates teachers' views on this:

Table-6. SMT supports teaching and learning adequately

Responses	Frequency	Percentage
Strongly Agree	20	50%
Agree	10	25%
Disagree	10	25%
Total	40	100%

Most of the teachers 75% in table 6 indicated that their school Management Team members should support teaching and learning activities in schools.

4.6. Themes from the Qualitative Data

Theme 1: SMT/DoE supports teachers' participation in clusters' meetings through funding for travelling.

Participants for this study were asked on how they were being funded to attend cluster' meetings by the SMT/DoE. Participant T5 responded that the Principal provided fund to attend:

The Education district organizes the venue, brings subject advisors. The school principal gives us transport fares (T5).

Teachers need fund to attend regularly, subject – clusters' meetings, participant T1 also agreed that the principal had been supporting him to attend:

In the case of my school, the principal gives us money to attend but they are other schools where teachers are not being funded to attend (T1).

However, some teachers do not enjoy being funded to attend clusters' meetings, participant T2 had this to say:

In my school, we use our personal money to fund ourselves. The school or the district does not support with fund (T2).

Theme 2: The focus/activities of clusters system are to improve teachers' classroom performance.

Teachers mentioned different activities they engaged with at their subject cluster meetings, some of these activities were beneficial to them while some were not pleasant to them. Participant HoD1 viewed that cluster meetings were used to familiarize the teachers to new modules or topics in their subject area:

To empower, develop and introduce the teachers to new curriculum approach in their subjects (HoD1)

Participant HoD2 highlighted the need for their meetings to focus on what really benefit their classroom teaching:

The main thing is the focus, how to organize the content, the method. Outside the main focus is also the content, where we use team teaching (HoD2).

Participant HoD 3 was pleased with the content that focused on what he needed to teach in the classroom:

The last one we attended focused on how to approach different topics for our SSS 3 especially (HoD3).

Theme 3: Teaching and learning support materials from the clusters are helpful to teachers.

It is necessary for teachers to teach with support materials, their views on the provision of these materials were expressed. Participant HoD1 indicated that support materials from these meetings were helpful:

Yes, because the materials help us in the teaching and learning of the subjects, we also improvise to suit the topics (HoD1).

Provision of relevant support materials for classroom practices by the cluster meetings was also buttressed by the participant HoD3:

Yes, there are relevant materials that are suitable to our different schools while some need to be adapted to suit our topics or schools (HoD3).

Contrastingly, participant HoD2 revealed that the cluster meetings have not been able to provide support materials that focus on the learners:

No, materials to assist the teachers should focus on how learners can be assisted to learn (HoD2).

Theme 4: Teachers who attend clusters' meetings are monitored and supported for implementation.

When teachers were asked on the monitoring and support for their attendance, most of them were not satisfied with the available monitoring and support for their attendance. Participant HoD2 had this to say:

With me its better, I support them. I observe their teachings, and I engage them on one on one support (HoD2).

Monitoring and support to teachers were being done by the HoDs at different schools, participant HoD3 had this to say:

They are follow ups; I check the learners' activities against the curriculum. When teachers come back from workshops, they come back with materials (HoD3).

However, participant HoD1 condemned the inability of the DoE or Subject Advisors to regularly monitor or support teachers:

Most times, it is at the school level that the HoDs have been monitoring and supporting their teachers to motivate and improve their classroom practice. The Department officers do not really monitor or support except to witch hunt teachers once a while when they visit schools (HoD1).

5. Discussion

The 21st education system in South Africa demands quality teachers who will ensure quality education for the South African learners. According to Fullan (2007) that quality teachers promote holistic and quality education that can bring about the necessary development. In-service professional development of teachers becomes necessary to ensure continuous quality in education based on teachers' productivity which goes beyond pre-service training they joined the profession with (Smith and Gillespie, 2007). Respondents indicated that teachers need to participate regularly in professional development activities to ensure continuous improvement in their classroom practices. Ravhuhali *et al.* (2015), agreed that frequent participation of teachers in different in-service training promotes classroom. Rodríguez and McKay (2010) posited that teachers need to experience in-service professional development that enhances their knowledge, experience, skills, intuitive decisions and values for classroom practices.

Findings (Table 3) submit that teachers prefer subject cluster system that focuses on their classroom needs. This supports Ajani (2018) that teachers' classroom needs should be assessed to determine what kind of in-service training will benefit their classroom practices. The result indicated that teachers wanted to be involved in the planning and designing of their professional development activities. Findings from interviews (Theme 2) revealed that teachers preferred subject cluster meetings that focus on topics they need to teach and to observe experienced teachers teach the topics in the clusters' meetings. This supports Israel (2012) that professional development of teachers should embrace observation of experienced teachers' classroom teaching. This enables other teachers to observe how to develop lesson plans, review learners' works, how to present their lessons in simulated conditions for classroom implementation (Bourke, 2001). This act is adult learning to the teachers, teachers are motivated to learn new knowledge and skills that can improve their classroom practices, especially when teachers are involved in the planning and designing of the in-service training (Broad and Evans, 2006).

Teachers will appreciate professional development activities that are within the convenient time of the teachers. Results (Table 4) showed that teachers were not satisfied with cluster meetings that were affecting their classroom teaching, it is believed that learners should not be abandoned at the expense of teachers' professional development. Monitoring and support for teachers on participation at cluster meetings were consistent in both quantitative and qualitative results, table 6 indicated that teachers needed school management team members to support them, this agrees with theme 3 for the interviews. Provision of teaching and learning support materials by the SMT will indicate their support to teaching and learning in schools. Also, provision of travelling fund to teachers to attend subject cluster meetings by the SMT may also be regarded as support or motivation to participate.

It is important to monitor teachers who attend professional development activities by the designated officer in the school and the Department of Education. Monitoring of teachers enables the teachers to be assessed and recommended for appropriate professional development. Assessment of teachers enables the teachers to identify the necessary professional needs that can enhance their classroom practices (Noh *et al.*, 2004).

6. Conclusion

Clusters system is an effective approach for IPD of teachers throughout their entire career. Clusters promote interactive discussion, educative networking, creativities and mentoring system that can enhance teachers' pedagogy and classroom practices across high schools if well embraced. However, a major side effect of clusters system can be domination of cluster activities by the extreme extroverts if not well managed.

Recommendation

There is a strong correlation between the effective cluster system and classroom practices of teachers. Cluster system remains on of the effective approach to teachers' professional development for enhanced classroom practices; which in turn leads to learners' academic improvement. Therefore, this study recommends the following:

- Policy on In-service professional development of teachers should place much emphasis on clusters system for every subject for improved instructional delivery of the subjects.
- Existing clusters system should be strengthened to focus on contents and methods of teaching each subject at different grades. Every subject teacher should be encouraged to participate or attend subject clusters' meetings to improve his/her pedagogy and classroom practices.
- MOE/ED should make adequate provision for fund to all teachers to attend clusters' meetings.
- Schools in the same geographical locations should be clustered together for easy access to all teachers in the clusters.
- Clusters should be well structured, regular and coordinated by experienced teachers as facilitators /mentors to others once every term.

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