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IF TEACHERS DON'T READ, HOW DO STUDENTS LEARN?

EKUA TEKYIWA AMUA-SEKYI

Department of Arts & Social Sciences Education, University of Cape Coast, Ghana

ABSTRACT

The study examined teachers' involvement in the implementation of a pedagogical innovation in the curriculum. One hundred and ninety secondary school teachers were purposively sampled. A questionnaire was designed to explore a number of elements including availability and use of the document and teachers' knowledge of the innovation specified in the curriculum. The findings showed that teachers are not involved in the implementation of the curriculum as they should. This is evident from the fact that they do not have knowledge of the curriculum with regards to the pedagogical innovation. Teachers do not read the syllabus of the subjects they teach as they should. In order for curriculum innovation to be properly implemented and sustained, teachers' roles in and understanding of the innovation are crucial. Thus, the implications of the findings are discussed in terms of teacher preparation and training.

KEYWORDS: Curriculum Innovation, Implementation Fidelity, Teachers, Teacher Preparation, Professional Development Training

INTRODUCTION

Curriculum is a dynamic programme that is expected to address the changing needs and aspirations of any society. School-based programmes are the primary means by which curricula are delivered to learners. However, many school based innovative programmes are seldom implemented perfectly. The effectiveness of innovative programmes depends on implementation fidelity, that is, the degree to which programme implementers deliver the programme as intended by the developers (Dusenbury, Brannigan, Falco, & Hansen, 2003). Durlak & DuPre, (2008) and Dusenbury et al., (2003) note the critical role that implementation fidelity plays in the achievement of positive programme outcomes. Mihalic, Fagan & Argamaso (2008) observe that the success or failure of an innovation depends in the long run on the teacher. Teachers occupy a central role in the implementation of curriculum and experts agree that the teacher is a critical factor in the successful implementation of any educational innovation (Wokocha, 2007). No genuine innovation occurs unless the teachers are personally committed to ensuring its success. Teacher skills and attitudes count for a great deal more in curriculum innovation than do changes in content and methods. In order to implement change, one must have a personal stake in the process and must be knowledgeable about the issues.

Innovative teaching such as a shift from teacher-centred to student-centred teaching is often met with resistance from students as they are challenged to approach problems at a higher level. Similarly, though to a lesser extent, teachers may be hesitant to incorporate student centred teaching because of a perceived lack of control in the classroom and changes in their teaching practices. Several studies have shown the extent to which programme fidelity occurs and how both individual and organizational factors have the potential to influence the fidelity with which school-based curricula are implemented in classrooms (Little, Sussman, Sun & Rohrbach, 2013; Rohrbach, Gunning, Sun & Sussman, 2010; Lochman, Powell, Boxmeyer, Qu, Wells & Windle, 2008; and Kam, Greenberg, & Wall, 2003). What stands out is that the

quality of implementation of an innovation is dependent on factors that include organisational capacity and ongoing assistance. This ties in with Kam et al.'s (2003) study, and findings from meta-analyses of implementation fidelity (see Durlak & DuPre, 2008). The readiness of teachers is crucial and research has identified common difficulties, including limited preparation, student reluctance and lack of confidence (Blackie, Case & Jawitz 2010; Kember 2009; Gilis, Clement, Laga & Pauwels, 2008). It follows then that any re-alignment of curriculum should identify those variables that nurture the teacher–student dynamic (Gilis et al., 2008 and Guest, 2005). Training is an important element for effective fidelity implementation which contributes to the success of an innovation. Teachers who are actively involved in the implementation process are more receptive (Durlak & DuPre, 2008). This commitment can be accomplished through teacher training and staff development training programmes that give teachers appropriate conceptual and practical assistance during this process. A comprehensive teacher training and administrative support is essential to increase implementation fidelity (Little et al., 2013; Blackie, Case & Jawitz 2010; Bamber 2008).

CONTEXT AND PURPOSE OF STUDY

Teaching within the Ghana education system has undergone a pedagogical shift in recent years, with new approaches to improve student motivation, autonomy and achievement (Fernandes, Flores & Lima, 2012). Policy-makers and educators recognize the need to move teaching and learning from the didactic acquisition of "knowledge" to a new position where students will be able to apply their knowledge, develop analytical thinking skills, synthesize information, and use their knowledge in a variety of ways to deal with learning problems, and with problems and issues in their lives. Consequently, the concept of 'profile dimensions' which places premium on application of knowledge rather than content knowledge was made central to the teaching syllabus and prime focus of teaching, learning and assessment from basic school (primary and junior secondary school) to secondary school in 1998. Profile dimensions describe particular learning behaviours required of learners, with relative emphasis for each profile dimension expressed in percentage weights. For example, the dimension weightings of the curriculum of the three core subjects of English language, mathematics and science are described as follows: for English language at the primary, junior secondary and senior secondary school levels:

Knowledge and Understanding = 40%

Use of Knowledge = 60% (Ministry of Education, 2012; 2012a; and 2012b)

The emphasis on use of knowledge (60%), makes it the preferred profile dimension in teaching, learning and assessment. Under the use of knowledge, application of knowledge, analysis, inventive thinking (primary school), inventive thinking (JHS), innovation/creativity (SHS), and evaluation are emphasised and what constitutes these elements have been made explicit. For the mathematics curriculum for primary, JHS and SHS:

Knowledge and Understanding = 40%

Application of Knowledge = 60% (Ministry of Education, 2012c; 2012d; and 2012e)

The emphasis on application of knowledge (60%), makes it the preferred profile dimension in teaching, learning and assessment at the pre university level, with what counts as application, analysis, synthesis and evaluation explicitly described in the syllabus at all levels. For the integrated science curriculum at the primary level, the relative emphasis in weighting is:

Knowledge and Understanding = 20%

Application of Knowledge = 20%

Attitudes and Process skills = 60% (Ministry of Education, 2012f)

The emphasis on attitudes and process skills makes them the most important profile dimension in teaching, learning and assessment at the primary level. At the JHS level, the emphasis shifts to application of knowledge and experimental and process skills as such:

Knowledge and Understanding = 20%

Application of Knowledge = 40%

Experimental and Process skills = 40% (Ministry of Education, 2012g)

At the SHS level, the emphasis shifts back to attitudes and process skills:

Knowledge and Understanding = 20%

Application of Knowledge = 20%

Attitudes and Process skills = 60% (Ministry of Education, 2012h)

Explicit examples of what goes into the use of knowledge, application of knowledge and attitudes/experimental and Process skills are given, and teachers are particularly urged to give their students chances to engage in evaluative thinking, the lack of which is noted to account for the poor performance of students.

A shift in the respective authoritative-passive roles of teacher and student represents a new cooperative teaching/ learning relationship (Hua, Harris & Ollin, 2011), with its emphasis on core generic skills such as critical thinking, problem-solving and independent learning (O'Neill & McMahon, 2005; Light & Cox, 2005), which is central to the philosophy of student-centred learning and sees learning as taking place in a constructive interaction between students and teachers and among students (Attard, Lorio, Geven, & Santa, 2010). While it can be argued that student-centred learning is an extension of good pedagogy and classroom practice, for some teachers adaptation to its principles can be difficult (Mangan, 2008). Research suggests that any change in practice should involve a degree of risk and uncertainty (Blackie et al, 2010; Barnett, 2008), offering transformative potential to teachers as well as students. The challenge of a curriculum that engages students is itself a challenge, but one that cannot be shirked if an argument about curriculum is to hold substance (Coate & Barnett, 2005).

Walker (2006), shares the views of educators that what teachers do pedagogically potentially influences the development of their students. It then follows that the opportunities we open up or foreclose in our classrooms matter. My encounter with post graduate diploma in education (PGDE) students provided impetus for this study. PGDE students are non professional graduate teachers in secondary schools who have enrolled on the programme to be professionally trained as teachers. As classroom teachers, they are required to use the various syllabi in their subject areas to teach students. As stated earlier on in this paper, the concept of profile dimensions is explained and the various emphases explicitly illustrated in the introduction to the syllabus of all subjects from primary to secondary level. Teachers, who are users of the syllabus, are expected to read and be conversant with the requirements of the syllabus and allow it to direct their teaching, student learning and assessment. It was therefore surprising when 90% of PGDE students in my Methods of teaching class claimed no knowledge about the concept of profile dimensions and none could explain it to the class. The story was not different in

classes of colleagues I contacted. This begs the question: if teachers do not read, how do students learn? The need to investigate teachers' knowledge and practice of the pedagogical innovation became apparent. The purpose of this study was therefore to ascertain the status of implementation of profile dimensions in the curriculum of secondary schools. The study intends to find out if the curriculum document is available in schools and the extent to which teachers are familiar with it and implement the pedagogical innovation.

RESEARCH QUESTIONS

Research questions that direct the study are:

What percentage of teacher-respondents has copies of / access to the syllabus of the subject they teach in secondary school?

What percentage of teacher-respondents is guided by the syllabus in their lesson preparation?

What is the level of awareness among teacher-respondents of the provisions of profile dimensions in the syllabus they use to teach?

What support do teachers get in the implementation of the innovative pedagogical practice?

The study will provide information on teachers' involvement in implementing the pedagogical requirements in secondary schools. This is likely to stimulate further research in the area. Secondly, the outcome of the study will provide independent feedback to the Ghana Education Service and the Ministry of Education on the level of implementation of the pedagogical innovation and serve as basis for further action. Finally, teachers will be sensitized by the outcome of the study to improve their awareness of the curriculum.

METHODS

A descriptive survey that involves collecting data that describe the status of implementation of the pedagogical innovation in secondary schools was considered appropriate for this study. It is the best design for reporting variables in a natural setting or the way things are.

It involves the collection of data to test hypothesis or to answer questions on the current status of the subject of study (Patton, 2002). Students on the PGDE programme were purposively sampled because they are classroom teachers and by virtue of their position are implementers of the innovation. They use the various syllabi of secondary school subjects on a regular basis. A total of 190 PGDE students participated in the study. This was made up of 110 first year students and 80 second year students. A questionnaire was administered for data collection. Statistical Package for Service Solution (SPSS) version 16 was used to analyse the data. It was my contention that the survey data was best analysed in a relatively straightforward manner. Thus, the data is described in terms of frequencies.

FINDINGS

The majority of respondents, 78% (86 out of 110) of first year students and 80% (64 out of 80) second year students have been teaching for up to ten years. This suggests that they have been using the syllabus for their various subjects for this period as shown in tables 1 and 1a below:

Table 1: Number of Years of Teaching - Year 1 Students

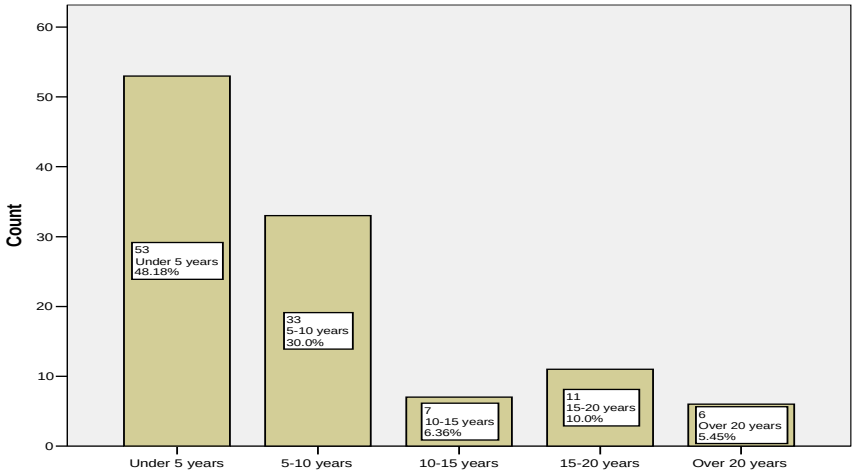
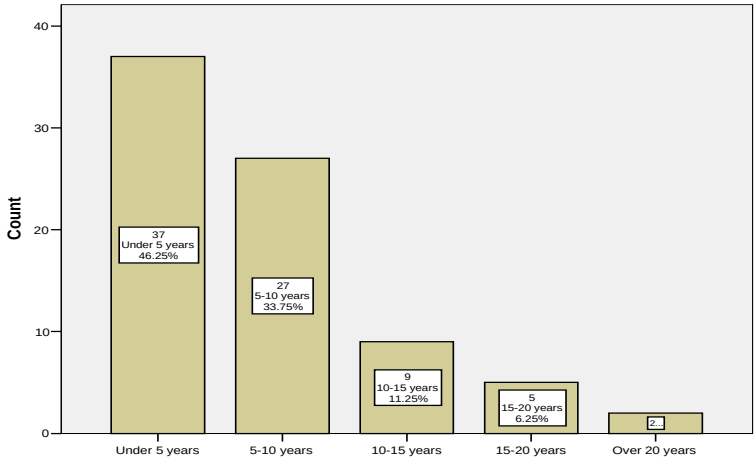


Table 1a: Number of Years of Teaching - Year 2 Students



Moreover, 75% of teacher-respondents claimed ownership of personal copies of the syllabus. Those who do not have personal copies (25%) have access to copies in their various schools which they can use to prepare their lesson notes. Tables 2 and 2a below show distribution of teacher-respondents across the ten regions of Ghana:

Table 2: Region in Which Respondents' Teach - Year 1 Students

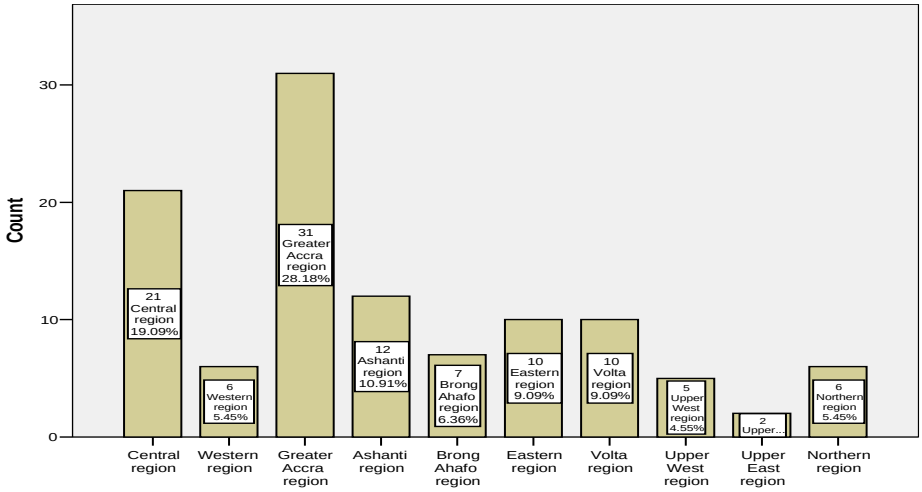
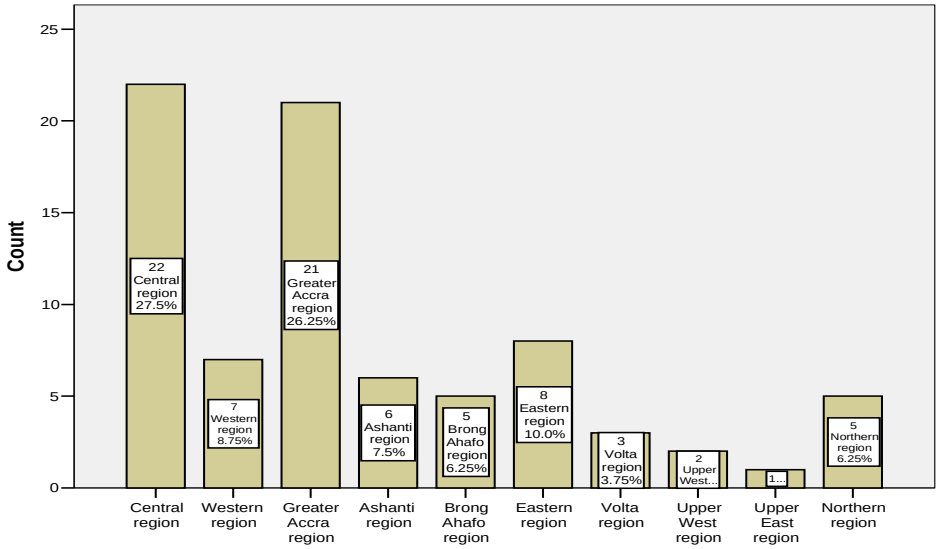
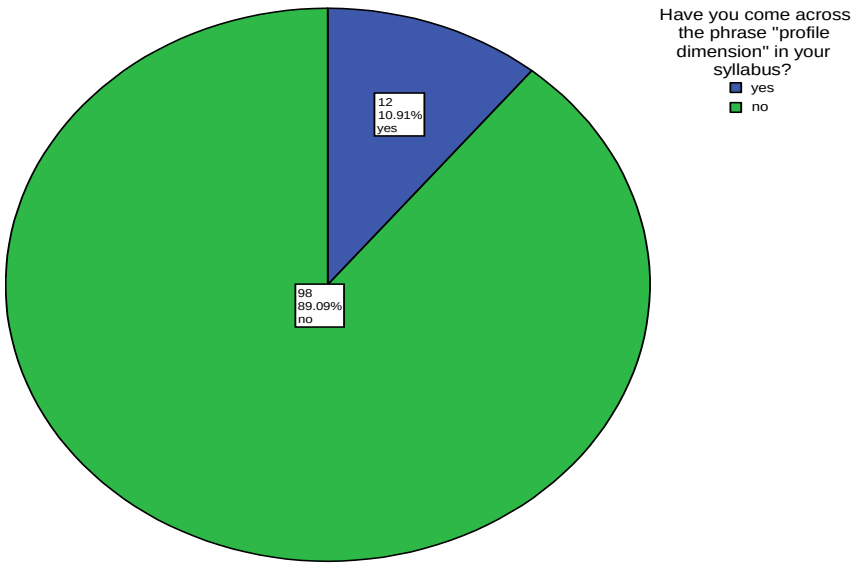


Table 2a: Region in Which Respondents' Teach - Year 2 Students



Teacher-respondents span the 10 regions of Ghana, though the majority are from the greater Accra and Central regions respectively in both year groups. Taking into consideration distribution of schools across the ten regions of Ghana, one can say that teacher-respondents are fairly distributed. Tables 3 and 3a below show the percentage of teachers who have come across profile dimensions in their syllabus.

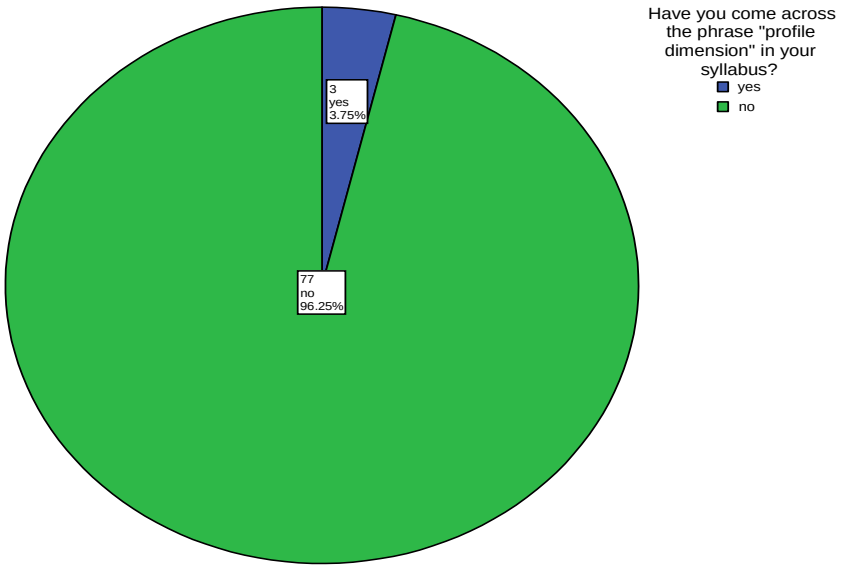
Table 3: Teachers Awareness of Profile Dimensions in the Syllabus and what it Means – Year 1



If yes, what does it mean?

	N	%
Levels of Bloom's Taxonomy of learning	7	6.4
Level of measurement and evaluation	3	2.7
I do not remember	2	1.8
Total	12	10.9

Table 3a: Teachers Awareness of Profile Dimensions in the Syllabus and what it Means – Year 2



If yes, what does it mean?

	N	%
Levels of Bloom's Taxonomy of learning	3	3.8
I do not remember	1	1.3
Total	4	5.0

The results show that 90% of first year teacher-respondents (*n*= 98 out of 110) and 96% of second year teacher-respondents (*n*= 77 out of 80) have no knowledge of the concept profile dimensions. The majority of first year teacher-respondents and second year teacher-respondents who have come across profile dimensions in the syllabus of their subjects said profile dimensions is about the levels of Bloom's taxonomy of learning, probably because emphasis is placed on application, analysis, synthesis and evaluation as the highest form of thinking (Bloom, 1965). The others, 3% associate profile dimensions with level of measurement and evaluation and 3% do not remember what it means. What is striking is that the percentage of second year students (4%), who have knowledge of profile dimensions is comparatively lower than the percentage of first year students (11%). Second year students have been taken through two key courses, namely methods of teaching and curriculum studies in their subject areas which should have addressed any gap in their knowledge and understanding. When teacher-respondents were asked whether they have had any opportunities for professional development training, 49% of first year students responded in the affirmative, and 51% said no. For second year students, 41% reported having had professional development training while 59% said no. This suggests that more than half of either group of students have not had any professional development training since they started teaching. For those who have had professional development training, 36% of first year students and 29% of second year students respectively had their last professional training between 2011 and 2012 as shown in table 4 and 4a below:

Table 4: Last Professional Training Attended – Year 1

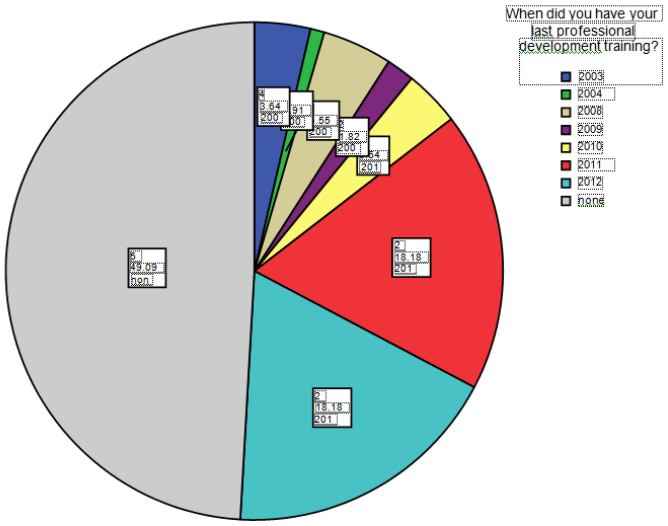
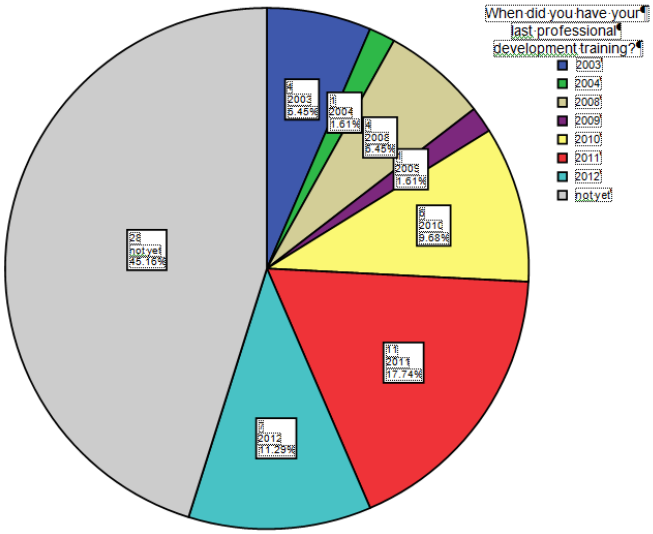


Table 4a: Last Professional Training Attended – Year 2



DISCUSSIONS

There is no doubt that the intent of the curriculum developers is to move teaching, learning and assessment from the didactic acquisition of knowledge to application of knowledge and the development of generic skills. In using the data generated to answer the research questions, one can gauge the extent to which the pedagogical innovation is being implemented:

What Percentage of Teacher-respondents has Copies of / Access to the Syllabus of the Subject they Teach in Secondary School?

The majority of respondents claim personal copies of the syllabus of subjects they teach, the others have access to copies in their schools to use in the preparation of their lesson notes. Consequently, one can say that all 190 respondents in the study (100%) have access to a copy of the syllabus of the subject they teach. If all respondents have access to the syllabus of the subject they teach and the concept of profile dimensions is explained and explicit examples of what is

expected are given in the introduction to all syllabi, then one would expect that teachers who read the introduction to the syllabus must be familiar with profile dimensions and what it entails.

What Percentage of Teacher-respondents is Guided by the Teaching Syllabus in their Lesson Preparation?

If all teachers have access to the syllabus of the subjects they teach and use it to prepare lesson notes, one can argue that all teacher-respondents (100%) are guided by the teaching syllabus in their lesson preparation. Indeed, the teaching syllabi for all subjects provide content to be covered, specific objectives for topic listed, teaching/learning activities for each topic and how students should be evaluated. This means that teachers are closely guided to teach the topics prescribed. Though adaptations can be made, teachers cannot move too far away from the syllabus if their students should perform creditably in the national examinations. If this is the case, then teachers must read and understand what is required of them in order to teach effectively.

What is the Level of Awareness among Teacher-respondents of the Provisions of Profile Dimension in the Syllabus they Use to Teach?

One can say from the findings of the study that the majority of respondents were not aware of the concept profile dimensions and its provision. Teachers' lack of knowledge of the central concept of the curriculum suggests that they do not read the syllabus as they should. If teachers do not read the syllabus in a way that would familiarise them with the guiding principles of teaching, then how do they teach? Of course, one can argue that if the teaching syllabus is so detailed as to provide content to be covered, specific objectives for topics listed, teaching/learning activities for each topic and how students should be evaluated, teachers who do not read the introduction to the syllabus can still be guided to develop the skills and attitudes desired in students. However, being shown what to do, and understanding why and how something is being done are two different issues, especially in a context where the majority of teachers have to make a shift from the authoritative-passive roles of teacher and student they themselves have experienced as students to a new cooperative learning relationship (Hua, Harris & Ollin 2011). A teacher who does not understand the what, why and how of the curriculum will not be able to present information in a way that will lead to the desired learning outcome (Walker, 2006; Mangan, 2008), which means that the pedagogical innovation cannot be successfully implemented. It is therefore important for teachers to understand the philosophy behind the pedagogical innovation and how it may impact student learning. Teachers have a professional commitment to develop their skills and expertise in classroom practice, that is why it is disheartening to find that after going through courses in methods of teaching and curriculum studies, most second year teacher-respondents were still oblivious to the concept of profile dimensions. It could be that initial teacher training is not focusing on developing students understanding of the philosophy and the principles of profile dimensions and, for example, ensuring that student teachers are familiar with the experiences and outcomes. There is the need for all student teachers to acquire a deep understanding of the principles and purposes of profile dimensions, familiarity with the experiences and outcomes across all curriculum areas and an understanding of how to translate these into practice. Teacher self-efficacy, comfort, and buy-in can be increased with effective teacher training and/or professional training opportunities.

What Support do Teachers Get in the Implementation of the Innovative Pedagogical Practice?

If more than half of respondents can say that they have never had any professional development training since they started teaching, one can argue that support is minimal, especially so, for an innovation which calls for a shift in

teaching practice. Documenting the change in the introduction to the syllabi of subjects is not enough, as this study has shown. Teachers need to be sensitised as to what, why and how of the innovation to implement the change. This is because teachers adopting student-centred teaching often are unaware of the typical pedagogical challenges they may face (Gilis et al., 2008; Lochman et al., 2008). In particular, teachers new to student centred- teaching can anticipate changes to teacher and student roles, a shift that may be supported with teacher training and or professional development training and awareness of common student reactions. The literature on teacher training suggests that teachers can learn about the mechanics of delivery during face-to face workshops. Just as students are expected to change their role in student-centred teaching, the teacher's role also changes. Instead of simply telling students what to do, teachers using the student-centred approach help students to find their own answers by asking guiding questions and having the students describe their ideas both verbally and in writing. Teachers not used to this way of teaching often have difficulty implementing such innovations (Mangan, 2008).

Teacher's prior beliefs and practices can pose challenges. They may be unwilling to change in the direction of the innovation because their understandings may interfere with their ability to interpret and implement the innovation as intended by the curriculum developers. Recent research points to the need for a comprehensive teacher training and support to increase implementation fidelity (Rohrbach et al., 2010; Durlak & DuPre, 2008). In the absence of adequate teacher and professional development training, teachers may rely on their prior beliefs and experiences in interpreting the innovation which may lead to a mismatch between what the innovation aims to achieve and what actually happens inside the classroom. Teacher training and professional development programmes are crucial to provide teachers with opportunities to redirect their beliefs and reflect upon their classroom practices (Little et al., 2013). The introduction of tailored staff development programmes, in this context, may prove to have a positive impact on student-centred conceptions of teaching (Blackie et al, 2010; Bamber, 2008). Continuous professional development strategies must be in place to endow those entrusted with teaching with the required knowledge, skills, attitudes and values (Barnett, 2008). Training sessions that emphasise the importance of using questioning to redirect the thinking and learning processes of students and address higher order learning and understanding is necessary in this context. The effectiveness of teacher training and professional development lies in its impact on learners' experiences and in improvements in the outcomes of their learning. We need to develop our approach to continuing professional development to ensure that teachers engage in teaching which will lead to better outcomes for students. There is evidence of enhanced teacher professionalism and effective implementation where teachers had direct involvement in, and felt ownership of activities to implement curriculum (Rohrbach et al., 2010; Durlak & DuPre, 2008).

CONCLUSIONS AND RECOMMENDATIONS

Teachers have access to their respective teaching syllabus; however they do not read the introduction to the syllabus. They seem to delve straight into the topics, teaching and learning activities and evaluation prescribed without recourse to the introductory notes. Thus they miss the central premise and focus of the syllabus. They are therefore not familiar with the concept of profile dimensions which relates to priorities which have been identified such as critical skills. While their teaching might be directed by the teaching and learning activities prescribed, their lack of knowledge and understanding of the philosophy behind the pedagogical innovation is likely to impact negatively on student learning. The extent to which teachers are oblivious of the innovation suggests that a lot of work still needs to be done for teachers to acquire the necessary knowledge and skills for effective implementation of the curriculum. Teacher training needs to focus

on the central premise of the curriculum and workshops to acquaint subject teachers with the innovation is absolutely necessary at both the school and district levels. Such initiatives, if well organised, may have a significant impact on teaching methodology. They can also achieve a shared sense of purpose as all teachers are involved. The key to getting teachers committed to an innovation is to enhance their knowledge and understanding of the programme. Without an appropriate focus on teachers, the innovation will not pan out. The quality of teachers explains differences in learning outcomes. This means that teachers need to be trained and developed professionally.

The primary limitation of this study is the use of PGDE students who, though are in the classroom, are now being professionally trained as teachers. This prevents the reader from generalizing to a larger setting, and/or population. A larger sample including professional teachers could lead to broader generalization. Further exploration of teacher perceptions and preconceptions, and the possible impact of these upon the success of curriculum innovations, may be a fruitful area for further research.

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