

Teacher professional development through sandwich programmes and absenteeism in basic schools in Ghana

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Abstract

Continuous professional development of teachers plays a crucial role in improving learning outcomes in schools. This study investigated how teaching time is lost when teachers absent themselves to participate in sandwich programmes to upgrade themselves in the University of Education, Winneba (UEW) in Ghana. Using a survey of 475 teachers pursuing sandwich programmes in the University and interviews with pupils and gatekeepers of schools in Effutu Municipality, it emerged that indeed, participation in sandwich programmes at UEW lead to loss of 45 days of classroom instructional time in basic schools. The academic calendars for basic schools and that of the sandwich programme overlap by 9 weeks, implying teachers who enroll in the sandwich programmes lose an average of 264 hours each of classroom instructional time with their pupils in an academic year. Other effects include inability of teachers to participate in religious and social activities such as worship, weddings and funerals. The study concludes that, although sandwich is a good approach for teachers to upgrade themselves, the existing arrangement is not favourable to the teachers and their pupils as time meant for classroom interactions are spent in the University campus on sandwich programmes. Therefore, harmonising the calendar arrangements could reduce the time loss by a minimum of 3 weeks to improve teaching and learning in schools.

Keywords: Teacher Absenteeism, Sandwich, Professional Development, Instructional Time

1. Introduction

Education is a key driver of change in any society. It has the ability to engineer and direct socio-economic development, with a general purpose to modify the character of citizens as well as equip them with skills and intellectual competencies to solve societal problems. This requires quality in the system of education which forms the sixth goal of the education for all programme, aimed at improving all aspects of education, ensuring excellence and measurable learning outcomes; especially in literacy, numeracy and essential life skills (UNESCO, 2015). This is possible when effective teaching and learning takes place and learners are fully engaged and make optimum use of instructional time. It involves conscious efforts to select chunks of relevant knowledge to be acquired through careful and sequential arrangements of what to learn and how it should be learned. In other words, effective learning takes place when content units are arranged sequentially in such a way that the learning of each unit is accomplished as a single act, provided the capabilities described by specified prior units have already been mastered by the learner (Gagné, 1985). This requires quality training and high levels of competencies of teachers as well as promote lifelong learning opportunities for all. This constitutes the fourth goal of the Sustainable Development Goals (SDG) adopted by the United Nations. Specifically, Goal 4c seeks substantial increase in the supply of qualified teachers, including, through international cooperation for teacher training in developing countries, with focus on least developed countries and small island developing States by 2030 (UN, 2015).

In Ghana, one of the major challenges facing education over the last two decades has been an attempt to improve the quality of education, particularly, at the basic (primary and Junior high school) level. Although a large proportion (10-12%) of the Gross Domestic Product (GDP) and about 35% of the annual national budgets are spent on the education sector, learning outcomes among Ghanaian children remain a major challenge. For instance, less than 25% of primary class 6 children are able to read and attain basic literacy skills after six years of public schooling (MOE, 2012; Casely-Hayford, 2011). In an international assessment of 15 year olds in Universal Basic Skills in Science and Mathematics by the Organization for Economic Cooperation and Development (OECD), published in May 2015, Ghana ranked 74th (one of the worse in the countries that participated in the assessment). However, it was the first time the OECD undertook such an assessment that included both developing and developed countries (Cresswell, Schwantner and Waters, 2015). Nevertheless, research on the education sector in Ghana suggest inadequate quality teaching and effective learning in schools (Abadzi, 2007; Ananga et al, 2015). However, effective teaching and learning hinges on the interactions that take place in the classroom and how teachers are well equipped and positioned to influence effective teaching and

learning outcomes. The Global Monitoring Report on the Education for All regard improved learning environment and interaction between children and teachers as some of the most important requirements for better quality in education (UNESCO, 2015). Consequently, teacher professional development is sine qua non at improving the capacity of teachers to effectively handle any learning situation in schools. Therefore, teacher training and professional development are considered essential mechanisms for enhancing teachers' content knowledge and developing their teaching practices in order to teach to high standards (Creemers, Kyriakides & Antoniou, 2013; Cohen & Hill, 2001). However, many misunderstandings exist about teacher professional development, its purpose, and how it functions (Mizell, 2010).

As teachers seek opportunities and actually engage in professional development effective engagement with their learners is affected in one way or the other. Although some work has been done on teachers' time on task in schools in Ghana (Abadzi, 2007; Ananga et al, 2015), they have been basically on the broader concept of distance education. For instance, in a study commissioned by Plan Ghana, Ananga, Tamanja and Amos (2015) explored the effects of teacher participation in distance education on their time on task in the central region of Ghana. They found negative impacts on effective teaching and learning, pupils academic progress, monitoring and assessment, ineffective classroom interactions or delivery, inadequate teacher preparation before, during and after lessons, teachers' personal career and development as well as general school administration. They concluded that the impact of teaching time lost as a result of teachers' participation in distance education programmes remain a significant issue which needs to be addressed by policy makers and all stakeholders in education since losing instructional time through participation in distance education has both short and long term impacts on pupils' academic performance, social and career growth and development. Although these studies have been insightful non has categorically interrogated the specific effects that teachers' participation in distance education through the Sandwich mode has on absenteeism and interactions in the classroom. This study is premised on the assumption that some amount of instructional time may be lost as a result of teachers' enrollment and participation in the Sandwich programmes to upgrade themselves. This requires that the impact of Sandwich education on absenteeism and teacher time on task is investigated to understand what needs to be done. It seeks to explore the effects that teachers' participation in professional development through Sandwich programmes at the University of Education, Winneba (UEW) has on absenteeism and classroom interaction. This will help fill the research and knowledge gap and suggest ways to improve teaching and learning outcomes in basic schools.

The main question to answer in this study is: how does the participation of teachers in the sandwich programme ensure effective learning outcomes? It seeks to answer the following specific questions.

1. How does teacher participation in Sandwich programmes affect teaching and learning interaction in schools in Ghana?
2. How can the participation of teachers in sandwich programmes improve classroom interaction and learning outcomes in basic schools in Ghana?

2. Literature

This study explored three main concepts on continuous professional development of teachers and absenteeism. These are continuous teacher professional development through distance and sandwich modes and absenteeism.

2.1 Teacher professional development

The concept, continuing professional development (CPD) applies to many professions, including teaching. CPD of teachers refers to developmental activities that teachers go through after graduating from teacher professional training (Mizell, 2010). It involves those processes, actions and activities designed to enhance the professional knowledge, skills and attitudes of teachers so that they might, in turn, improve the effectiveness of learning in schools (Guskey, 2000; Neil and Morgan, 2003; Creemers, Kyriakides and Antoniou, 2013). It must be seen as a process, not an event where learning is gradual and incremental (Sweeney, 2005). It is characterised by informal activities, attendance at courses, private study either in the subject area or in education, classroom-based research, among others (Mizell, 2010). In a study on in-service (INSET) and LET in the United Kingdom, Brown, Edmonds and Lee, (2001), observed that professional development occurs through one-off conferences, seminars and workshops; non-accredited academic and professional programmes; in school training; action research; visits to other schools; networking forums, in-class support monitoring colleagues and observation. Although learning with and from one another and from the evidence of best practice is effective in building their professional skills, some teachers consider CPD as an on-off event or short courses, often away from the school, of variable quality

and relevance, delivered by a range of external providers (Sweeney, 2005).

CPD takes place in and outside schools and can be transmitted through direct contact or a distance mode with participants. Although in-school CPD has its advantages of distance and cost effectiveness and the process takes place in the school vicinity, physical relocation to a training institution (such as university) has the advantages of meeting and sharing experiences with other teachers from varying geographical and cultural orientations. It allows for teachers to reflect more affectively as they take a break from school (Bubb and Hoare, 2001) and being removed from the school and classroom life to a university environment. For instance, Harland et al (1999) in a study on training days found that teachers welcome the opportunity to train in different environments which they consider to offer valuable experiences.

Notwithstanding the advantages of teachers moving away from their environments, there are some disadvantages when teachers relocate to a university in pursuance of professional development. For instance, the courses in the university may be too theoretical and based on what the university staff could and would provide, rather than one based on the needs of teachers and their schools (Bell, 1991). Furthermore, teachers need flexible study hours because school and college terms sometimes do not coincide. Mizell (2010) observes that, professional development may occur: during the regular school day; at school, but before classes begin or after they end; after school on an educator's own time; during days a school system sets aside solely for professional development; or during the summer and other school breaks. The summer break is of interest in this study since it is sandwiched between the second or end of year semester and the first or beginning of academic year semester, consistent with the summer break observed by Mizell, (2010).

2.2 Professional education in Ghana

In Ghana, teacher professional development takes various forms: ranging from pre-service in training institutions, in-service training in school, district, regional and national levels, distance and on-site sandwich education programme in teacher training universities.

2.2.1 Pre-service teacher training

Pre-service teacher training is done in Colleges of Education (CoE), which at the end of the three years of training award diploma in education. Hitherto, the CoE were Teacher Training Colleges that offered certificates in education. On the other hand, the Teacher Training Universities (University of Cape Coast and University of Education, Winneba) offer certificate, diploma, degree and master degree programmes in education. Therefore, besides the school and local based in-service training that teachers receive after graduating from the training institutions, they also enroll in the universities to upgrade themselves. The mode and or processes are either through distance, where teachers stay at post and attend weekend lessons at satellite campuses or enroll to relocate to the university campuses. However, due to limited facilities in the universities and other commitments, some teachers are unable to leave their posts to participate in the regular university programmes. Therefore, they enroll during the sandwich (summer) period when the universities are on vacation, to upgrade themselves while still keeping their jobs.

2.2.2 Distance education

Distance Education (DE) in Ghana began with the establishment of a department in the University of Ghana, Legon, known as The Department of Extra-Mural Studies. However, it was from 1991 that the Ministry of Education (MoE) conducted a survey on distance education in the country (Ossei-Anto, 2003; Adzahlie-Mensah, 2014), which gave it the necessary impetus. These surveys were conducted in 1991 and 1994 by the Commonwealth of Learning (COL) and the United Nations Education, Scientific and Cultural Organisation (UNESCO) to assess DE needs of the country. In response to the recommendations from these surveys, all public universities agreed to start DE programmes and were asked to invest with the aims to among others; increase access to university education, enable students to study while working at home, relieve pressure on university residences, and enable adults to pursue additional academic programmes or upgrade job qualification while meeting work and family commitments.

Consequently, four universities -University of Ghana (UG), University of Cape Coast (UCC), University of Science and Technology (KNUST) and University of Education, Winneba (UEW) started preparations for this new model of educational delivery. The University of Ghana opted to offer four courses through its DE programme. Of these four universities, only UEW was able to start its programme in 1996 as a result of assistance from the then British Overseas Development Administration (ODA), now Department for

International Development (DFID). UCC and UG followed in 2001/2002 academic year. Until 2002/2003 academic year, there existed a government policy which enabled over 3000 teachers to pursue higher education each year. Interestingly however, the situation started changing with quotas being allocated to various courses, resulting in a drastic reduction in the number of teachers who can pursue university education each year. Furthermore, as opportunities for teachers to obtain study leave with pay and leave the classroom to pursue university education is decreasing, teachers turn to distance education (DE) and sandwich (SW) to upgrade themselves while remaining at post. It may be argued that teachers combining schooling with their official teaching duties would result in pressure on their teaching time. For instance, education courses sometimes take a form that requires occasional physical on-site presence. Such programmes (often known as sandwich programmes) have been referred to as hybrid or blended courses of study (see Holmberg, 2005; Tabor, 2007; Vaughan, 2010). This study explored the effects of Sandwich education on teacher absenteeism time on task. Therefore, in this study, any mode of learning where learners have occasional physical on-site presence on a course of study is referred to as Sandwich Education.

2.2.3 Sandwich education in UEW

The University of Education, Winneba (UEW) was established by the University of Education, Winneba Act 2004, (Act 672) on May 14, 2004. It was originally established by PNDC Law 322 (1992) as the University College of Education, Winneba (UCEW) through the amalgamation of seven diploma awarding institutions: the Specialist Training College, the Advanced Teacher Training College, the National Academy of Music - all located at Winneba; the School of Ghana Languages, Ajumako; College of Special Education, Mampong-Akwapim; St. Andrews Training College, Asante Mampong and the Advanced Technical Teacher College, Kumasi. Although the University has four colleges in Kumasi, Mampong and Ajumako, the main administration is located in Winneba in the Effutu municipality.

The University is charged with the responsibility of producing professional educators to spearhead a new national vision of education, aimed at redirecting Ghana's efforts along the path of rapid economic and social development. It is expected to play a leading role in the country's drive to produce scholars whose knowledge would be fully responsive to the realities and exigencies of contemporary Ghana and the West African sub-region. It is thus, emerging as the University with the largest enrollment of students in Ghana. Data from the Basic Statistics for the 20th graduation of students in April, 2016 (see Table 1 and figure 1) shows an increasing trend in enrollment on the Sandwich programme from 26 students in 2004/05 to 10,447 in 2014/15 academic years.

Table 1 Enrollment trend in UEW from 2004/05 to 2014/15 academic years

YEAR	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Full-time	11504	12448	13026	14133	15637	14623	17630	16802	17487	20615	26823
Distance	5398	5398	7954	9284	13505	17001	23746	20218	15564	13256	14416
Sandwich	26	477	1330	1565	3544	4582	8636	6948	10409	10182	10447
Total	16928	18323	22310	24982	32686	36206	50012	43968	43460	44053	51686

Source: Basic Statistics for 20th Congregation of UEW, April 2016

The increasing trend in enrollment can be attributed to increasing demand for University education and thus necessitating the institution of the Sandwich programmes for applicants who for various reasons, cannot enroll on full-time but on short term during holidays. As shown in table 1 and Figure 1, sandwich enrollment accounted for 23% and 20.2% of total enrollment respectively in 2013/14 and 2014/15.

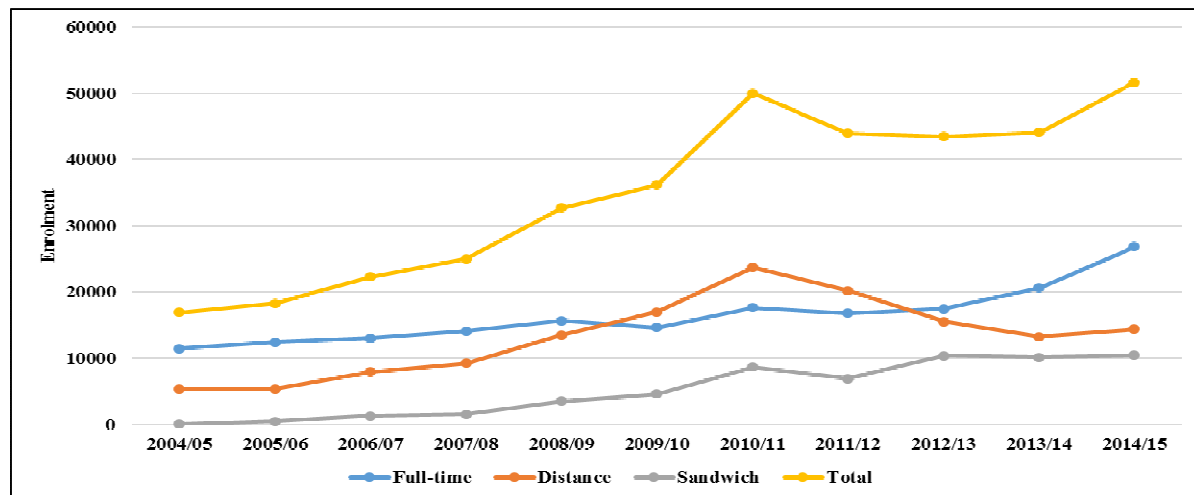


Figure 1 Enrollment trend in UEW from 2004/05 to 2014/15

Sandwich teacher education refers to education where learners (mainly teachers) move into institutions of study during vacation when the regular or full-time students are not in residence and teachers themselves are on holidays. In the case of teacher professional development, Sandwich education programmes offer opportunities for teachers to continue their development while remaining in the classroom. This is because they will only move to the campuses of study during school vacation holidays, since the programme is sandwiched between the end of academic year (second semester) and the first semester of the following academic year. During this period, institutions of higher learning (Universities) are on break (summer break) and teachers can participate in the programmes and return before the next academic year begins. In the University of Education, Winneba (UEW) the duration of the sandwich varies, depending on the programme of study. Diploma programmes are organised two times within an academic year (June - August and November - December). On the other hand, post Diploma and other higher degree programmes are organised once in an academic year (June-August) spanning 8 weeks of teaching and 2 weeks of examination. These arrangements have several advantages for the education system and the teacher. First the teacher remains in the classroom and does not have to be replaced. Second, the teacher does not need to physically relocate (especially when school is in session) in order to participate in further education programmes (Holmberg, 2005). However, these advantages have several consequences that constitute demerits to sandwich education.

The duration is usually short and learners are made to learn chunks within short periods of time. What is learnt during a semester of 16 weeks, when on the regular programme, is learned within 8 weeks during the sandwich period. Nevertheless, it is necessary for teachers who for various reasons, cannot avail themselves for the regular programmes. They are able to teach in their schools while upgrading themselves during school vacation, with minimal effects on their classroom teaching task.

2.3 Teacher absenteeism and time on task

Absenteeism refers to a single day of missed work and occurs whenever a person chooses to allocate time to activities that compete with scheduled work, for whatever reason, including maximizing personal utility (Martocchio and Jimeno, 2003; Fichman, 1984; Chelius, 1981). There are two main categories of absence from duty; excused and unexcused. Excused absence refers to absence with official consent or permission and may be due to illness, jury duty, religious holidays, funeral leave and study leave. On the other hand, unexcused absence means absence without an official or recognized (excused) reason, that occurs when an employee fails to provide a satisfactory explanation for not being at post, or gives no reason at all. Absenteeism of any kind, has several effects, including loss of instructional time. According to Bruno (2002), students in a classroom eventually lose the desire to learn when the regular teacher is frequently absent.

In a United Nation's report on Ghana in 2010, absenteeism was observed to be more common in rural schools, apparently associated with higher occurrences of poor work environment and poor teacher morale. Accordingly, the average teacher absentee rate, in a study by the Centre for Democratic Development in 2008, was 27 percent, with the main underlying reasons being: lack of supervision, sickness/medical care, collection of salary at a bank located at a distance, frequent funeral attendance, long distances to school, religious practices (for instance,

Friday prayers among Muslim teachers), schools lacking facilities, especially toilets and potable water, schools located far from lorry/bus stations and healthcare facilities, rural teachers supplementing their income by engaging in activities related to farming (World Bank, 2010). Although absenteeism resulting from pursuit of education and professional development was not captured in the report, it was included in another World Bank report by Darvas and Balwanz (2014) that, a 20 percent reduction in teacher absenteeism would be equivalent to hiring 5,200 additional new teachers. They similarly identified factors for absenteeism to include: illness/health clinic visits, official teaching duties (for example, in-service training/workshop); funeral attendance; Religious practices (for example, Friday prayers for Muslim teachers); farming activities; continuing education (Study Leave, Sandwich course); and official nonteaching duty (Davas and Balwanz, 2014: 14)

The concept 'Time on Task' is not popular but relevant in learning outcomes. It is used to mean contact hours that teachers are expected to invest in teaching daily and for which they are paid. Time-on-task is positively associated with academic achievement (Florida Education Association, 2014) with the explanation that teachers who are familiar with the time-on-task, know their students well and use effective and appropriate classroom management techniques. They also adopt proper teaching skills and have the power to achieve many more with their students. However, time on task depends not only on teacher presence, but also, on good classroom management processes and highly interactive teaching styles.

A review by Abadzi (2007) revealed that worldwide, governments' number of days or hours that schools should teach are usually 850-1,000 instructional hours or 180-220 days per school year, aside from breaks and extracurricular activities. However, Abadzi (2007) reiterated that in poor countries, overcrowded classes may be split into two, with resulting 40% loss in instructional time and reduced learning outcomes. The review concluded that instructional time surveys are few in lower-income countries and may have measured just one aspect of time loss. For example, schools were found to be opened 70% of the official time in Mali and 114 days of the official 200 days in Honduras, while a Dominican study reported an overall time use of 65%. Furthermore, Abadzi's review found that teacher absenteeism is a major issue on time-on-task, and that studies have revealed figures ranging from 11% in Peru, 21% in Indonesia, 27% in Uganda, 30% in Kenya. Similarly, teachers in Tunisia and Morocco missed 11.6 days and 13.4 days a year, respectively, while teachers in Ghana missed 43 days (Abadzi 2007; Davas and Balwanz, 2014). Overall, 20-25% of school staff may be absent on any given school day, with higher rates in rural schools (Abadzi, 2007).

It is evident from the forgoing that although there exist some research evidence on teacher absenteeism and classroom time on task (see Akyeampong et al., 2007; Alhassan and Adzahlie-Mensah, 2010) there is little empirical analysis of teacher time-on-task in Ghana. Furthermore, little is known about time on task and teacher participation in sandwich upgrading programmes. Given the numbers of teachers participating in sandwich programmes and the emerging tensions between school management, pupils and teachers due to their absence from schools during the sandwich period, this study explored the effects in order to generate knowledge that can inform policy decisions to enhance the benefits while minimizing the tensions.

3. Methodology

This study employed both qualitative and quantitative approaches to research. It involved 475 teachers from all ten regions of Ghana who were participating in Sandwich programmes at the University of Education, Winneba campus. They were randomly selected and a questionnaire distributed to 500 of them, but 475 questionnaires were retrieved and analysed.

The qualitative approach employed in-depth single face-to-face interviews with 20 teachers (2 from each of the 10 regions) participating in the Sandwich programme. Interviews were also conducted with education officials of the district in which the University of Education, Winneba (UEW) is located, to ascertain how teachers' participation in sandwich programmes affect their time-on-task in basic schools. Furthermore, interviews were conducted with heads of schools which had some teachers upgrading themselves through the Sandwich programme, while some of the pupils and other teachers were also interviewed to ascertain the actual situation in schools as the teachers participated in the programme.

The narrative and descriptive analytical techniques were used to help make meaning of the data (mainly qualitative) that was collected. The themes that emerged from analysing the data formed the themes for the discussion, using quotations and excerpts from interviews to support the arguments. On the other hand,

percentages, line graphs and bar charts were used to present the quantitative data. Therefore, the use of both quantitative and qualitative data reinforced each other and thus helped to explained the issues that emerged.

3.1 Ethical considerations

Research involving human participants is often obtrusive and involves questions of rights and responsibilities. Certainly, this study did not only involve some intrusion into the lives of the participants, but it also required the participants to make value judgments about other people. Pupils, head teachers and education officials were asked questions about the work of their teachers and how their participation in the Sandwich programmes affected their work. Therefore, every effort was made to consciously seek access from gatekeepers in the field. Request for permission to enter into the schools in the district was sought from the District Directorate of Education prior to the data collection exercise in the schools. This was through an introductory letter, explaining the purpose of the research to the District Director and Head Teachers of the schools visited. Concerning the pupils, every effort was made to protect the best interest of the pupils by ensuring that their participation in the research did no harm to them. The research team observed the responsibilities and children's rights under the Ghana Children's Act 1998 (Act 560), which requires protecting the best interest of children, informed consent and data protection. All individual participants were informed of their rights of withdrawal from the research and the responsibilities to confidentiality, anonymity and informed consent. As all the participants were literates in the English language, all the interviews and questionnaire used were in English. Therefore, there was no need for translation.

4. Findings

4.1 Biographic data of participant teachers

A total of 475 teachers enrolled in the Sandwich programme participated in this study. The distribution of the participants according to age, sex, category, class taught, position held and programme of study are presented in table 2.

Table 2 Bio data of teacher participants

Item		Number	Percentage (%)
Sex	Male	279	58.7
	Female	196	41.3
	Total	475	100
Age	< 20 yrs	12	2.5
	21 - 30 yrs	308	64.8
	31 - 40 yrs	128	26.9
	41 - 50 yrs	22	4.6
	> 50 yrs	5	1.1
	Total	475	100.0
Teacher category	Trained	470	98.9
	Untrained	5	1.1
	Total	475	100.0
Class Taught	Kindergarten (KG)	48	10.1
	Lower primary	104	21.9
	Upper primary	145	30.5
	Junior High School (JHS)	176	37.1
	Total	473	99.6
Position held in school	Class teacher	215	45.3
	Subject teacher	155	32.6
	Asst. Head teacher	70	14.7
	Head teacher	34	7.2
	Total	474	99.8
Programme of study	Diploma 1	2	0.4
	Diploma 2	4	0.8
	Diploma 3	17	3.6
	Post Diploma 1	184	38.7
	Post Diploma 2	268	56.4
	Total	475	100.0

Source: Field data, 2015

As shown in table 2, there were more male teachers pursuing the Sandwich programme (58.7%) than females (41.3%). This may imply that more of the males preferred the sandwich programme because, teachers stay on campus for 10 weeks instead of 32 weeks in an academic year, if they were to pursue the regular programme. Also 10.1% of the teachers were teaching at Kindergarten level with majority (37.1%) teaching at Junior High level. This is probably because the timing may be more convenient than for those teaching in the lower primary and KG. Teachers who participated in the programmes had varying responsibilities in their schools, ranging from classroom teachers to heads of schools (see table 2). Majority (45.3%) of the teachers participating in the Sandwich programme were classroom teachers. This may suggest that most of the teachers in the primary section engaged more in sandwich programmes, possibly because teachers assigned to the lower classes, teach all the subjects while those in the upper classes are subject teacher. Besides, every school has only one head and an assistant head teacher representative of the situation in schools. The sample also shows that most of the teachers on the sandwich programmes were trained teachers (98.9%) with very few (1.1%) not trained. This is indicative that the country is on course to ensuring that Diploma becomes the minimum qualification for teaching in basic schools (see MOE, 2012). Furthermore, teachers who participated in this study were at various levels on the Sandwich programmes. It can be seen (see table 2) that most of the students were pursuing programmes at Post Diploma 1 and 2 levels as compared to the lower levels (Diploma 1-3). This may suggest that they might have undergone the Diploma 1-3 programmes at the pre-service levels at the Colleges of Education and were then pursuing the Post Diploma on the Sandwich.

Teachers participating in the sandwich programme are drawn from all the ten administrative regions in Ghana. The distribution of participant teachers according to the administrative regions they teach, is presented in figure 2.

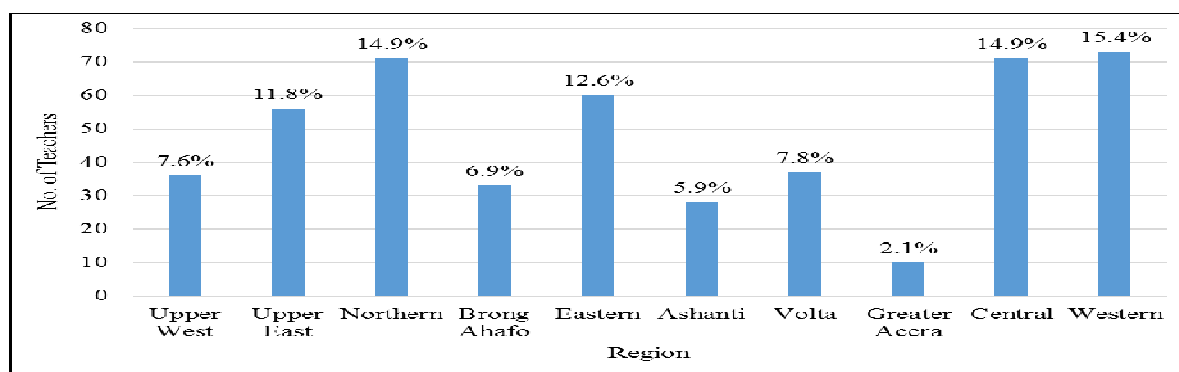


Figure 2 Regional distribution of teachers pursuing sandwich programmes

As shown in figure 2, Greater Accra region had the least number of teachers (2.1%) while Western, Central and Northern Regions had the most teachers participating in the programme.

4.2 Absenteeism and teaching time lost (TTL) through participation in sandwich programmes

Observations from schools in this study indicate slight differences in time allocations per lesson (period) in time tables between primary and Junior High Schools (JHS) in Ghana. In primary schools, lessons begin at 8:00am and end at 1:30pm, with 30 minutes break in the morning and 15minutes break at noon or afternoon (see table 3).

Table 3 Structure of daily time table in primary schools in Ghana

Day/Time	Morning Assembly	30min	30min	30min	Break (30 min)	30min	30min	30min	30min	Break (15 min)	30min	30min	Closing		
Monday															
Tuesday															
Wednesday															
Thursday															
Friday															

Source: Field data, 2015

As shown in table 3, there are nine (9) daily lessons (periods), divided into 30 minutes per lesson. This means that, in a normal school day, 4.5 hours are designated for classroom teaching and learning interactions in primary schools. On the other hand, although similar in structure as the primary level, the duration of each lesson/period is 35 minutes in Junior High Schools (see table 4).

Table 4 Structure of daily time table in Junior High Schools

Day/Time	Morning Assembly	35min	35min	35min	Break (30 min)	35min	35min	35min	35min	Break (15 min)	35min	35min	Closing	
Monday														
Tuesday														
Wednesday														
Thursday														
Friday														

Source: Field data, 2015

This means that, instructional time in JHSs is 5 hours and 15 minutes on a school day. However, the beginning and closing time can differ depending on the peculiar circumstances of the school. Nevertheless, the arrangement ensures that the expected 4.5 hours and 5 hours 15 minutes are met in primary and JHSs respectively. Computation for the expected daily, weekly and yearly classroom instructional time are shown in table 5.

Table 5 Daily, weekly and annual classroom instructional time in basic schools

School	Day	Week	Year
Primary	4.5 hours	22.5hours	922.5 hours
Junior High	5.25 hours	26.25 hours	1076.42 hours

Source: Computed from Field data

As shown in table 5, interactions are expected to be 22.5 hours and 26.25 hours and annual duration of 922.5 and 1076.42 hours respectively.

Teaching time is a crucial component at ensuring effective teaching and learning in schools. Data on the academic calendars for regular and sandwich programmes of the UEW and that of basic schools is presented in figure 3.

As shown in figure 3, both first and second semesters have 16-week durations with 4 weeks break between the first and second semesters (Christmas break). However, between the second semester (end of year) and the first semester of the following academic year, is 12 weeks of break. This is also the summer (May to August) holidays. The sandwich programmes are organised within 10 of the 12 weeks of the summer vacation period. On the other hand, basic schools are structured in 3 terms within a year. The first term spans 15 weeks (usually, between late August or early September to December) while the second term is 14 weeks (January to April) and 12 weeks duration for the third term (July to September).

However, the alignment of the sandwich programme within the 12 weeks of break at the end of the second semester, implies teachers who enroll on sandwich programmes spend only 3 weeks out of the 12 of their teaching time in school. This means that participation of teachers in Sandwich programmes organised by UEW are absent for 9 weeks (202.5 and 236.25¹ instructional hours in primary and JHSs respectively) of their teaching time in an academic year.

¹ These figures are obtained by multiplying the 9 weeks by the weekly expected instructional time, computed in table 5

Month	Jan				Feb				Mar				Apr				May				Jun				Jul				Aug				Sept				Oct				Nov				Dec			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Quarter	1				2				3				4				1				2				3				4				1				2				3				4			
Programme	Regular																																															
University	Regular																																															
	Sandwich																																															
Basic School	Second Term												Third Term												First Term																							

Source: Field data, 2015

Figure 3 Academic calendars for regular, sandwich programmes and basic schools

This finding is significant when considered in the context of worldwide expectations, that the number of days or hours that schools should teach are usually 850-1,000 instructional hours or 180-220 days per school year, aside from breaks and extracurricular activities (Abadzi, 2007). It therefore implies that, teachers participating in the Sandwich programme in the UEW in Ghana are available for 32 weeks instead of the 41 weeks per school year in Ghana and as against the international standard of 180 – 220 days. This translates to 86.5% of the average international standard. In other words, on the average, 13.5% of teaching time is lost due to teacher absenteeism as they participate in Sandwich programmes at the UEW. This is comparable to what was observed in Peru (11%) but better than the cases observed in Indonesia (27%), Uganda (21%) and 30% in Kenya (Davas and Balwanz, 2014; World Bank 2010; and Abadzi, 2007) but higher than that in Tunisia. It is important to be cautious of the low figure of 13.5% since it represents time lost for participating in Sandwich while those of Abadzi (2007) comprised distance education. Perhaps, widening this study to cover all forms of distance education may present a different picture.

The finding was consistent with the views of participant teachers in a questionnaire in response to the item on the number of hours they lose in a day for participating in the Sandwich programme. This is presented in figure 4.

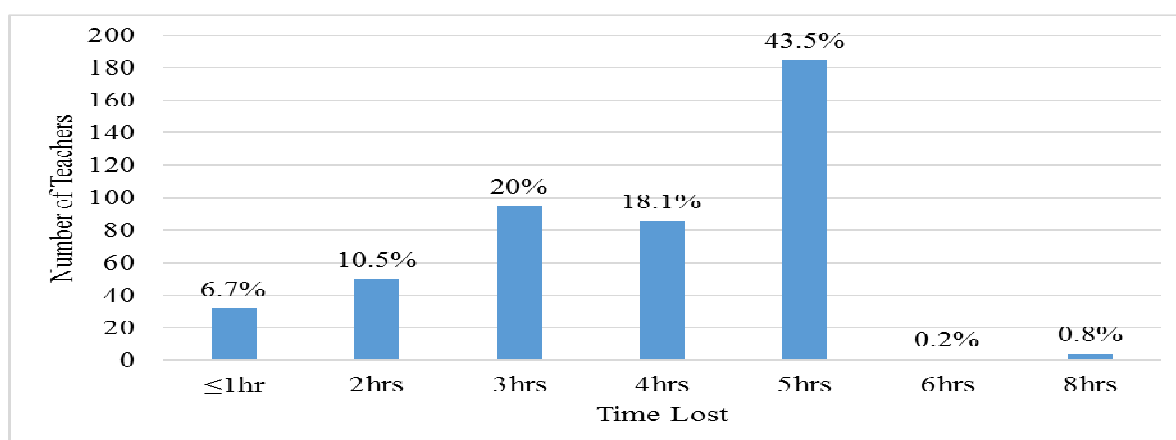


Figure 4 Absenteeism and daily instructional time loss due to participation in sandwich programmes

As shown in figure 4, majority (43.5%) of the teachers indicated losing up to 5 hours of daily instructional time, due to their participation in sandwich programmes. Very few (1%) indicated losing more than 5 hours while 5.6% indicated losing 1 hour of their instructional time.

Although the responses ranged between 1 hour and 8 hours, it is worth considering as the recommended daily instructional time in basic schools in Ghana is between 4.5 and 5.25 hours for primary and Junior High Schools respectively. This is possible because the Sandwich calendar does not coincide with the basic school calendar. In some instances, teachers leave for the programme after only 3 weeks in the third term of the basic school calendar (see figure 3). Therefore, a whole day as expressed by the respondents, is possible since teachers left their classrooms and were participating in the Sandwich programmes, implying a loss of 202.5 and 236.25 instructional hours in primary and JHSs respectively for participating in sandwich programmes.

4.3 Perspectives on the effects of teacher absenteeism on teaching task

In order to triangulate the effects of absence of teachers due to participation in sandwich programmes on Teaching Time Lost, interviews were conducted with participants in schools in the districts around the University of Education, Winneba (UEW) in the central region whose teachers were enrolled on the programme or whose teachers had completed and awarded certificates by the University. Interviewing 4 head teachers (1 of who had completed a degree through a Sandwich programme), 10 teachers (2 each from the 10 administrative regions of Ghana) and 12 pupils whose teachers were enrolled on the programme. It was revealed that absence of teachers due to participation in Sandwich programmes affects teaching and learning, pupils academic progress, monitoring and assessment, effective classroom interactions or delivery, teachers' prior preparation before, during and after lesson, teachers personal career and development as well as general school administration. In addition, teacher participants in sandwich programmes who were interviewed lamented the challenges they

encountered as a result of their participation in the programme and therefore suggested innovative ways the programme could be made more beneficial.

4.3.1 Effects on classroom interaction and delivery

Participants were asked how their engagements in sandwich programmes affected their classroom delivery and interaction with their pupils. It emerged from the responses that due to the limited time in the programme, they are unable to interact effectively with their students. They have to abandon their classrooms to participate in the programmes, since it coincides with the third term of the calendar of basic schools (see figure 4). Some of the responses are as follows.

It affects my classroom interaction and delivery because I have left my class for some weeks now because I have to be here to learn and develop myself. Until I return after the Sandwich period, I will miss the students and they will also miss me. A colleague is teaching in my absence but clearly, my participation in the programme affects the interaction and delivery in my class (female teacher, from Northern Region).

Participation of teachers in the programme hinders effective classroom interaction and delivery because they [teachers] have to leave their classrooms for the entire sandwich period. I have to try and get other teachers to stand in for them. Sometimes, I engage the children myself if I don't get anyone to teach for him (Head teacher, Don Bosco Catholic "B" JHS", Winneba).

Anytime our teacher goes to school, we are not able to learn well. Other teachers come to teach us, but it is not like him because we are used to the way he teaches us (Pupil, Don Bosco Catholic "B" JHS", Winneba)

These narrations are similar to the observation of Bruno (2002) that, students in a classroom lose the desire to learn when the regular teacher is absent and a substitute teacher teaches in his/her stead. Good substitutes are hard to find to replace absent teachers which may go a long way to affect learning outcomes as replacement teachers do not provide the same quality of expertise expected by the students or teachers, but seems to be the only method commonly used (Darling-Hammond, 1995; and Michel, 1995).

However, in spite of the negative effects, some teachers were of the view that participating in the Sandwich programme had positively affected them, through improvement in skills and competencies acquired.

It helps us to deliver better in the classroom, since it gives us new ideas and information on how to deliver our lessons and interact with our pupils (female teacher, from Upper East Region).

Her integration in class and delivery of lessons has improved now. I think the programme is making her more effective and better than before. I vet their lesson plans and conduct routine and irregular checks on all the teachers and I see that she has improved with her teaching and lesson preparation (female head teacher, D/A Primary school, Winneba).

4.3.2 Monitoring, assessment/evaluation of learning

It emerged from interviews that participants were concerned that participating in sandwich programmes make them unable to provide effective monitoring and assessment of their students. This is mainly because they had limited time to monitoring the progress of their pupils. Some of the participants indicated hiring the services of other teachers without requisite competences to step in for them which affects not only teaching, but also how to assess and evaluate their pupils on their behalf. Sometimes the pupils are made to assess themselves which is not appropriate for effective teaching and learning.

Of course, they cannot monitor or assess the students when they are not here. Even the three weeks that he taught before going to school, he has not assessed them. The one teaching in his place will do the assessment. I hope he will finish the programme this year so that he can have more time for the children (Female head teacher, Methodist "A" JHS, Winneba).

It's not easy but I have to do something about the situation. Sometimes I use the syllabus to set questions for the one teaching for me in my absence. I know some colleagues who even ask pupils in the senior classes to administer the questions to their students and mark for them while they are here. It is not the best, but what can

we do. We need the knowledge to become more effective teachers (Male teacher, Don Bosco Catholic “B” JHS, Winneba).

4.3.3 Personal and career development

Participation in continuous professional development programmes such as the Sandwich enhances the careers paths of teachers (Mizell, 2010). It emerged from interviews that participants have positive outlook about their career prospects for participating in the programmes. Some of them admitted they have personally, socially and academically benefited from the Sandwich programmes which has shaped their career. They opined that they have acquired in-depth knowledge through the programmes which has broaden their horizons in many academic disciplines and will be awarded degrees in Education. This will enhance their promotion and status among their colleagues, since having a degree or higher qualification is considered prestigious. The following are excerpts of views expressed by participants.

Socially and academically, I have improved. I have acquired enough knowledge as a result of the programme and I will soon be a degree graduate. I will be counted when they are counting people with graduate degrees. So I think it is very good. That is why I am sacrificing to do the programme (female teacher, from Volta Region).

Career development of teachers is excellent. Majority of them have completed their first degree now which they didn't have upon employment. I think it is very good for them (Education Official, Effutu Municipality, Winneba).

4.3.4 School administration

Participants who were interviewed were of the view that, teachers' participation in sandwich programmes affect general school administration. Some of the pupils who were interviewed observed that their teachers who were enrolled in the programs absented themselves from school for the entire period, which left them with no option but to read their textbooks without the guidance of their regular teachers in class. One pupil was of the view that whenever their teacher absented himself from school and they sought explanation from him, he became angry. Some of the participants also complained that classes of such teachers are left unattended to, which makes a lot of the students also absent themselves from school and those who attended made noise all day. Also, teachers who occupy positions such as School secretary, Sport master among others, leave their post vacant without replacement. A head teacher complained that some teachers do not seek permission to participate in the programmes, which negatively affect general school administration.

When he goes to school and there is no teacher to teach us, we use test books and learn on our own. Some of the teachers come in to help. When he is around, he teaches to my understanding (male pupil, Don Bosco Catholic “B” JHS, Winneba)

I am the sports secretary for my school and the circuit. I am also the GNAT² Representative for my school. All these activities are affected when I come here for my program. Yes, my absence is affecting the administration and activities of my school and district, but what can I do about it (male teacher, from Upper West Region).

Sometimes, classes are without teachers and this makes students to make noise. Due to this, teachers who are available are compelled to take over those classes without teachers even at their own expense (Head teacher, D/A Primary “A”, Winneba).

4.4 Views of teachers on other effects of participating in sandwich programmes

Other effects that emerged on teachers' participation in sandwich programmes are grouped under time for their families and participation in social activities such as funerals, weddings and religious activities.

4.4.1 Time for family

Participating in sandwich programmes does not only affect the academic engagement of learners, but it also has a lot of influence on the commitment and participation of teachers in family activities. Consequently, teachers were asked if their participation in sandwich programmes allowed them to spend some time with their families. Participants agreed that they had little time for their families as a result of their participation in the programmes.

² GNAT is an acronym for Ghana National Association of Teachers

In fact, being here for ten (10) weeks means that my family is left alone, back home. My husband has to act as both a father and mother until I return. The house help is doing the cooking but you know leaving your children for 10 weeks is not easy. That is my number one problem with this programme. But I need the certificate, so I have to endure it (female teacher, from Western Region).

I am completely detached from my family because of this programme. When I call their mother in the evening, they all want to talk to me and keep asking when I will come home. Until I go back, they will miss me and I will also miss them. But I think it is still better than those who come to do 16 weeks per semester on the regular programme (male teacher, from Upper West region).

Furthermore, participating in sandwich programmes has some effects on the social activities of teachers. Social activities such as religious ceremonies, funerals, weddings are mostly organized during weekends and are cherished and well patronized in Ghana, with attendance compulsory for relatives. Teachers who participate in sandwich programmes sacrifice their participation for the sake of the programmes. Participants lamented that their religious lives were at stake since they had little time to participate in those activities, which they hitherto played active roles in their communities.

At times I do forgo church activities and my religious growth. Again, it does not permit me to have time with my family especially my children. Since I spend all my time studying during day time and report to the house late when they are asleep (male teacher, Don Bosco Catholic JHS "B", Winneba).

5. Conclusion

This study investigated how teaching time is lost when teachers participate in sandwich programmes to upgrade themselves. It emerged that the calendars of basic schools and that of the sandwich programmes overlap by nine (9) weeks. This means that teachers who enroll in the sandwich programmes are absent and thus lose 9 weeks of classroom instructional time with their pupils. Other effects include inability to participate in religious and social activities such as church, wedding and funeral ceremonies. The study concludes that although sandwich is a good approach for teachers to upgrade themselves, the existing arrangement is not favourable to the teachers and their pupils as time meant for classroom interactions are spent on the sandwich programmes. Therefore, harmonising the arrangement could reduce the time loss by 3 weeks and improve teaching and learning in classrooms.

6. Recommendations to make Sandwich more beneficial and effective

Participants recommended ways by which the benefits of the Sandwich mode of teacher professional development can be improved to include timing, course content, delivery mode, assessment and certification.

6.1 Timing

It emerged from this study that, timing for sandwich programmes is the major challenge to teachers. As shown earlier in figure 3, 9 out of the 12 weeks of the basic school third term is lost due to teachers' participation in sandwich programmes. To help resolve this programme, it is proposed that a shift be made to partially realign the calendars of the University and that of basic schools. This realignment could reduce the loss of 9 weeks to 6. This is shown in figure 5.

As proposed in figure 5, scheduling the sandwich to begin in the third week of June and ending in the first week of September could at least reduce teacher absenteeism by 3 weeks and increase instructional time in basic schools by 3 weeks (67.5 hours in primary schools and 78.75 hours in JHS). This implies that 6 weeks instead of the prevailing 9 weeks will be lost if the timing is realigned.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Quarter	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Programme												
Regular	Second Semester											
Sandwich												
Proposed Sandwich period	Sandwich											
Basic School	Second Term				Third Term				First Term			

Source: Field data, 2015

Figure 5 Recommended academic calendars for regular, sandwich programmes and basic schools

6.2 Content/course module

As the programme is organized within 10, instead of the normal 16 weeks in a regular semester, teachers on sandwich programmes have to learn what their colleagues on the 16-week regular programme do within 10 weeks. This is stressful and participants complained that the programme promotes memorization of the course contents but not necessarily understanding or application. The consequences of this is that, they are compelled to learn for examination and forget afterwards. A teacher opined that the Sandwich programme is more theoretical than practical. It is recommended that the university either reduce the course content or consider extending the duration of the study.

6.3 Assessment and certification

When participants were interviewed concerning the way they are assessed and certified on sandwich programmes, they lamented that the lecturers who handle them do not provide adequate feedback. Their performance in class assignments and quizzes are not given to them and this de-motivates them to sit up and read. Some participants also commented that their examination questions are not flexible and contain difficult questions which makes it difficult to excel. It is thus suggested that adequate feedback be given to them prior to examination, to spur them on to learn and perform well. Some former participants lamented that, their certificates delayed and that it would be more helpful if certificates are given out during graduation ceremonies.

References

- Abadzi, H. (2007). Absenteeism and Beyond: Instructional Time Loss and Consequences. Policy Research Working Paper. The World Bank: Independent Evaluation Group.
- Akyeampong, A., Djangmah, J., Oduro, A., Seidu, A., & Hunt, F. (2007). Access to basic education in Ghana: The evidence and the issues (Country Analytic Report). Sussex, UK: CREATE.
- Alhassan, S., Adzahlie-Mensah, V. (2010). Teachers and Access to Schooling in Ghana. CREATE Pathways to Access. Research Monograph No 43, UK: CREATE
- Ananga, D. E., Tamanja, E.M.J. and Amos, P. (2015). Effects of teachers' participation in distance education on basic education: A case study of central region in Ghana, A study commissioned by Plan Ghana; Unpublished
- Bell, L. (1991). Approaches to the professional development of teachers, In: Bell, L and Day, C. (eds.) *Managing the Professional Developments of Teachers*, Open University Press: Milton Keynes
- Brown, S., Edmonds, S. and Lee, B. (2001). *Continuing Professional Development: LEA and school support for teachers*, LEA Research Report, 23, NFER, Slough
- Bruno, J. (2002). The geographical distribution of teacher absenteeism in large urban school district settings: Implications for school reform efforts aimed at promoting equity and excellence in education. *Education Policy Analysis*, 10, 3, 2, 1-3.
- Bubb, S. and Hoare, P. (2001). *Performance Management: Monitoring teaching in the primary school*, David Fulton: London
- California Distance learning Project (2011). What is distance learning? Retrieved on 18 September 2014 from <http://www.cdplonline.org/index.cfm?fuseaction=whatis>
- Casely-Hayford, L. (2011). *The Political Economic Analysis of Ghana's Education System The Implications for STAR – Ghana*, commissioned by STAR Ghana).
- Chelius, J. R. (1981). Understanding absenteeism: The potential contribution of economic theory," *Journal of Business Research*, 9, 409-418.
- Cohen, D. K., and Hill, H. C. (2001). *Learning policy*. New Haven, CT: Yale University Press.
- Craft, A. (2000). *Continuing professional development: A practical guide for teachers and schools*. London: Routledge/Falmer.
- Creemers, B., Kyriakides, L. and Antoniou, P. (2013). *Teacher professional development for improving quality of teaching*, Springer Science+Business Media Dordrecht. doi: 10.1007/978-94-007-5207-8_1
- Cresswell, J., Schwantner, U. and Waters, C. (2015). *A Review of International Large-Scale Assessments in Education: Assessing Component Skills and Collecting Contextual Data*, PISA, The World Bank, Washington, D.C./OECD Publishing, Paris.DOI: <http://dx.doi.org/10.1787/9789264248373-en>
- Darling-Hammond, L. and Richardson, N. (2009). Teacher Learning: What Matters? *Educational Leadership*, 5, 66, 46 – 53.
- Darvas, P. and Balwanz, D. (2013). *Basic Education beyond the Millennium Development Goals in Ghana: How Equity in Service Delivery Affects Educational and Learning Outcomes*. World Bank Study. Washington, DC: World Bank. doi:10.1596/978-1-4648-0098-6. License: Creative Commons Attribution CC BY 3.0

- Fichman, M. (1984). A theoretical approach toward understanding employee absence. In: Absenteeism: New approaches to understanding, measuring, and managing employee absence. Goodman, P.S. and Atkin, R.S (Eds.). Jossey-Bass: San Francisco. pp. 1–46.
- Florida Education Association (2014). Time-on-Task: A strategy that accelerates. Retrieved on 18 September 2014, from <http://feaweb.org/time-on-task-a-teaching-strategy-that-accelerates-learning>
- Gagné, R. (1985). The conditions of learning and theory of instruction (4th ed.). Fort Worth, TX: Holt, Rinehart and Winston, Inc.
- Ghana Statistical Service (2010). Population and Housing Census Report, District Analytical Report, Effutu Municipality, Accra
- Guskey, T. R. (2000). Evaluating professional development. Thousand Oaks, CA: Corwin Press.
- Harland, J et al. (1999). Thank You for the Days? How schools use their non-contact days, NFER, Slough
- Holmberg, B. (2005). The evolution, principles and practices of distance education. Studien und Berichte der Arbeitsstelle Fernstudienforschung der Carl von Ossietzky Universität Oldenburg [ASF] (in German). Bibliotheks-und Informations system der Universität Oldenburg. p. 13. Retrieved 18 September, 2014.
- Honeyman, M; Miller, G (December 1993). "Agriculture distance education: A valid alternative for higher education?". Proceedings of the 20th Annual National Agricultural Education Research Meeting: 67–73.
- Martocchio, J. J. and Jimeno, D. (2003). Employee absenteeism as an affective event, Human Resource Management Review. Special Issue: Methodological Issues in Absenteeism Research and Human Resource Management and Entrepreneurship, 13, 227–241.
- Mizell, H. (2010). Why professional development matters. Learning Forward: Advancing professional learning for student success. Learning Forward: USA (Available online at: www.learningforward.org/advancing/whypdmatters.cfm)
- Ministry of Education (MOE). (2012). Education Strategic Plan 2010 – 2020, Vol 1; Policies, Strategies, Delivery and Finance, MoE, Accra
- Neil, P. and Morgan, C. (2003). Continuing professional development for teachers: from induction to senior management, Kogan Page Limited: London, UK
- Ossei-Anto, T. A. (2003). Distance and open learning at the University of Education, Winneba. In: Gaskell, A. and Tait, A. (Eds.), The 10th Cambridge International Conference on Open and Distance Learning 2003. Collected conference papers. Cambridge, UK.
- Sweeney, D. (2005). Learning along the way: professional development by and for teachers. Stenhouse Publishers: Portland, Maine, USA
- St. Michel. T. (1995). Effective substitute teachers: Myths, mayhem, or magic? The practicing administrator's leadership series. Thousand Oaks, CA: Corwin Press.
- Tabor, S. W. (2007). Narrowing the Distance: Implementing a Hybrid Learning Model. Quarterly Review of Distance Education (IAP), 8, 1, 48–49. ISSN 1528-3518. Retrieved 18 September 2014.
- United Nations (2015). Transforming our world: the 2030 Agenda for Sustainable Development. A Resolution adopted by the General Assembly on 25 September 2015. A/RES/70/1, Seventieth Session, Agenda items 15 and 116
- Vaughan, N. D. (2010). Blended Learning. In Cleveland-Innes, MF; Garrison, DR. An Introduction to Distance Education: Understanding Teaching and Learning in a New Era. Taylor & Francis. p. 165. ISBN 0-415-99598-1. Retrieved 18 September 2014.
- World Bank. (2010). Education in Ghana: improving equity, efficiency and accountability of education service delivery. Africa education country status report. Washington DC; World Bank. Available (online) <http://documents.worldbank.org/curated/en/2010/02/17932091/education-ghana-improving-equity-efficiency-accountability-education-service-delivery>
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