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Academic Assessment of Students Work and Quality Assurance in Tertiary Institutions: A Conceptual Framework

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Abstract

This paper discusses the social and cognitive variables that influence the roles of most practitioners during the marking of examination scripts and other student assessment procedures in educational institutions. Most approaches to the assessment of student work and are rooted in the specific historical, legal, national and pedagogical context of the institution. Studies have thus shown that practices differ widely between countries, regions, institutions and subject areas within institutions. It is the position of this paper that academic assessment procedures in educational environments should be designed to suit particular needs of the specific programme of study. What is important here is ensuring that the principles guiding the design of a specific assessment practice are transparent, fair and open to scrutiny by all stakeholders during and after their administration. It has been noted by some external assessors that when the final results of a student's work do not fit within a normal distribution curve incompetency on the part of the practitioner is to blame. This is a broad accusation and it remains to be shown how to go about substantiating professional incompetencies in academic assessment exercises. It is against this background that this paper presents a conceptual diagram and theories that support the influence of cognitive and social variables on the work of practitioners in higher education.

Keywords: Academic Assessment, Quality Assurance, Higher Education, Practitioner Cognitive, Social Factors.

Reference to this paper should be made as follows:

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INTRODUCTION

A critical aspect of teaching and learning functions in higher education that has not been considered in empirical investigations of quality assurance and management is the influence of non-academic or negative social variables on the work of practitioners. These variables or social factors include ethnicity, sexual advances by students and/or practitioners, affirmative action and protocol considerations of the academic board, fatigue/stress, and parents and/or

politicians seeking special considerations for students. These variables can significantly influence the work of some assessors and affect the quality of students' final achievements and their permanent academic records.

While many of these factors are highly contentious and so scarcely discussed, their presence and influence in the education system cannot be denied by practitioners, students, parents and policy makers alike. The areas typically most affected by these factors are the assessment process and related procedures involving the evaluation of student work and include, for example, end of semester examination invigilation, examination scripts grading, and the grading and supervising of student projects.

This paper identifies a loop of cognitive factors such as teacher efficacy, the use of marking schemes, and perhaps above all else, a loop of social variables that influence practitioner decisions during student assessment. The influence of cognitive and social factors on student assessments in academic institutions forms an integral part of social and cognitive psychology. Cognitive psychology, which is the study of mental states, in the context of this study highlights as evidence of a practitioner's ability, his or her initiative to prepare relevant marking scheme to guide the marking of scripts or other academic work. Cognitivism holds that moral judgments are statements of facts and therefore can be true or false (Schroeder, 2008a, 2008b). Student assessments, which tend to produce a normal distribution curve, may not always accurately represent the assessed work. These assessments may be true or false depending on the cognitive ability of the assessor or what is termed teacher efficacy.

LITERATURE REVIEW

Academic Assessment

According to Albert (1997), teacher self-efficacy refers to a practitioner's perceived ability to deal with the challenges and demands of his or her profession. In this context, quality assessment of student work depends to a large extent on the marker's professional skills or competencies, yet this does not rule out elements of subjectivity. Aside from the influence of cognitive variables, social variables also play a role when it comes to teaching and learning in academic institutions.

Personal observation suggests that there are many instances of a sheer lack of professionalism on the part of some assessors. This often happens when an institution engages a number of part-time workers who may have some accumulated work load from their permanent work places spill over into their assessments. One also cannot rule out accidental lapses. Rather than cause for concern, such occurrences when sparse should be seen as a product of complex and busy lives.

The literature on teaching and learning quality assurance in higher education is often limited to areas such as bloom taxonomy (Bloom et al. 1956) which is thought to serve as a guide for writing assessment materials that test knowledge of recognition and comprehension at lower levels and of analysis, synthesis, application and evaluation at higher levels. In addition to the aforementioned measures for ensuring quality and fairness in higher education academic assessments, marking schemes and normal distribution curves are common (Beardwell, Holden & Tim, 2004, p. 284). Operators of private tertiary institutions go further and organize training workshops for their staff around quality assurance measures so as to meet the quality standards required by their mentor institutions. The intended purposes of these training activities have, however, not yet been achieved.

According to Tribus in Philip, Messner and Ruh (1998, p.24), "perversity principles are ever present" and so "if you try to improve upon the performance of a system of people, processes, procedures, practices and machines by setting goals and targets for individuals and parts of the system, the system will defeat you every time and you will pay a price where you least expect it." Evidence from many contemporary private tertiary institutions in Ghana and other African countries shows that examination management is one area of the teaching and learning environment where huge sums of money are spent to pay invigilators and examination committee members every year (Ogunji, 2011). Related expenses, including fees for programme accreditation and institutional affiliation, have increased the cost of running private universities in many African countries. This underscores the travesty of the challenges faced not only in teaching and learning, but in managing private universities in Africa.

As a result of successful policies on quality assurance and their implementation in private universities in Africa, higher education committees, governments and other stakeholders are now continually seeking out new mechanisms to again improve quality and address emerging challenges. One area which has undoubtedly not been given critical consideration in discussions of quality assurance in higher education is the conduct of examinations and

the principles which guide the practitioner in his or her work. Although some institutions have guidelines for conducting end-of-semester examinations there seems to remain a disinterested attitude on the part of some invigilators with regards to the enforcement of these rules and regulations.

Most private African universities, including those in Ghana have received at least one complaint from their mentor public institutions concerning the way some of their staff perform their duties particularly the marking examination scripts and supervision of student research. Such was indicated by a member of the visiting team from a mentor public university in Ghana during the 2011 examination. Various training programmes have been organized to update the skills of staff in order to improve their performance in response to the concerns of mentor institutions, but the problems persist.

Recognizing this, this paper presents a conceptual framework based on the premise that the decision to ensure quality and fairness in academic assessment rests to a large extent with the assessor/examiner. These decisions are described in this paper as right-wing and left-wing decisions. Right wing decisions are influenced by cognitive variables while left-wing decisions are influenced by social or non-academic variables. The decision making process in this context is an individual one, but critical in that it places the assessors' professional credibility at stake. Allowing the influence of non-academic variables in the marking of examination scripts also threatens the credibility of the educational institution and the academic achievements and records of students. These academic lapses and inconsistencies may as a result have serious implications for the future expansion and autonomy of these private institutions.

One cannot study academic records without first investigating the factors and processes which led to the creation of those records. This supports the general systems theory (von Bertalanffy, 1968) which holds that organizations have interrelated parts that constitute a system and so what affects one part affects other parts [Alter, 2001]. To date, literature on quality assurance in educational management has not produced a comprehensive conceptual framework and diagram that explains the influence of social factors on the marking of examination scripts. This lack of a framework makes it difficult to identify testable assumptions as inputs in the planning, organizing and implementing of sustainable quality measures in post-secondary teaching and learning activities. This is not, however, to overlook the contributions of Ogunji, (2011), Olayinka (2010), Fasasi (2009), Adenipekun, (2004), Wilfried, (2002) in Ogunji (2011) and Badmu (2006) who have critically examined cases of academic dishonesty and examination management challenges in institutions of higher learning. Of particular interest in these studies is the lack of professionalism by some practitioners during assessments of students work.

Many stakeholders and policymakers bemoan the falling standards of education at all levels in recent years; they generally fail, however, to consider the extent to which certain social factors are inextricably linked to the work of practitioners and contribute to the problem (Olatoye, 2010; Clark & Robbert, 2004). The over use of protocol considerations for admitting some students and the augmenting of abysmal results for certain categories of graduating students are part of this problem. Some critics are of the view that such considerations eventually induce mediocrity among the final products of the institution and negate meritocracy among students (Wilfried, 2002; Harvey, 1993).

The conceptual framework in this study explains both cognitive variables and social factors in academic assessments by practitioners. Emphatically speaking, the decision to produce an acceptable result after marking examination scripts rests with the assessor. This decision is informed by forces which this paper terms centripetal and centrifugal forces and begins with elements such as the practitioner's self-efficacy or professional competency, the creation of relevant marking schemes, adherence to marking schemes, and avoiding awarding marks arbitrarily when marking scripts.

Other factors include the use of affirmative action and protocol considerations by academic boards. This paper proposes that the cognitive and non-academic or social variables are linked by theories termed *centripetality and centrifugality [untested]*. These are derived from the pure sciences, physics for example, and denote the moving, acting or pulling towards a centre or axis and vice versa. In the context of the conceptual framework and diagram discussed below, the marking of examination scripts by practitioners is guided by centripetal and centrifugal forces which may produce a normal distribution curve or abnormal curves that, under normal academic conditions, tend to illicit concern.

Unconfirmed reports from employers in both developing and least developed nations highlight concerns about the quality of graduates from tertiary institutions; these concerns pertain to not only those graduates of from less endowed institutions and communities, but those as well of industrialized nations (Abdulrazaq & Amimulahi, 2000; Ayita, 2006; Ajibola, 2002). At the same time and despite these telling observations, we should resist attempts to undermine genuinely high academic performances which in most cases do produce abnormal distribution curves.

Quality Assurance

The World Bank Working Report No. 124 (1999/2000) on quality assurance in sub-Saharan African universities confirmed the sub-quality standard of students graduating from many African tertiary institutions of learning. Often these reports are unsurprising when one considers the prevailing financial and logistic constraints in many developing nation educational systems. Still, if these allegations are taken seriously then educational practitioners involved in student assessments must be accountable for their decisions. Reports such as these provide new opportunities for educational service providers and stakeholders to reconsider earlier quality assurance policies in the context of challenges to tertiary education today (Materu, 2007).

It is interesting to note that universities no longer pursue knowledge for its own sake; rather they provide qualified human resources and produce relevant knowledge. With this new socio-economically oriented paradigm comes a different kind of accountability as higher education institutions are now judged in terms of quality of outputs and contributions to national development.

The Conceptual Diagram

The conceptual diagram upon which this paper is based addresses five key areas of practitioners' roles in academic evaluation in tertiary education:

A: the diagram considers self-efficacy or the professional competence of the practitioner. This includes creating a relevant marking scheme, adhering to the scheme, and awarding marks based on merit or the correct answers as stated in the marking scheme.

B: the diagram provides a theory in support of common cognitive and social variables in two separate loops.

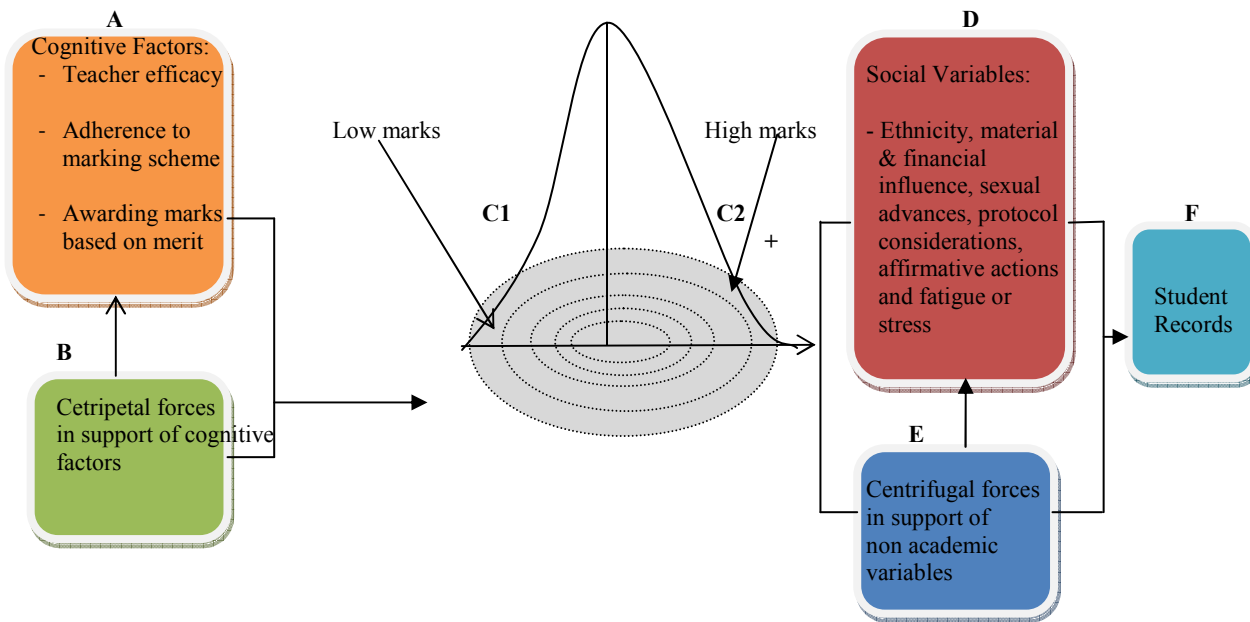
C: the diagram provides a centre of convergence that indicates point of difference rating scales, moving from the negative direction to positive directions or centre of dispersal.

D and E: the diagram outlines the purported social variables that negatively influence the assessment functions of the practitioner (d) along with a supporting theory or concept (E).

F: the framework points to the end results of the cognitive and social variables which are the academic records of students. This last part of the framework emphasizes the subjectivity of the academic achievement of students in tertiary institutions, although the formal records created for them in this process become a reference point for external stakeholders such as employers, political parties and other academic institutions.

The framework put forward in this study makes three important contributions to the literature on quality improvement in academic evaluation in both public and private tertiary institutions. These contributions will be confirmed following a proposed validation exercise to be conducted in three tertiary institutions in Accra between February and April 2013. The researcher is in the process of designing a cross-sectional survey instrument for this validation exercise.

Figure 1: A conceptual framework outlining the cognitive and social factors that influence academic assessments and students records creation in tertiary institutions.



Likert rating scale: 5 – 1

The point **C2** from the right direction is the centre of dispersal on the *Likert rating scale* of 1-5.

DISCUSSION

- Point **A** depicts some selected cognitive variables [CV] or activities that involved the assessor's cognitive abilities. These include:
 - Teacher efficacy
 - Professional competency
 - Adhering to the marking scheme
 - Awarding marks based on the merit of answers provided
 - Minimizing or avoiding global marking; and
 - Not scoring irrelevant points provided by the candidate
- Point **B** shows the centripetal force linking the cognitive variables and pulling them towards the centre of convergence. The centripetal force denotes movement towards the center or axis and reduction in volume. Three things may happen here in the context of this diagram:
 - Movement towards the center implies quality in marking;
 - Increased average performances rather than unsubstantiated high scores; and
 - Normal distribution curves after a statistical analysis of the final result.
- Point **C1** is considered the buffer zone which implies awarding average marks in order to keep final assessments within the confines of normal distribution. The negative sign depicts the gradual decline in marks being awarded as the assessor is guided by the marking scheme and other cognitive variables. It implies that the examiner is being careful to avoid scoring irrelevant points provided by candidates. Ensure quality in assessment is a hallmark of a good assessor.

Point **C2+** represents a higher zone and move away from the centre or the center of dispersal. When an assessor is operating within this zone, it is cause for concern. The assessor's decision to operate within this zone, a left-wing decision, may be accidental or deliberate. Accidental lapses may occur due to fatigue or

stress. A deliberate decision to operate in this zone may be the result of *some of the social factors [SF] listed in point D*.

4. **Point D** which represents the social or non-academic factors is linked with point **E**, the centrifugal forces drawing the assessment process from the center towards the right culminating in academic records at **F**, the final point of the diagram. This explains a situation in which the person marking exam scripts is not guided by his or her cognitive abilities and the marking scheme, but by non-academic variables. The final results are not likely to depict a normal distribution curve.
5. **Point F** represents the end result of the entire academic evaluation exercise, student records. Academic records of students consist of several items such as bio data, previous qualifications, admission information, counseling information and special awards if applicable. The most significant items, however, are the courses of study and the grades obtained. The total grade point average (GPA) and/or Cumulative Grade Point Average (CGPA), which indicates the final achievement of students, are the result of the series of activities described in this conceptual framework.

CONCLUSION

The conceptual diagram discussed in this paper presents cognitive and social variables that influence the way practitioners assess student work in tertiary institutions. These social factors introduce certain subjectivities into the academic achievements and final records of students. As a human institution, one must proceed slowly when discussing the positive and negative variables that characterize the teaching functions of practitioners. These variables pressure higher education institutions to guarantee not only quality assurance, but the quality of those who are hired as practitioners. Ensuring quality in assessment, particularly as student populations grow is associated with improved confidence in what these institutions do. The conceptual diagram is likely to have a significant impact in its ability to clarify the expectations around the academic achievements that represent the end of each cycle of learners.

It is also important to state here that the conceptual framework is not a mere assumption. There is a critical link between the theory and practical reality as proven by the enforcement of quality assessment of student work in higher education. Although different historical and pedagogical traditions and legal frameworks have resulted in different approaches to higher education and assessment procedures, the need for assuring quality in teaching functions is a universal phenomenon due partly to the subjectivity of academic achievements. This is largely a result of human frailties and the fact that the increasingly complex human population and attendant technologies have not eliminated the challenges of human subjectivity in higher education.

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Inter-Professional Collaboration and Work Efficiency in Secondary Healthcare Delivery System in Rivers State

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Abstract

Inter-professional collaboration is fundamental to the safe, high quality, accessible, patient-centered care desired by all. This study examines the relationship between inter-professional collaboration and efficiency in healthcare service delivery in Rivers state. A cross-sectional research survey was used and the research data were collected from a sample of 123 healthcare teams working in the Secondary Healthcare Facilities (functional General Hospitals) located in the local government areas of Rivers state. Two hundred and ten (210) patients were selected using a convenient sampling technique during the field work period to ascertain their level of satisfaction with the services of the healthcare teams. The formulated null hypotheses were tested using Spearman's Rank Order Correlation Coefficient (Rho) at 5% level of significance, with the aid of the Statistical Package for Social Sciences (SPSS). This study found that professional interdependence and mutual trust are prerequisites for gainful team cohesiveness, efficient material resource utilization, and efficient time use in healthcare delivery system. However, professional diversity is inversely related to team cohesiveness and does not enhance minimization of time spent in healthcare services. This study argues that improved collaboration among healthcare professionals is an important strategy in the renewal of healthcare programmes if the sector is to achieve efficiency. This study recommends intensive professional diversity management through periodic team training programmes so as to build team spirit in the healthcare system and achieve the desired level of efficiency.

Keywords: Inter-Professional Collaboration, Work Efficiency, Secondary Healthcare, Healthcare Delivery System, Rivers State.

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INTRODUCTION

Teams are valuable organizational resources that are being used increasingly in organizations around the world. The importance of teamwork efficiency therefore, has become an issue of serious concern to organizational theorists and administrators (Ololube, Nwokolo, Onyekwere & Kpolovie, 2013). Robert and Zheng (2002), for instance, argue that teamwork embraces the value of considering diverse points of view and looking at the entire system, rather than just its

parts. This is supported by Robins (2005) contention that efficiency in organizations is largely and increasingly achieved with serious reliance on teams set up to accomplish specific tasks. This approach is gaining in popularity because team building uses high-interaction group activities to increase trust and openness among team members (Dyer, 2006). The healthcare industry is not exempt from this growing emphasis on teamwork.

Health teams are generally made up of doctors, pharmacists, nurses, laboratory scientists among other categories of health professionals. All are expected to work together to accomplish a shared objective, namely, the delivery of the best possible healthcare to the patient (Iyang, 2008). It follows that since organizations rely on teamwork for their success, efficient inter-professional collaborative effort becomes a crucial tool for achieving organizational goals.

In this study, “inter-professional collaboration” and “inter-professional teamwork” are used interchangeably and refer to a phenomenon of practice of core healthcare professionals. In recent years, the success and effectiveness of health organizations or institutions that embrace collaborative practice has received considerable attention from both scholars and practitioners. In a report of on the health sector in Rwanda, however, Sayer (2005) argues that the provision of enabling infrastructure is the critical factor influencing the effectiveness and efficiency of Rwandan health institutions. In a follow up to that study in a different setting (Liberia), Bulus (2006) argues that the lack of drugs and other vaccines is characteristic of the country’s poor medical service delivery. The analytical perspective of both Sayer and Bulus thus focuses on the availability of physical health infrastructure and medication as the major determinants of efficiency in health organizations. Likewise, in Nigeria, much blame for the inadequacies of health service delivery has been directed at the lack of enabling infrastructure and drugs. It is therefore not surprising that Nigerians travel to India for medical attention on a daily basis. This analytical perspective appears to be common to developing economies grappling with deteriorating infrastructure and out of stock (OS) drug syndrome in hospitals.

Another perspective on poor health service delivery focuses on the issue of staff training. Harrison (2001) argues that training team members is necessary for the achievement of the desired objectives of national health programmes. Capacity building in the health sector remains a central justification for staff training and development in pursuit of a sustainable healthcare service. Similarly, Krukrubo in Onyekwere (2004) identify shortages of personnel and the mal-distribution of health institutions as causes of poor performance in the Rivers State health sector.

Nevertheless, while health infrastructure, drugs and staff training are necessary and veritable instruments for effective healthcare services, the issue of the social nexus (i.e. social work relations) and its systemic importance in inter-professional collaboration appears to be most critical. Unfortunately, knowledge gaps exist in the empirical research effort to explain whether and how the nature of inter-professional collaborative efforts influences efficiency in the healthcare service delivery system. Notable attempts in this regards, which were neither empirical nor quite explanatory, are shown in Borill and West (2002), Hall and Wavy (2001); and Osotemahin (as cited in Onyekwere, 2004). These research efforts advocate for teambuilding as a means of achieving optimum results in the healthcare sector in Nigeria and elsewhere. Their argument thus follows the report of the Canadian Health Services Research Foundation (2001 cited in Onyekwere 2004) that improved collaboration among healthcare professionals is a key strategy in healthcare renewals programmes (Clement, Dault & Priest, 2007). Our point of departure on this subject matter is empirical research focused on determining efficiency in the healthcare delivery system within the province of inter-professional collaborative effort.

The provision of healthcare services is indispensable, yet healthcare services in Nigeria are characterized by endemic inefficiency. Despite a sizable budgetary allocation for the improvement of healthcare service delivery, particularly at the interface of health workers and the patients, sector objectives are still going unmet (Harrison, 2001). One obvious manifestation of the real problems in this all-important sector is the number of identifiable professional rivalries (Iyang, 2008). These rivalries exist across all healthcare institutions and sometimes lead to patient dissatisfaction with the entire system, resulting in higher patronage of patent medicine shops and private hospitals.

The apparently uncoordinated nature of work relations among health workers is also increasingly worrisome. In some cases, a lack of mutual trust and team cohesiveness among professionals may have resulted in the sub-optimization of the goals informing this study. In this regard, Oandasan et al. (2006) argue that the achievement of objectives and teamwork efficiency has been frustrated by mistrust and personality clashes among different professional groups in the healthcare system. Furthermore, the difficulty of entrenching team spirit among members of different health professions has culminated in such problems as poor time management in patient handling, the underutilization of available resources, and in-cohesive work attitude among team members. Considering this outcome and the need for mutual interdependence in any institution for goal congruence, Bulus (2006) argues that a necessary prerequisite for the efficiency of any healthcare programme is the building of teamwork based on inter-professional collaboration.

Considering the many attempts by government to improve healthcare delivery by through the provision of enabling infrastructure, training, posting of health staff to hospitals, and the establishment of a revolving drugs scheme, it appears that the endemic inefficiency of the health sector is caused by poor internal team management of professional groups. Based on this contention, we therefore ask to what extent can work efficiency in healthcare be enhanced by inter-professional collaboration in the secondary healthcare delivery system in Rivers State and in turn improve patient satisfaction? As a starting point to this investigation it is important to evaluate the existing processes that influence collaboration among healthcare professionals in areas of work design that have to do with interdependence, mutual trust and diversity in professional skills. These have important consequences for the viability of the inter-professional collaboration model of practice as portrayed in the literature relevant to this study. An assessment of the extent to which this model has enhanced healthcare services in the general hospitals in Rivers State with respect to resources utilization, time minimization and level of patient satisfaction is also warranted.

The aim of this study is to empirically examine the influence of an inter-professional collaborative approach on efficiency in healthcare delivery systems in Rivers State. The specific objectives derivable from this general aim include:

1. To determine the existence and influence of mutual trust in inter-professional collaborative work practices in the secondary healthcare delivery system.
2. To evaluate the influence of professional diversity on work efficiency that ensures better patient care.
3. To determine the influence of interdependency of professionals on efficiency in healthcare delivery.
4. To ascertain the level of patient satisfaction in the hospitals chosen for the study.

LITERATURE REVIEW

Conceptualization of Inter-professional Collaboration

Collaboration has been defined as “to work together, especially in a joint intellectual effort” (Marquardt & Horvath, 2001, p.126). In healthcare, however, collaboration has been difficult to define, both conceptually and operationally. Within healthcare literature several definitions for collaboration can be found, ranging from simple definitions, a partnership or a complementary relationship of interdependence (Fagin, 2009), to more complex definitions including a process by which individuals from different professions structure a collective action in order to co-ordinate the services they render to individual clients or groups (Sicotte, D’Amour & Moreault, 2009). The former definitions focus on the interaction between healthcare providers alone, while the latter includes the target group that the collaboration aims to serve. Weiss (2005) defined collaboration in much the same way, as: “synergistic interactions to influence patient care”. Although helpful starting points, these definitions are problematic in that they can be interchanged with concepts related to collaboration such as coordination, cooperation and sharing. While these related concepts might play a part in collaboration, they are not in and of themselves collaboration.

Kilmann and Thomas’ (2007) model of conflict handling serves to illustrate the conceptual difference between collaboration and some of its related concepts. Within this model, collaboration is achieved through the combination of assertiveness and cooperation where assertiveness represents actions aimed to meet one’s own needs and cooperation represents actions aimed to meet the needs of others. Cooperation is thus identified as necessary to, but not the same as, collaboration. Kilmann and Thomas also note that accommodation results from low levels of assertiveness and high levels of cooperation; competition results from high levels of assertiveness and low levels of cooperation; avoidance from low levels of both dimensions; and compromise from moderate levels of assertiveness and high levels of cooperation. Not surprisingly, the difficulty encountered by researchers in adequately defining the concept of collaboration in healthcare has also caused difficulties in defining collaboration operationally and developing tools that measure its intensity or its effect on healthcare (IPEC, 2011).

In order to measure collaboration and subsequently correlate collaboration with health outcomes, cost of service provision or work satisfaction, the thrust of this study, a definition of collaboration must be adopted that includes its measurable attributes. Along these lines, Baggs and Schmitt (2008) undertook a review of the literature to determine how the concept of collaboration was being used in healthcare literature in order to clarify and define the concept in a measurable way. Although the researchers were specifically interested in collaboration between nurses and physicians in a clinical ICU setting, their work shed light on the conceptualization of inter-professional collaboration in other healthcare settings as well. Through this review, Baggs and Schmitt found that the concept of collaboration was often being used in the literature without definition. They also found, however, that significant work

had been undertaken to elucidate the critical attributes necessary for collaboration to occur in an inter-professional context. Baggs and Schmitt identified these attributes, which they then used to develop a definition of collaboration, as “intensive care nurses and physicians cooperatively working together, sharing responsibility for solving problems and making decisions to formulate and carry out plans for patient care”. They ultimately defined collaboration as a joint communicating and decision-making process with the expressed goal of satisfying the patient’s wellness and illness needs while respecting the unique qualities and abilities of each professional.

More recently, Canadian researchers in primary healthcare have attempted to clarify the essential elements of collaboration. Anderson (2007) undertook a review of the inter-professional collaboration literature during the development of a Multidisciplinary Collaborative Primary Model for Maternity Care. Through this review, Anderson noted that effective collaboration requires health professionals to commit to several features of collaboration including open and honest communication, shared decision-making, mutual trust, shared values, goals and visions, willingness to openly discuss differences, understanding and valuing each other’s perspective and way of thinking, willingness to devote time and energy to the relationship, familiarity with and valuing each other’s style and scope of practice, unified front and mutual support, equality and shared power, willingness to share information, and professional competence. Frank discussion of financial issues, shared responsibility and accountability were also identified as important. Included in Anderson’s review was work by Way, Jones and Busing (2009) which identified the seven essential elements of collaboration as mutual trust and respect, autonomy, responsibility, communication, coordination, assertiveness, and cooperation. Following his review, Anderson defined collaboration as “an inter-professional process for communication and decision making that enables the separate and shared knowledge and skills of care providers to synergistically influence the client/patient care provided” (p.31). This definition has garnered some acceptance by Canadian researchers investigating primary healthcare collaboration as well as within collaborative practice education modules.

Collaborative Practice in Healthcare

Some level of collaboration between healthcare providers is required in any healthcare setting. In hospitals, careful coordination of services between nurses, nursing assistants, physicians, and a variety of healthcare professionals (physical therapists, pharmacists, etc.) must routinely occur. In outpatient settings, healthcare providers may operate with varying degrees of collaboration depending on the types of services offered. No single discipline or specialty can meet all of a patient’s needs. A hospitalized patient, for example, may need a physician to provide a diagnosis and treatment plan, a nurse to administer medications, a nursing assistant to help with bathing and toileting, a phlebotomist to take blood samples, a dietitian to monitor food intake, a physical therapist to aid in muscle strengthening and flexibility, and a social worker to coordinate home care following release. Without mutual trust and communication among all of these professionals, comprehensive and efficient treatment of the patient is not possible (Onyekwere, 2004).

According to Baggs and Schmitt (2008), collaboration involves the coordination of individual actions, cooperation in planning and working together, and sharing of goals, planning, problem solving, decision-making, and responsibility. Collaboration can happen between two people who represent the same or different disciplines, or among small groups of people representing a single or range of disciplines. Nonetheless, in general, healthcare providers tend to identify most strongly with their own discipline and its language, values, and practices (Furnham, 2008) and relate best to members of their own discipline. Collaboration may be difficult to negotiate, in part, because of differences in disciplinary socialization.

Cross-disciplinary communication can be complex for a myriad of reasons, but it also can be professionally rewarding and beneficial to patients’ (and patients’ companions’) experiences. Although the different professions have their own unique issues around collaboration, nurses, pharmacists, and social workers face comparable issues when collaborating with physicians, including a lack of acceptance by physicians of the full breadth of their professional roles, ongoing status and gender differences, contradictory expectations regarding the autonomy of non-physicians, and a commonly expressed need for physician recognition of their competence (Abramson & Mizrahi, 2006).

The Determinants of Successful Collaboration: Theoretical Review

According to Blake, Manton & Allen (2005), organizations are increasingly dependent on teamwork and an organization's success or failure depends on how effective its people are at working together in teams. By bringing together in real time the competencies, experience and judgment of a variety of professionals, organizations are trying to respond to a reality that is increasingly complex in terms of both the knowledge and the working methods that are being applied. In this context, collaborative practice in inter-professional teams is described in the literature as an efficient, effective and satisfying way to offer healthcare services (Drotar, 2007; Hanson, Spross & Carr, 2001; Robinson & Kish, 2002). Collaboration in healthcare teams is the process by which interdependent professionals structure a collective action around patients' care needs. This collaborative process is built on a voluntary basis and implies negotiation. It requires that the parties forego a competitive approach and adopt one based on collaboration, both between professionals and between healthcare institutions. According to D'Amour, Ferrada-Videla, San Martin-Rodriguez and Beaulieu (2008), implementing this type of approach is not a simple matter. Developing collaborative practice among a group of healthcare professionals still represents a considerable challenge to both political decision-makers and organizational managers. Although changes to organizational structures are increasingly focused on the collaboration between professionals practicing in healthcare teams, managers and political decision-makers implementing institutional reorganizations are faced with a lack of empirical evidence that identifies the characteristics of organizations that effectively encourage the development of collaborative relationships within inter-professional teams.

Several elements determine how collaboration develops and is consolidated in healthcare teams. These determinants have been classified as interactional factors (interpersonal relationships between team members), organizational factors (conditions within the organization) and systemic factors (conditions outside the organization). In a professional practice setting, two levels of determinants are at work: the organization (organizational factors) and the team (interactional factors). Systemic factors are elements outside the organization, including components of the broader social, cultural, educational and professional systems. The environment in which collaborative practice takes place is influenced by these systemic factors.

Social factors are the source of the power differences that may exist between professionals in a team and have an impact on how collaborative practice develops. Equality between professionals, one of the basic characteristics of collaborative practice (Heinemann, Lee & Cohen, 2006), is impeded by power differences based on gender and/or disparate social status among the professionals on a team – an important barrier to inter-professional collaboration (Hanson et al., 2001). A recent study conducted by Baggs and Schmitt (2008) in an intensive care unit found that nurses identified power disparity as one of the principal factors preventing their collaboration with physicians.

Specific cultural values may also have an impact on the advancement of collaboration between professionals. According to Gage (2007), some cultures hold deep values that run counter to the spirit of collaboration. On healthcare teams, for instance, a strong cultural affinity for autonomy tends to foster and support individualism and specialization rather than collaborative practice. The consequences of divergent cultural values are captured in a study by Hojat et al (2008) on nurse-physician collaboration in the United States and Mexico. This study highlights the ways in which the cultural differences between the two countries influence how professionals perceive collaborative work.

The professional system also has a significant effect on the development of collaborative practice in that it promotes a perspective that is in direct opposition to the rationale for collaboration (D'Amour et al., 2008). The process of professionalization is, in fact, characterized by the achievement of domination, autonomy and control, rather than collegiality and trust (Freidson, 2006). The development of collaborative practice depends on mutual recognition by professionals of their interdependence as well as an acceptance of "grey zones" where their respective contributions may conflict or overlap (D'Amour et al 2008). The dynamics of professionalization, on the other hand, lead to a stark differentiation of professionals and to territorial behaviors within the team. Furthermore, throughout their professional socialization phase, health professionals are immersed in the philosophies, values and basic theoretical perspectives unique to their respective professions (Clark, 2007). An emphasis on these differences is a potential source of conflict that could hinder the development of a true collaborative practice.

According to Ivey, Brown and Teste (2006), the educational system is one of the main determinants of inter-professional collaborative practice as it represents the principal lever for promoting collaborative values among future healthcare professionals. They argue that traditionally, candidates of health-related professions have been socialized into strong professional identities and such socialization results in very limited knowledge of other professionals on a team. Members of each profession know very little of the practices, expertise, responsibilities, skills, values and

theoretical perspectives brought by other disciplines. This is considered to be one of the main obstacles to collaborative practice in healthcare teams. Glen (2009) observed that there is a need for an educational system that helps students to recognize the values and responsibilities of their profession while instructing them in professional plurality. Such an educational program would promote awareness, sharing and the integration of knowledge and practices across professions.

Organizational Determinants

Organizational structure has a strong influence on the development of collaborative practice in healthcare teams (Walsh, Brebeck & Howard, 2009). Organizational determinants include attributes of the organization that define the work environment of the team, such as its structure and philosophy, team resources and administrative support, as well as communication and coordination mechanisms. According to Walsh, Brebeck & Howard, (2009), successful collaboration between healthcare professionals requires a shift from traditional hierarchical structures toward more horizontal structures. Traditional structures fail to facilitate the emergence of key conditions for collaboration, such as shared decision-making and open and direct communication (Evans, 2008). Every organization has its own philosophy. This philosophy and the inherent values of an organization in turn have an impact on the degree of collaboration that will occur. The organization's philosophy must support collaborative practice among professionals. For instance, a philosophy that values participation, fairness, freedom of expression and interdependence will foster the development of collaboration within healthcare teams (Evans, 2008, Heinemann, Lee & Cohen, 2006). Likewise, according to Evans (2008), a climate of openness, risk-taking, integrity and trust fosters collaborative attitudes between professionals.

As noted above, the implementation of inter-professional collaboration requires administrative support (SanMartin-Rodriguez, Beauliey & Ferrada 2006) Indeed, the development of collaboration among team members is facilitated by leaders who know how to convey the new vision of collaborative practice, who motivate professionals to take up collaborative practice and who are able to create an organizational setting that fosters collaboration (Evans, 2008; Heinemann et al., 2006). Studies by Borill and West (2002) and D'Amour et al. (2008) revealed the importance of leadership in the development of collaboration in inter-professional teams and highlighted the negative effect of a lack of equipped managers.

Also within the domain of administrative support, the availability of time to meet and spaces to interact are preconditions for successful collaborative practice. Strong collaborative relationships demand that enough time be available for team professionals to share information, develop interpersonal relationships and address team issues (Hojat et al., 2008; Heinemann, Lee & Cohen, 2006). Furthermore, Freidson (2006) believes that sharing space and working in physical proximity reduces professional territoriality and atavistic behaviors and facilitates collaboration, especially when conflicts arise. It is therefore essential that the organization give consideration to these supportive requirements when structuring teams for inter-professional collaboration. Some authors also emphasize the need for adequate financial investments in order to promote the development of collaborative practice (Macintosh & McCormack, 2007, Walsh, Brabeck & Howard, 2009).

Interactional Determinants

Interactional determinants are components of interpersonal relationships among team members and include their willingness to collaborate and the existence of mutual trust, respect and communication. Although healthcare systems tend to make inter-professional collaboration mandatory by implementing structures and standards conducive to collaborative practice, collaboration is, by its very nature, voluntary (D'Amour et al, 2008). In order to achieve a collaborative practice, professionals must therefore be willing to commit to a collaborative process (Heinemann et al., 2006). For Heinemann et al. (2006), group cohesion is one key indicator of the willingness of individuals to be part of a team. The overall willingness of team professionals to work collaboratively appears to depend on factors such as professional education, previous experience in similar situations, and personal maturity (Heinemann et al., 2006).

Trust: Most researchers identify trust as a key requirement in the development of collaborative practice (D'Amour et al, 2008; Evans, 2008; Gage, 2007; Heinemann et al., 2006). Building trust in turn requires time, effort, patience and previous positive experiences (Heinemann et al., 2006). According to Heinemann et al (2006), self-confidence in one's role as a professional is essential, as is the display of trust toward other professionals. At both

levels of trust (confidence in one's own abilities and trusting others), researchers conclude that trust depends on competence – skills and knowledge – and on experience.

Communication: Communication is another interactional element that influences the degree of collaboration. The communication skills of professionals play a critical role in the development of collaborative relationships among team members (Burd, Cheung, Wong, Ying & Cheng, 2008, Evans, 2008). There are three main reasons that communication is considered a key determinant of collaboration in healthcare teams. First, the development of collaborative practices demands that professionals understand how their work contributes to outcomes and to team objectives (Evans, 2008) and that they know how to communicate the content of this contribution to other professionals. Second, efficient communication allows for constructive negotiations with other professionals (Heinemann, et al 2006). Thus, one can say that communication is a vehicle for the other determinants of collaboration, such as mutual respect, sharing or mutual trust. Third, open and active communication and active listening (Baggs & Schmitt, 2008; Sile'n-Lipponen, Turunen & Tossava-nen, 2008) make mutual knowledge possible among team professionals and allow improvements to processes for sharing clinical information.

Mutual respect: Mutual respect implies knowledge and recognition of the complementarities of the contributions of the various professionals on the team and of their interdependence. Lack of understanding, respect or appreciation of the contribution of other professionals thus constitutes a very real barrier to collaboration between healthcare professionals (Bradford, 2009). Studies conducted among health professionals indeed demonstrate that when working well in a collaborative setting, professionals attach much importance to mutual respect (Baggs & Schmitt, 2008; D'Amour et al., 2008).

Systemic Determinants

Some projects require interventions to modify systemic determinants, such as budget allocations, professional compensation schemes or professional practice regulations, in order to fully implement an inter-professional collaboration model. Lawmakers are often the only people mandated to make such modifications. In Nova-Scotia, for instance, the provincial government agreed to modify the *Pharmacy Act* to allow nurse practitioners to write prescriptions. In other projects, where existing laws had to be satisfied the implementation of a collaborative model can remain limited. Such considerations have been particularly important in several projects dealing with collaborative practice. Three projects in particular entailed moving to a capitation scheme for funding primary care services delivery as well as physician reimbursement. The professional associations and regional agencies involved did not allow this shift, even in the limited scope of the demonstration project, and so jeopardized the capacity of the projects to reach their full potential. Here, the following macro-structural barriers were identified: professional jurisdictional factors (some regulations must be reviewed to allow more flexible professional roles); traditional resource-driven rather than objective-driven funding; and professional compensation particularly fee-for-service compensation for physicians. This latter barrier is a two-fold hindrance to collaboration, since (a) unpaid time must be allocated to the team process and (b) fee for-service systems create a potential for competition in some areas and among certain clientele. A lack of clear policies governing professional practice in physician and nurse associations or licensing bodies and other medico-legal considerations may also hinder true collaborative practice.

The Concept of Team and Teams in Organization

A team represents a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems, and who manage their relationships across organizational borders (Cohen, 2006). Sundstorm, Mense & Futrell (2007) likewise defined a team as an “interdependent collections of individuals who share responsibility for specific outcomes for their organizations”, and as “individuals who see themselves and who are seen by others as a social entity interdependent, embedded in one or more larger social systems (e.g., community, organization), and who perform tasks that affect others such as customers or coworkers” (p.25).

According to Wellins, Byham and Dixon, (2002) teams have a number of unique features including being organized around work processes (such as speeding up cycle times or customers' orders, launching a new product, or devising new compensation plans), rather than specific functions like marketing, production, or sales. Team members, they noted, tend to have cross-functional training and hence a variety of skills. Instead of doing the same thing over and over, team members do many different things and can stand in for each other, which allows individuals to be more

flexible and the team's work to be completed on time. Teams generally govern themselves and so can roam freely throughout organizational hierarchies and structures and, in some instances, select their own leaders, whom they consider more like coaches than bosses. Following their conceptualization of teams in an organization, they observe that teams are often involved in organization-wide decisions; thus, decision-making is not relegated primarily to managers who may be far removed from the product or service around which the decision is being made.

Guzzo & Dickson (2006) categorized teams based on their primary mission. Thus, the mission of the team determined the type of team. Another factor that determines the type of team is the life cycle of the team. Some teams are created for a finite or fixed period (like a space team during a time of concentrated and extensive construction), whereas others are created for unlimited periods such as the healthcare teams at the centre of this study.

Most teams use computers to mediate meetings, generate ideas, and/or make choices. Dennis and Valacich (2006), and Gallupe, Cooper, Grise, and Bastiajiutti (2006) found that teams that interacted electronically (communicating via a computer) produced more ideas during a brain-storming task than did nominal groups (groups who did not interact in this way). Furthermore, they determined that groups that communicated solely or primarily by computer had greater equality of participation (even when members were of different status levels), made more extreme or risky decisions, and engaged in more hostile or extreme communications than did groups that interacted only in face-to-face meetings.

There are a number of other findings in the literature around successful teams and team work. These include:

- The effectiveness of self-managed teams appears to depend on the nature of the workforce (for example, shared dominant values) and the nature of the organization (for example, those with a reward system inclined to reinforce the group's rather than the individuals' work) (Guzzo & Dickson, 2006, Smith & Corner, 2003).
- In terms of team building, Katzenbach & Smith, (2001), found that it is important for a team to have a clear and urgent mission even if the task or problem is not clearly definable in the beginning.
- When team collaboration is based on the technical, interpersonal, and organization skills needed for the task at hand, clear definitions of the team's rules are necessary. These rules include issues of confidentiality, attendance, the use of constructive criticism, equal opportunities to speak, focusing comments on the immediate issue, and guidelines for decision making (majority or unanimous voting).
- It is important to recognize and respond accordingly to the team's activities, depending on the stage of group development. This should include recognition of members' and the team's achievement of intermediate goals and the processing or talking out conflicts in the group.
- In light of team building in the healthcare system, Poulton (2003) defines teamwork as the interaction or relationship of two or more health professionals who work interdependently to provide care for patients. She notes that effective teamwork means that members of the team are mutually dependent and see themselves as working collaboratively for patient-centered care, benefit from working collaboratively to provide patient care, share information which may lead to shared decision-making, and know when teamwork should be used to optimize patient-centred care.
- Teams are one way of collaborating in which members share goals and are mutually accountable for providing patient care. It is important to note, however, that professionals can collaborate with others without being part of a defined team. Because collaboration is defined by the relationships and interactions that occur between co-workers (implying collective action towards a common goal), D'Amour et al (2008) point out that ultimately it is health professionals themselves who determine whether or not collaboration occurs. (Heinemann et al, 2006).
- In terms of the healthcare delivery teams in which this study is interested, teams can be divided according to: patient population, (such as geriatric teams), disease type (such as stroke teams), and disease type settings (such as primary care, hospital and long-term care) (Lemieux-Charles & McGuire, 2006).

Factors Influencing Groups and Teams Effectiveness

A number of the factors that influence the performance of groups or teams have been studied extensively. These include cohesiveness and familiarity, composition, and context. Unfortunately most of these variables have been examined separately, rather than in combination, and the influence of each appears to depend, in large part, on the situational specifics associated with each team, task, and organizational setting.

Cohesiveness and Familiarity

Specific group goals and feedback on performance increase a group's cohesiveness, which is positively linked to performance (Koch, 2008). Smith and Corner (2003) found a positive correlation between the cohesiveness of top management teams and an organization's financial performance. Cohesiveness can be a double-edged sword in that when it becomes the primary focus or driving force of the team, the opportunity for groupthink can lead to premature decisions without full consideration of a variety of alternative solutions for the task or problem (Guzzo & Dickson, 2006).

Goodman and Leyden (as cited in Espinosa, Slaughter, Kraut & Herbsleb, 2007) found that lower levels of familiarity among members were associated with lower levels of productivity. Watson, Michelson and Sharp (2007) reported a similar relationship between effective decision making and familiarity. It thus appears that teams composed of members who are familiar with each other are more effective than teams composed of strangers (Guzzo & Dickson, 2006).

Diversity is also a fundamental feature of organizations, and the effect of the diversity of membership on the performance of teams has been studied extensively. Sessa, Jackson and Rapini (2005) suggest that there are two different perspectives and consequences of diversity for organizations in general, and teams in particular. According to the horizontal perspective of diversity, different types of diversity (such as age, gender, ethnicity, and race) yield about equal performance outcomes. Therefore, one type of diversity is as good as any other, and thus as long as a team is diverse it is assumed that the type of diversity will yield enhanced decision-making and problem-solving. In contrast, the vertical-differentiation perspective assumes that diversity serves as a marker for assigning members to positions in an asymmetrical power hierarchy (high-and low-status members). Hence, under vertical differentiation, team participation is moderated by the hierarchical relationships among members, so members' voices are not equal and team outcomes are compromised. It is important in negating these effects that team leaders always promote the principle that team members are different yet similar in their commitment so as to focus on members' performance, positive intent, and regard for each other and the organization. In most organizations around the world, both the horizontal and vertical perspectives and consequences of diversity are in operation (Watson, Kumar & Michelson, 2005).

Composition

This category includes variables that relate to how teams should be staffed. According to Koch (2008) consideration should here be given to the ability and personality of team members, allocating roles and diversity, the size of the team, member flexibility, and members' preference for teamwork (Koch, 2008). In terms of members' abilities, a team requires three different types of skills to perform effectively. First, it needs people with technical expertise. Second, it needs people with problem-solving and decision-making skills to be able to identify problems, generate alternatives, evaluate those alternatives, and make competent choices. Finally, teams need people with good listening, feedback, conflict resolution, and other interpersonal skills (Koch, 2008) No team can achieve its performance potential without all three types of skills and the right mix is crucial. Too much of one at the expense of others will result in lower team performance. At the same time, teams don't need to have all of these skills in place initially. It's not uncommon for one or more members to take responsibility for learning the skills in which the group is deficient, thereby allowing the team to reach its full potential (Weick, 2006).

Context

The three contextual factors that appear to be most significantly related to team performance are the presence of adequate resources, effective leadership, and a performance evaluation and reward system oriented to team contributions (Hackman, 2002). Work teams are part of a larger organization system. As such, all work teams rely on

resources outside the group. A scarcity of resources directly reduces the ability of the team to perform its job effectively. As one set of researchers concluded, after looking at thirteen factors potentially related to group performance, perhaps one of the most important characteristics of an effective work group is the support the group receives from the organization. This support includes timely information, adequate technology staff, encouragement, and administrative assistance. Teams must receive the necessary support from management and the larger organization if they are going to succeed in achieving their goals (Hackman, 2002; Robins, 2005).

Process Variables

Process variables are another factor related to team effectiveness. Process variables include member commitment to a common purpose, establishment of specific team goals, team efficacy, a managed level of conflict, and the reduction of social loafing. An effective team has a common and meaningful purpose or vision that provides direction, momentum, and commitment for members. The vision or purpose is broader than specific goals. Members of successful teams put a tremendous amount of time and effort into discussing, shaping, and agreeing on a purpose that belongs to them both collectively and individually. This common purpose, when accepted by the team, becomes the equivalent of what celestial navigation is to a ship captain. It provides direction and guidance under any and all conditions (Robins, 2005).

Successful teams further translate their common purpose into specific, measurable, and realistic performance goals. Goals lead individuals to higher performance and energize teams. Specific goals also facilitate clear communication and help teams to maintain a focus on results. Consistent with the research on individual goals, team goals should be challenging. Difficult goals have been found to raise team performance around those criteria for which they are set. Goals for quantity, for example, tend to raise quantity, goals for speed tend to raise speed, goals for accuracy raise accuracy, and so on (Hackman, 2002; Iyang, 2008).

The Healthcare System in Rivers State: An Overview

The term healthcare system encompasses the personnel, institutions, commodities, information, financing and governance strategies that support the delivery of health prevention and treatment services. The main objectives of the system are to respond to patient needs and expectations by providing services in a fair and equitable manner (WHO, 2006). Furthermore, a well-functioning health system is pivotal to achieving the Millennium Development Goals (MDGs) by 2015. (United Nations, UNMDGs, cited in HERFON, 2006).

Presently in Rivers State, healthcare services are delivered through the State Ministry of Health (RSMOH), the State Hospitals Management Board (RSHMB) and Local Governments. The RSMOH is responsible for formulating health policies, plans and programmes, advising government on the health of mothers, training health personnel, supervising the Hospital Management Board, implementing National Health Programmes, coordinating and supervising private health institutions, and liaising with health-oriented NGOs and international development agencies. These numerous RSMOH responsibilities are achieved through three main levels of care. Primary healthcare (PHC) involves the provision of general preventive, curative, promotive and rehabilitative health services to the population. The provision of care at this level is largely the responsibility of Local Governments with the active support of the RSMOH. Secondary healthcare includes specialized services to patients referred from the PHC level as well as out-patient and in-patient services for general medical, surgical, pediatric, obstetric and gynecological care. This secondary level also supervises healthcare activities in the peripheral units and provides supportive services such as: laboratory and diagnostic services, blood banks, rehabilitation and physiotherapy. All services at this level of healthcare are provided by healthcare personnel deployed to general/cottage hospitals located in various Local Government Areas. Tertiary healthcare provides highly specialized services, care for specific disease conditions, and is engaged in research and training of health personnel.

The RSHMB, amongst others, is responsible for the administration and management of the hospitals under their jurisdiction and for ensuring that standard national guidelines for hospitals are adhered to. Local Government responsibilities for healthcare, with the support of the RSMOH, include community oriented health related services, the provision and maintenance of health infrastructure, and workforce development for primary healthcare.

Current Situation of Secondary Healthcare Facilities in Rivers State

As mentioned, secondary healthcare services are provided in general/cottage hospitals. In Rivers State there are 38 such hospitals including both functional and non-functional hospitals with two specialist hospitals (Neuro-psychiatric

Hospital, Rumuigbo and Dental and Maxillo-Facial Hospital, Port Harcourt). While some Local Government Areas have two or three General Hospitals, three (Tai, Oyigbo and Obio-Akpor) have none.

The Rivers State Health Policy Document on Achieving Sustainable Development through Health (2008) reports that most of the hospitals in the state are dilapidated and lack adequate human and material resources to fulfill their expected role in the health system. Most of these hospitals have lost the confidence of the community in which they operate and some are critically under-utilized. Contemporary health policy aims to reverse present trends and to enable secondary healthcare facilities to fulfill their roles in the health system.

Roles and Responsibilities of Selected Healthcare Professionals

There are a range of individuals who act as members of an inter-professional healthcare team in a secondary healthcare facility. They tend to be the core health professionals and include:

The Medical Doctor

Medical doctors, as a group, make decisions concerning the explicit goals of the organization, that is, about the diagnosis and treatment of patients (Atemie and Okaba, cited in Onyekwere, 2004). A qualified medical doctor is a person who has undergone five to six years of professional training in a College of Medicine at a University as stipulated by the Medical Council. Upon graduation, doctors begin a one-year internship in a Medical Council-approved hospital. During the internship, doctors have provisional accreditation with the Medical and Dental Council of Nigeria. They are thus expected to reinforce the appropriate moral and technical attitudes and skills so that they can work alone without supervision. Upon completion, doctors apply for full registration with the Council and attach a properly signed internship form to demonstrate completion before entering for National Youth Service Corp (NYSC).

Regardless of the specialty or area of health services a doctor will eventually work in, all doctors have very similar undergraduate training. To a large extent, this training concentrates on providing students with the basic scientific knowledge and clinical experience needed to quickly and accurately diagnose and treat conditions. As Tucketts (2005) states that “the profession has become the legitimator of illness “as the doctor has the right to certify someone sick of a particular disease or illness”.

The Registered Nurse/Midwife

The registered nurse/midwife is an individual trained to care for the sick and to render optimum care to a pregnant woman from the period of pregnancy through delivery. His or her role on the healthcare team is unique. The nurse/midwife plays the role of the manger in the ward by ensuring that there is a caring atmosphere in which all patients receive a high level of care. Though the physician prescribes the medical or surgical treatment for a patient, the nurse makes her own nursing diagnosis. Based on her knowledge of nursing process and expertise, she develops a care-plan. She/he is always in charge of the ward and the figurehead to whom everyone turns to with the expectation that she/he will be able to produce the answers to their many queries. A research project by Pembery (2001) shows that the head nurse can expect to be interrupted, on average, every six minutes. This unique ward-charge role obliges him/her to be both versatile and adaptable and to know how to cope with all situations and/or where to turn to for advice and guidance.

Davies (2002) notes that nurse practitioners have trained to act as surrogate physicians acquiring skills of diagnosis, investigation and treatment of common ailments. He further highlights that the experience of the nurse practitioner in USA has shown that the nurse can be as effective as a doctor in making initial assessments of patients, diagnosing and treating certain acute illness and supervising chronic disease care and therapy (e.g. hypertension). Nurse practitioner training involves a five year degree at a University for a Bachelor Degree in Nursing Science or three years of full time training in a Council-approved nursing school for a Certificate in Nursing as a Registered Nurse. An eighteen (18) month course in a Council-approved midwifery school is required for a Certificate as registered midwife. Acquisition of either or both certificates qualifies the candidate to enter into the licensing procedures authorized by the Nursing and Midwifery Council of Nigeria to fully practice as a professional nurse or midwife or both.

The Clinical Laboratory Scientist

Clinical laboratory services form an integral part of overall health services and have as part of their objectives, the provision of results that are reliable, timely and interpretable. According to Ojule (2004), without reliable laboratory support: (1) patients are less likely to receive the best possible care, (2) resistance to essential drugs will continue to spread, (3) the source of diseases may not be identified correctly, (4) the spread of major communicable diseases will not be checked reliably, and (5) valuable financial and human resources may be diverted to ineffective treatment and control measures.

The clinical laboratory scientist is involved in the production of a clinical laboratory result. To produce a laboratory result, a specimen must be obtained by the scientist or other member of the team. He/she then analyses the specimen in the laboratory and the result is transmitted to the doctor. An error at any point during acquisition, processing, analysis and reporting of the laboratory test can invalidate the quality of the analysis and cause the laboratory to fall short of its objectives. To avoid this and ensure that the laboratory performs effectively, there are guidelines that ensure that every step from the acquisition of the sample to the reporting of the result is carried out in accordance with prescribed procedures.

A clinical laboratory scientist usually has a five year Bachelor Degree with a Major in Medical Technology. A clinical laboratory technician has either an Associate's Degree or a Certificate of three to four years of training. As mentioned, laboratory scientists and technicians play a crucial role in the detection, diagnosis and treatment of diseases. The complexity of tests performed, the level of judgment needed, and the amount of responsibility assumed depends largely on the education and experience of the scientist/technician.

The Pharmacist

The pharmacist is an expert in the field of medicinal products. The former president of the Pharmaceutical Society of Nigeria, Akinkugbe, (as cited in Onyekwere, 2004) stated that the pharmacist has detailed knowledge of all aspects of medicines including formation, side effects, and possible interactions. He or she is thus an important link in the process leading to a decision on the choice of medication for a patient. Once the decision of the physician has been made, there is need for a team approach between the pharmacist and the nursing staff. This co-operation helps to ensure that no doubt exists in the minds of those who will administer the medication about the proper dosage, time of administration, and any precautions to be taken in its use.

Akinkugbe buttressed the point that for too long, the pharmacist in Nigeria was isolated in what was called "the hospital dispensary". Over time, other health professionals such as the physician and the nurse realized that they could discuss any problem with the pharmacist at ward level. This helped in the establishment of the pharmacy department as the recognized source of information about medical products in the hospital. The pharmacist is given special responsibility for the organization of an efficient information service part of which involves liaising with colleagues in the pharmaceutical industries who have intimate knowledge of the products marketed by their companies.

In addition to organizing efficient information, the pharmacist also plays an advisory role. He or she carries out the necessary checks on doses and possible drugs interaction of concurrently prescribed medicines. He or she also ensures that the patient is absolutely clear about the dose to be administered and is given all necessary advice or caution about the use of drugs. Akinkugbe noticed that the advisory role of the pharmacist is assuming greater and greater importance as the sophistication and potency of medicine increases and as the danger of possible side effects becomes more apparent. There is firm evidence that verbal directions given by physicians are seldom accurately remembered, and when one is dealing with potent medicines, remembering half of what one has been told can be just as dangerous as remembering nothing at all. Akinkugbe argues that this should be more clearly recognized by physicians and that physicians should depend upon their pharmacist colleagues to ensure that directions are conveyed to the patient in the much less formal atmosphere of the pharmacy. Pharmacist training consists of a five year degree course.

THEORETICAL FRAMEWORK

Tuckman's Teamwork Theory

Tuckman describes working with a team of social psychologists on behalf of the U.S. Navy. The team studied small group behaviour from several perspectives. In doing so, Tuckman reviewed fifty articles on group development and noticed that there were two features common to these small groups: the interpersonal or group structure and the task activity. From this he concluded that groups evolved into teams through four common stages.

He tried to describe them as an orientation testing phase which often led to a period characterized by a degree of conflict. This generally resolved itself, leading to a more socially cohesive phase. Finally, groups settled into a functional phase, during which they focused on role-relatedness. Tuckman coined the terms forming, storming, norming and performing to summarize these four phases (Chapman, 2009).

Tuckman's teamwork theory is illustrated in the graph below which shows the link between group relationships (the horizontal axis) and task focus (the vertical axis). The optimal or performing position is reached when relationships have developed within the group and it has started delivering with a clear focus on the task. Tuckman's ideas clearly indicate, however, that it takes time to reach the performing stage and that it is normal for teams to go through ups and downs as they develop relationships. This is particularly true in the early period, which is why Tuckman called it the storming phase.

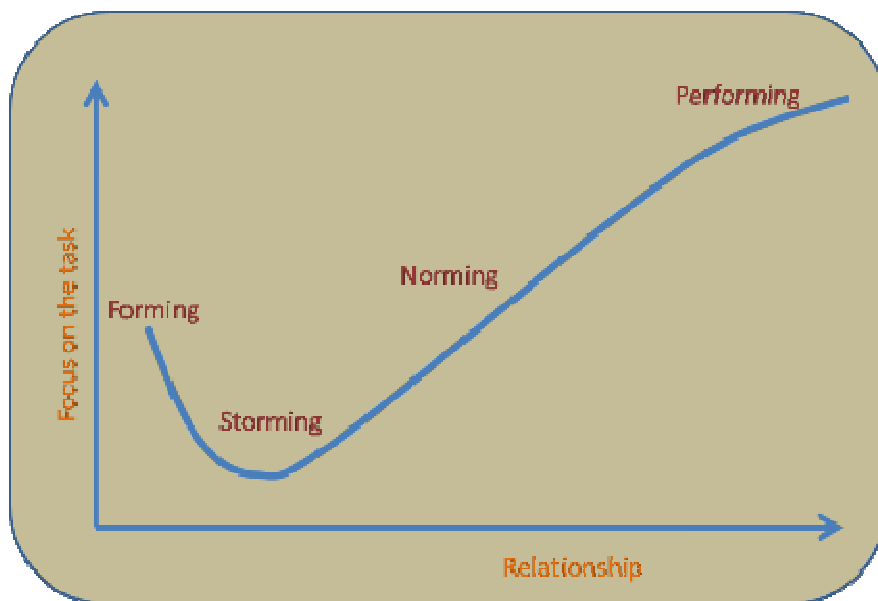


Figure 1: The Four Phases of Tuckman's Teamwork Theory

Forming: This is the initial stage of team development during which individuals have not yet gelled, everybody is finding their place in the team, sizing each other up, and asking themselves why they are there.

Storming: In this second stage, people begin to see themselves as part of a team. At this stage they may challenge each other and the team leader about such things as what the team is doing, and how things should be done. As the stage title suggests, conflict and confrontation typify this stage, as differences surface. This may result in some loss of performance or focus on the task, as the diagram illustrates.

Norming: This is the phase where team members start to come together, develop processes, establish ground rules, and clarify who does what, and how things will be done. This phase is characterized by a growing sense of "togetherness".

Performing: This is the final stage where increased focus on both the task and on team relationships, combines to produce synergy. Performance is delivered by people working effectively together.

The relevance of Tuckman's model to this study of inter-professional collaborative practice for better patient care and encouraging teambuilding in healthcare lies in its capacity to help us understand how teams evolve. It also gives us some insight into understanding how teams encounter different problems at different stages of their development. Nonetheless there are limitations to the model. Firstly, it makes team building appear too linear and sequential. Secondly, it does not help in determining how one should lead at the different stages of team development. Lastly, outside influence or factors are not taken into consideration in the model. Although it remains a useful analytical tool, it is important to remember that some teams may "loop" around in their development as not all teams evolve smoothly through Tuckman's stages but may struggle between norming and storming, for example, until they either begin to function, or are disbanded.

HYPOTHESES

The research hypotheses in this study are drawn from the dimensions of the predictor variable and measures of the criterion variable. The predictor variable in the study is inter-professional collaboration, which has the following dimensions: degree of trust, degree of professional diversity, and degree of professional interdependence. The criterion variable is work efficiency in healthcare measured by: time minimization, efficient material resource utilization, and perceived team cohesiveness. The formulated research hypotheses based on this categorization are thus:

- H₁: The more diverse the healthcare professional groups are the higher the strength of perceived team cohesiveness.
- H₂: The more diverse the healthcare professionals are in their expertise in patient care, the higher the efficient use of material resources.
- H₃: The more diverse the healthcare professional groups are the higher the minimization of time in the delivery of care to patients.
- H₄: The higher the level of inter-professional interdependency, the higher the strength of perceived team cohesiveness in patient care.
- H₅: The higher the degree of perceived mutual trust amongst diverse professional groups in a collaborative work setting, the higher the level of perceived team cohesiveness.
- H₆: The higher the degree of perceived mutual trust amongst diverse healthcare professionals in a collaborative practice, the higher the minimization of time spent in the delivery of care.
- H₇: The higher the degree of professional interdependency the higher the level of patient satisfaction with respect to patient access to care and attention.

METHOD

Research Design

The research design of this study was correlational and aimed to determine the association between the study variables (selected indices of collaboration and efficiency in healthcare in the secondary healthcare delivery system). A correlational design was chosen because it determines the relationship between two or more variables and normally indicates the direction and magnitude of the relationship (if any).

This study was carried out in twenty Local Government Areas in Rivers State that have General/Cottage Hospitals. Both up land and riverine parts of the state were covered. The remaining three Local Government Areas that were not covered do not have general hospitals but rather health centres. Thirty-five secondary healthcare facilities exist in these LGAs, but as was discovered, only twenty-one are actually functional with almost all categories of healthcare professionals and other groups of workers.

The general hospitals manage all kinds of illnesses depending on their facilities and healthcare professionals. Thus, medical, surgical, obstetric/gynecological, and orthopedic cases visit the General hospitals. Referred cases from the primary healthcare delivery system (i.e. health centres) are taken and managed as well. Cases the hospitals are unable to manage are referred to tertiary healthcare facilities (teaching hospitals) for further and expert management.

Population of the Study

The study population consisted of core healthcare professional groups in general/cottage hospitals in Rivers State. Records made available at the Rivers State Hospital Management Board shows that each Local Government Area in the State has at least one general hospital with the exception of three, the Obio/Akpor, Tai and Oyigbo LGAs. In all, there are thirty-five functional and non-functional general/cottage hospitals. Seven health professional groups were included (medical doctors, registered nurses/midwives, pharmacists/technicians, medical laboratory technologists/technicians, radiologist/radiographers, physiotherapists and medical social workers). Twenty-one (21) functional hospitals with 147 healthcare professional groups were considered as the unit of analysis for the study. Two hundred and ten (210) patients that visited the hospitals during the period of field work were included in the population.

Table 1: Functional General Hospitals Used in the Study

S/N	HOSPITAL	LGA	SENATORIAL DISTRICT
1.	General Hospital Isiokpo, Isiokpo	Ikwerre Kelga	Rivers South East
2.	General Hospital Ubima	Ikwerre Kelga	Rivers South East
3.	General Hospital Elele Alimini	Emohua Emolga	Rivers South East
4.	General Hospital Emohua	Emohua Emolga	Rivers South East
5.	General Hospital Okehi	Etche	Rivers South East
6.	General Hospital Eberi	Omuma	Rivers South East
7.	General Hospital Okirika	Okirika	Rivers South East
8.	General Hospital Ogu	Ogu/bolo	Rivers South East
9.	Braithwaite Memorial Hospital P.H.	Phalga	Rivers South East
10.	General Hospital Omoku	Onelga	Rivers West
11.	General Hospital Ahoada	Ahoada West	Rivers West
12.	General Hospital Abua	Abua/Odual	Rivers West
13.	General Hospital Buguma	Asalga	Rivers West
14.	General Hospital Abonnema	Akulga	Rivers West
15.	General Hospital Joinkrama	Ahoada West	Rivers West
16.	General Hospital Edagberi	Ahoada West	Rivers West
17.	General Hospital Bori	Khana	Rivers East
18.	General Hospital Bodo	Gokana	Rivers East
19.	General Hospital Nchia Eleme	Eleme	Rivers East
20.	General Hospital Opobo	Opobo/Nkoro	Rivers East
21.	General Hospital Bonny	Bonny	Rivers East

Sample and Sampling Technique

A purposive sampling method was used to choose twenty-one functional general/cottage hospitals out of a total of thirty-five in the Local Government Areas of Rivers State. Across these twenty-one hospitals, 147 healthcare teams were identified and studied. This complies with Zikmund's (2003) contention that a researcher studies the whole population when the number of units is sizeable or small enough for him or her to handle. An accidental sampling technique, on the other hand, was used to administer the patient satisfaction survey form to 210 patients.

Data Collection Techniques

The main data collection device for this study was a research questionnaire. This was supported by a structured patient satisfaction survey form. These tools were preferred in this study because of the choice of the survey research design. Relevant and available secondary (documentary) data available to the researcher were also used.

The adoption of the questionnaire as the major data collection method, and the supportive survey form, introduced into the study the need for and implications of social sciences quantitative data analysis (Ahiazu, 2006 and Smith & corner, 2003). This approach is, in turn, rooted in the philosophical traditions of positivism and idealism.

Research Instrument

Two instruments were used for this study. They included the Teamwork Assessment (perception) Scale and Patient Satisfaction Survey Form. Both were developed by the researchers to assess the following dimensions of collaborative practice: professional diversity, mutual trust and interdependence, all in relation to efficiency in healthcare with its measures as material resource utilization, time minimization, team cohesiveness and patient satisfaction.

The first instrument consisted of three sections: A, B and C. Section A was designed to elicit personal information from the respondents such as name and location of hospital, years of service and professional category. Section B which contained ten (10) statement items was designed to collect information on dimensions so as to ascertain perceived collaborative practice among the healthcare professionals. Section C contained nine (9) statement items meant to elicit information from the respondents on measures of work efficiency in the secondary healthcare system. In total, the instrument contained twenty four (24) items. These items were responded to on a five-point Likert-type scale of strongly agree (SA), agree (A), undecided (U), disagree (D) and strongly disagree (SD).

The second instrument, the patient satisfaction survey form, was developed to assess how satisfied patients were with the services of the healthcare teams in the various hospitals. It was designed to elicit information about the nature of the services provided by healthcare teams including politeness and sympathy, time spent waiting to be attended to, availability of prescribed drugs, etc. There were eight (8) items on the survey form that were responded to on a five-point Likert-type scale of very satisfied (VS), satisfied (S), average (A), somewhat dissatisfied (SD) and very dissatisfied (VD).

Validity and Reliability Test

This study adopted the Crombach alpha test (.824) to determine the validity and the reliability of the research instrument. Zikmund (2003) contends that construct validity is established by the degree to which the measure confirms a network of related hypotheses generated from a theory based on the concepts. In construct validity, the empirical evidence is consistent with the theoretical logic about the concepts. This occurred in the analysis of the data. In its simplest form, the instruments measured what they were supposed to measure, in a pattern of intercorrelation with a variety of other variables (Sonquist and Dunkelburg, 1977). Professional colleagues and expert opinions subsequently enhanced the intended (face) validity of the measurement instruments.

Data Analysis Techniques

Data analysis involves the presentation of data in an understandable form. In this study, data was organized in frequency tables and percentages to show pattern of responses to each of the independent and dependent variables under investigation. Figures were also used to create visual impressions of the data. Mean and standard deviation were used to describe the distribution of scores as were other necessary descriptive measures which preceded the testing of formulated null hypotheses. Considering the aim of the study, and its causal nature, this study adopted Spearman's rank order correlation coefficient to test the bivariate hypotheses. The actual operation of these analyses and statistical models was done using the Statistical Package for the Social Sciences (SPSS).

RESULTS

Data Cleaning

As shown in Table 2, 147 copies of the questionnaire were distributed and 138 (94%) were retrieved. These 138 were then subjected to a data cleaning exercise. The data cleaning process involves checking the responses on every item on the questionnaire for conformity. This screening was done to avoid using questionnaires with double entries on response options, unanswered questions, unidentified respondents and copies of the questionnaire with mutilated pages. After a thorough examination, fifteen copies of the questionnaire were screened out and 123 were retained for analysis.

Table 2: Questionnaire Response Rate & Data Cleaning

Professional Categories of Respondents	Number Distributed	Number Retrieved	Usable (%) Copies
Medical Doctors	28	28	25
Nurse midwives	31	29	27
Pharmacists/Technicians	31	31	29
Radiologists/Radiographers	11	9	7
Physiotherapists	10	8	6
Lab. Scientists/Technicians	30	29	27
Medical Social Workers	6	4	2
Total	147(100%)	138 (94%)	123 (89%)

Descriptive Analysis

The demographic section of the data analysis helped to identify and categorize the respondent based on years of service and professional category.

Table 3: Professional Category of Respondents

P

PROFESSIONAL CATEGORY OF RESPONDENTS		Frequency	Percent	Cumulative Percent
Valid	MEDICAL DOCTOR	25	20.3	20.3
	NURSE/MIDWIFE	27	22.0	42.3
	PHARMACIST/TECHNICIAN	29	23.6	65.9
	RADIOLOGIST/ RADIOGRAPHER	7	5.7	71.5
	PHYSIOTHERAPIST	6	4.9	76.4
	LAB. SCIENTIST/TECHNICIAN	27	22.0	98.4
	MEDICAL SOCIAL WORKER	2	1.6	100.0
	Total	123	100.0	

As shown in Table 3 and Figure 2 (below), medical doctors represent 20.3% of the 123 respondents; nurse midwives represent 22.0%; pharmacists represent 23.6%, radiologists represent 5.7%, physiotherapists represent 4.9%, lab Scientists represent 22.0%, and medical social workers represent 1.6%. Respondents thus came from different professional groups to make-up the healthcare teams and contribute their various professional skills to the management of patient care. The table also reveals, however, that some professional groups do not exist in some hospitals, hence the inadequate composition of some healthcare teams which may affect the delivery of services and achievement of team goals. This observation warrants a serious concern for healthcare managers should the secondary healthcare system aspire to provide quality healthcare services to all patients.

Figure 2: Bar Chart on Professional Category of Respondents

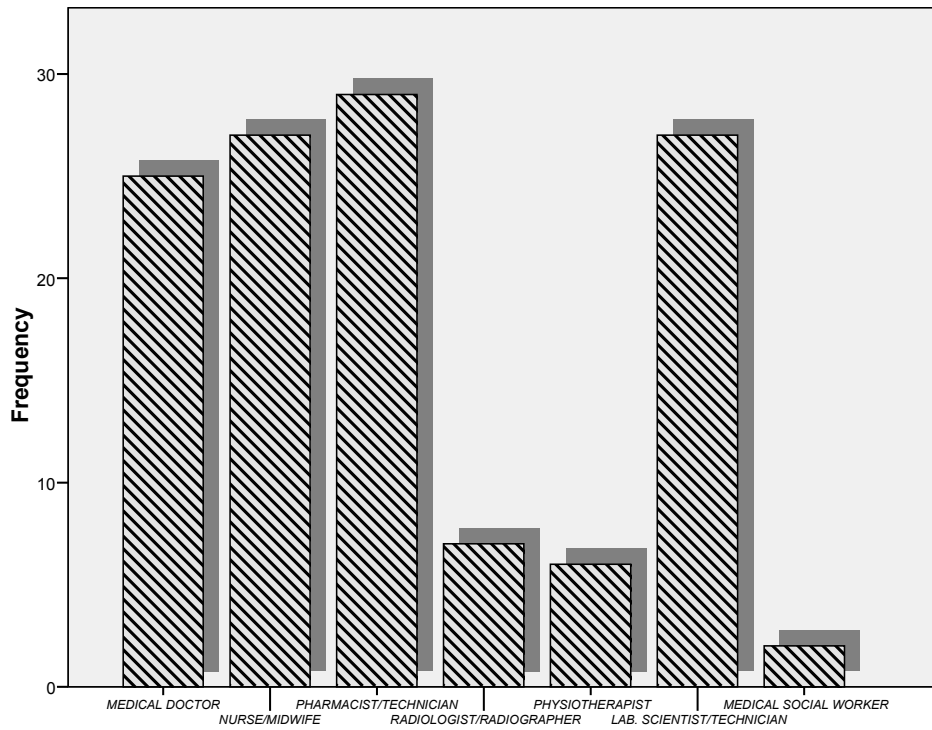


Table 4: Respondents' Years of Service

RESPONDENTS' YEARS OF SERVICE

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid LESS THAN 1 YEAR	1	.8	.8	.8
1-3 YEARS	5	4.1	4.1	4.9
4-6 YEARS	12	9.8	9.8	14.6
7-9 YEARS	25	20.3	20.3	35.0
10 YEARS AND ABOVE	80	65.0	65.0	100.0
Total	123	100.0	100.0	

Figure 3: Bar Chart on Respondents' Years of Service

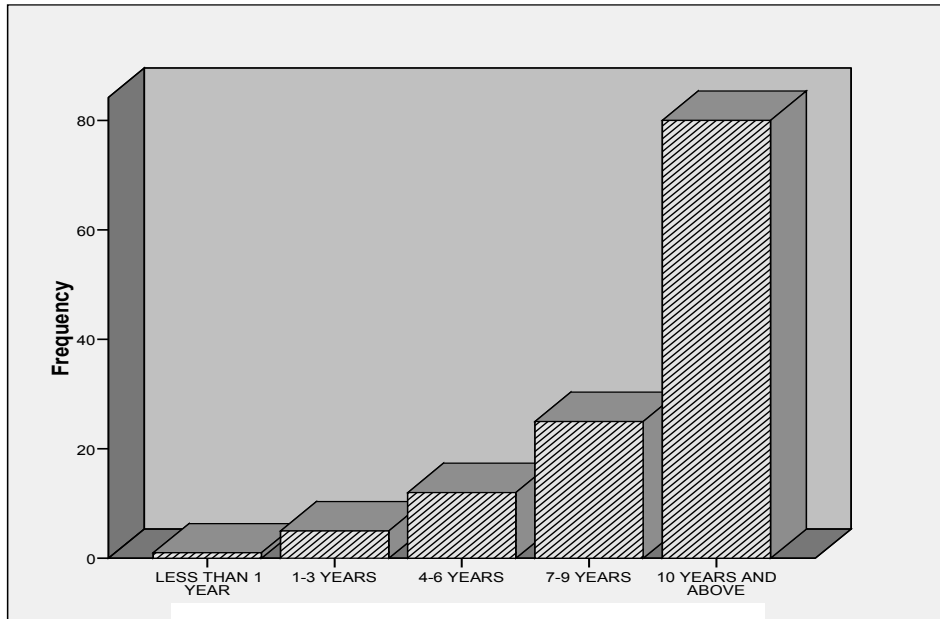


Table 4 and Figure 3 indicate respondents' years of service. Of the 123 respondents, 1 representing 0.8% has less than one year of service; 5 representing 4.1% have between 1 and 3 years of service; 12 representing 9.8% have between 4 and 12 years of service; 25 have between 7 and 9 years of service; and 80 respondents have 10 or more years of service. These results imply that the great majority of respondents have been in service for a very long time and have had significant experience working other professionals in the healthcare industry.

Univariate Analysis of Study Variables

This study involved two major variables: inter-professional team work – the predictor variable, and work efficiency in healthcare – the criterion variable. The dimensions of inter-professional collaboration considered in this study are professional diversity, professional interdependence, mutual trust. The measures of healthcare work efficiency are: material resource utilization, time minimization, level of team cohesiveness and patient satisfaction. In this section, univariate analysis of these dimensions and measures of the predictor and criterion variables is performed using descriptive statistics. Frequency distribution tables, showing the frequency of observation and analysis of responses to the variables using mean and standard deviation tools, are presented.

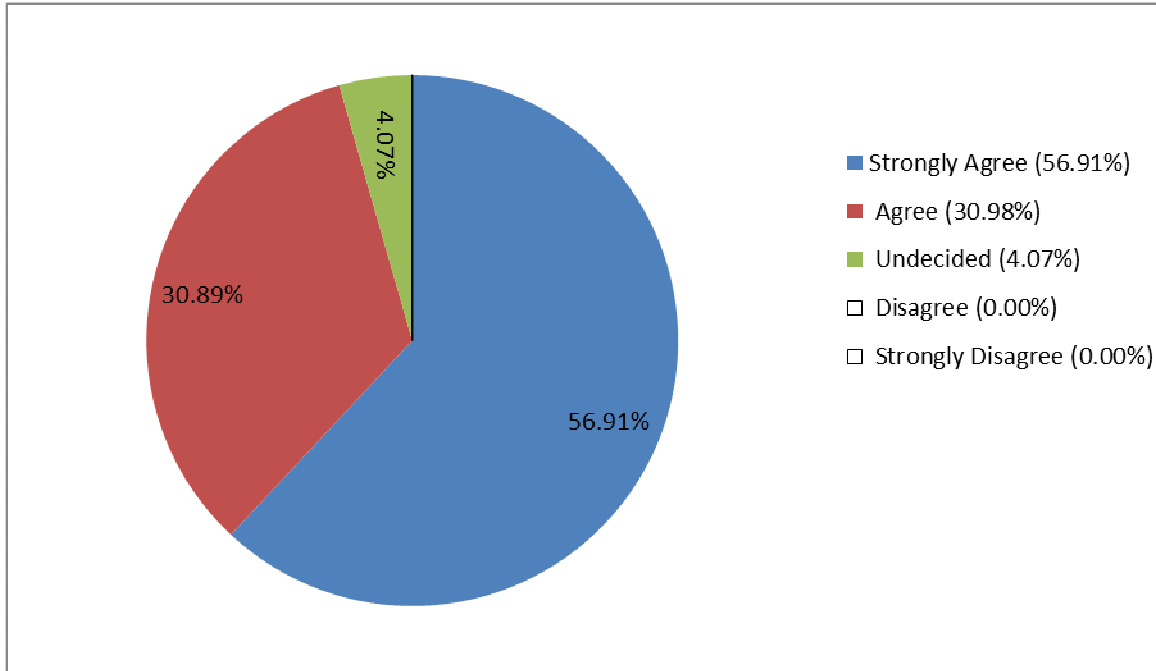
Table 5: Descriptive Analysis of Professional Diversity

Descriptive Statistics

	N	Sum	Mean	Std. Deviation
My profession is quite different from those of my team members	123	462	3.76	1.270
Other team members can do my bit of professional requirement in our teamwork	123	419	3.41	1.536
The skills of team members in a healthcare team are overlapping	123	420	3.41	1.454
Valid N (listwise)	123			

Table 5 shows the sum of the scores for the three statement items above as 462, 419 and 420 respectively with corresponding mean scores of 3.76, 3.41 and 3.41. The respective standard deviations are 1.270, 1.536, and 1.454. Respondents agreed with the statement item: ‘my profession is quite different from those of my team member’ with a mean score of 3.76. Surprisingly, they also tended to agree with the statement items ‘other team members can do my bit of professional requirement’ and ‘the skills of team members in a healthcare team are overlapping’ with mean scores of 3.41 and 3.41 respectively which are above the criterion mean cut-off point of 3.0 of acceptance. This implies that although the professions are distinct from each other, the professionals have some sense of the jobs of the others. This of course, makes room for the detection and correction of mistakes and in some situations allows team members to stand in for each other. These types of understandings are an essential part of teamwork.

Figure 4: Pie Chart Showing Percentage Responses for Professional Diversity



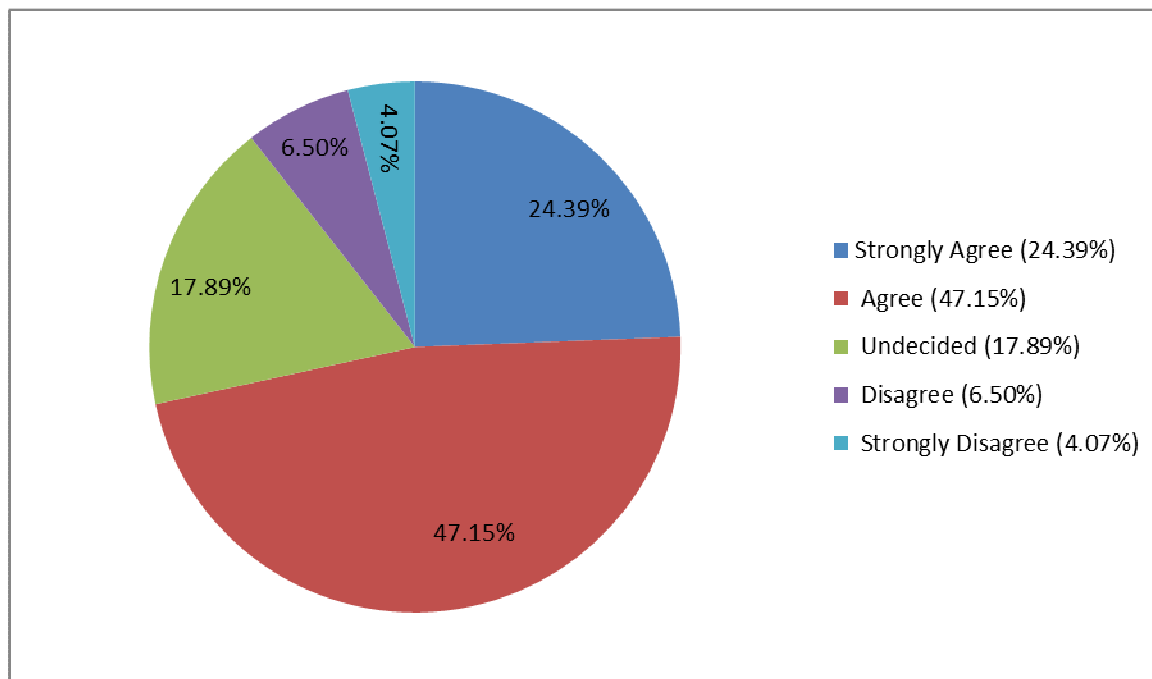
Results as displayed in Figure 4 indicate that the majority of respondents agreed (strongly agree, 56.91% and agree, 30.98%) with the item statements intended to elicit information on their perception of the diversity of professional skills and functions. A very low aggregate percentage of respondents (4.07%) were undecided.

Table 6: Descriptive Analysis of Professional Interdependence

Descriptive Statistics				
	N	Sum	Mean	Std. Deviation
I largely depend on the report/work of other professionals in the team to effectively carry out my own functions	123	455	3.70	1.342
It is possible that one professional group can carryout the functions required in a healthcare service	123	242	1.97	1.221
There is no professional skill that is inevitable in the delivery of a healthcare service	123	399	3.24	1.528
Valid N (listwise)	123			

As shown in Table 6, the aggregate response frequencies on the three statement items are: 455, 242 and 399, with mean scores of 3.70, 1.97, and 3.24 and standard deviations of 1.342, 1.221 and 1.528 respectively. The high mean score of 3.70 revealed that the different professional groups largely depend on the reports/work of others to work effectively. This is confirmed by the very low mean score of 1.97, far less than the criterion mean cut-off of 3.0, for those disagreeing with statement that, ‘it is possible that one professional group can carry out the functions/services required in a healthcare delivery system’. Respondents also agreed with the statement that, ‘there is no professional skill that is inevitable in the delivery of a healthcare service’ implying a higher degree of interdependence among healthcare professionals in turn influencing work efficiency.

Figure 5: Pie Chart Showing the Percentage Responses on Professional Interdependence



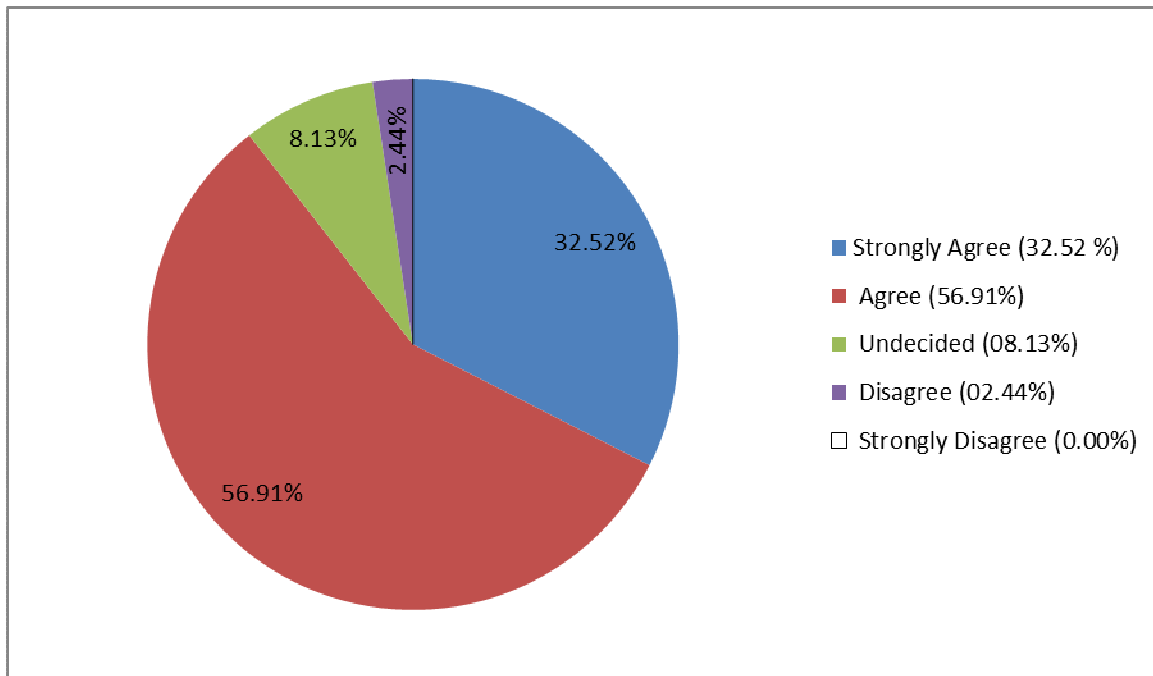
Based on the percentages shown in the above figure on the level of interdependence among the diverse professional groups in the healthcare system, it is evident that team players depend on each other to effectively meet the demands of their patients. The aggregate percentage scores of 4.07% for “strongly disagree” and 17.89% for “undecided” is, however, quite striking. This may have arisen from responses to the item statement in Table 6 – there is no professional skill that is inevitable in the delivery of healthcare services. Though the aggregate mean score is high (3.24), the dispersion is great suggesting that the degree of interdependence reflected by the mean is not common to all the respondents in the teams studied.

Table 7: Descriptive Analysis of Mutual Trust

Descriptive Statistics				
	N	Sum	Mean	Std. Deviation
I have confidence in the reports/work of other professional team members in the performance of my job in healthcare service delivering	123	509	4.14	1.011
Other professional members in my team rely on my professional input in the discharge of healthcare service in our hospital	123	533	4.33	.893
My team members communicate openly and authentically with one another and different points of view are encouraged	123	531	4.32	.871
Valid N (listwise)	123			

In terms of the items intended to elicit information on the degree of mutual trust among members for work efficiency, Table 7 (above) shows aggregated response frequencies of 509, 533 and 531, and mean scores of 4.14, 4.33 and 4.32, with corresponding standard deviations of 1.011, .893 and .871. The majority of respondents accepted that ‘they have confidence in the reports/works of other members in the team to perform their job’ with high mean scores of 4.14 and 4.33 respectively. Respondents also agreed that communication is open and members encourage different points of view as revealed by a high mean score of 4.32. This, in turn, indicates a high level of mutual trust and confidence among health professionals. A climate of openness and trust fosters collaborative attitudes between professionals (Evans, 2008).

Figure 6: Pie Chart Showing Percentage Responses on Mutual Trust



As shown in the above figure, the vast majority of respondents perceived the existence of mutual trust among them given the agreement options of Agree (56.91%) and (Strongly Agree) 32.52%. A very low percentage of respondents (2.44%) disagreed with the statements and 8.13% were indifferent. While there are thus differences in feelings about the perceived mutual trust, the relatively low corresponding standard deviations for the mean scores of the item statements, of course almost identical in Table 7, prove the existence of high levels of trust in the system.

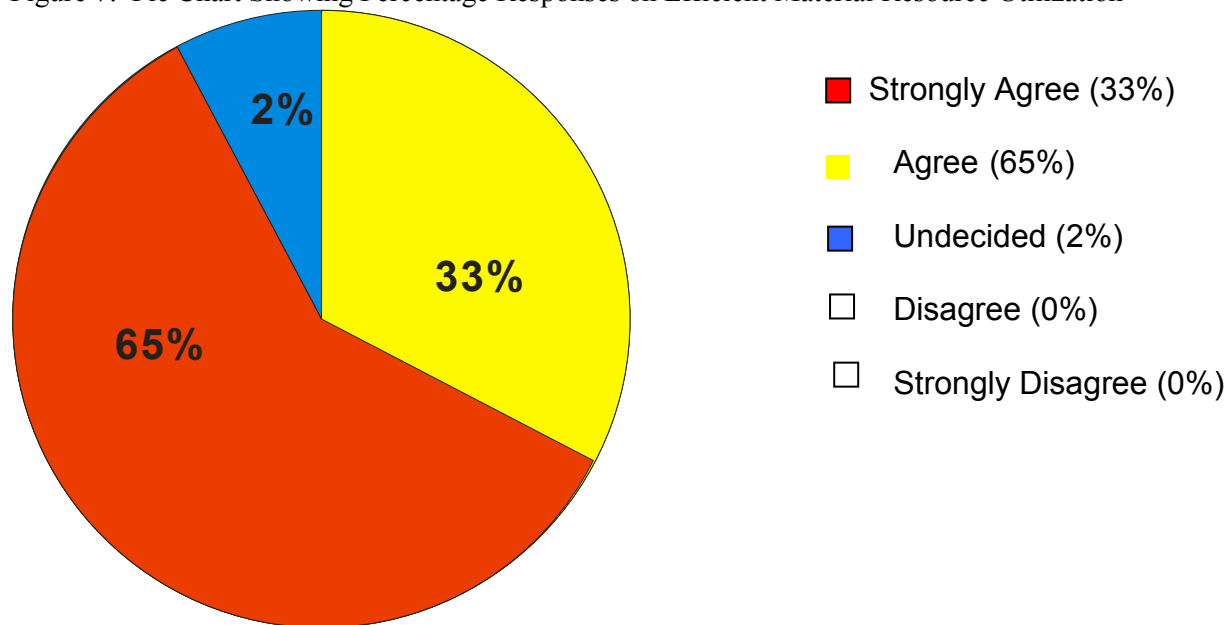
Table 8: Descriptive Analysis of Material Resource Utilization

Descriptive Statistics				
	N	Sum	Mean	Std. Deviation
Available healthcare material resources are adequately deployed to the hospital for our healthcare service delivery	123	347	2.82	1.355
Our healthcare delivery team has experienced adequate use of available material resources	123	472	3.84	1.217
Our healthcare delivery team has minimal wastage and loss of health material resources use in our operation	123	517	4.20	.923
Valid N (listwise)	123			

Table 8 shows the material utilization outcomes for the healthcare institutions included in this study. The aggregated frequencies for responses to the three items are 347, 472 and 517 points with mean scores of 2.82, 3.84, and 4.20 points and standard deviations of 1.335, 1.217 and 923 points. This suggests that the loss or wastage of work materials is minimized in hospitals given the high mean scores of 3.84 and 4.20. Nonetheless, teams struggle with the inadequate

deployment of the material resources needed to work efficiently. The response to the corresponding item has a mean score of 2.82 which is less than the criterion mean cut-off of 3.0. It is thus a rejection of the statement by the respondents. To achieve the goals of the health system, the necessary materials must be provided to the team by managers of the organizations. This supports the findings of Way et al, (2009), Siegler & Whitney, (2001) and Lemieux-Chartes & McGuire, (2006) from their field studies which demonstrated that organizational culture and structures directly and indirectly influence team outcome, and that organizations need to provide appropriate resources and tools to support the implementation and maintenance of teamwork so as to enable teams to achieve their targets or objectives (Mathieu et al, 2001). Hackman (2002) likewise noted that one of the three contextual factors that appears to be most significantly related to team performance is the presence of adequate resources.

Figure 7: Pie Chart Showing Percentage Responses on Efficient Material Resource Utilization



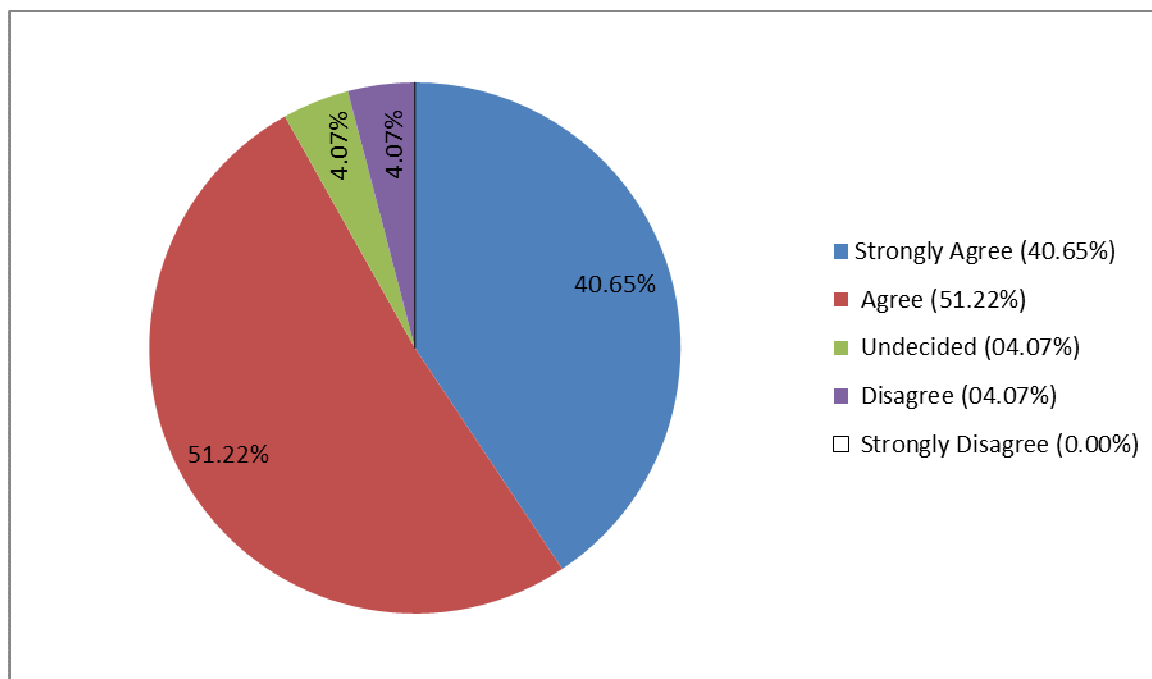
An overwhelming number of respondents agreed that available working materials are used efficiently by team members: strongly agree (33%) and agree (65%) as shown in Figure 8 (above). No respondents disagreed or strongly disagreed that team members used available resources efficiently.

Table 9: Descriptive Analysis of Time Minimization

Descriptive Statistics				
	N	Sum	Mean	Std. Deviation
There is an appreciable reduction of patients waiting time for medical attention in our healthcare institution	123	480	3.90	1.237
The expected time for the delivery of reports/response from other team's professional is appreciably minimal	123	503	4.09	1.016
On the average, there is serious improvement in patients recovery time due to attention from healthcare team members	123	536	4.36	.811
Valid N (listwise)	123			

Responses to statement items indicate a serious improvement in patient recovery time as a result of attention from team members. Table 9 (above) shows aggregate frequencies for responses to items on time minimization in the delivery of healthcare. The sums are 480, 503 and 536, while the corresponding mean scores are 3.90, 4.09, and 4.36 points, with respective standard deviations of 1.237, 1.016 and 811. The high mean scores for these statement items confirm that respondents accept the statements to be true.

Figure 8: Pie Chart Showing Percentage Responses on Time Minimization



The results presented in Figure 8 (above) show that 40.65% of respondents felt that there has been a reduction in patient wait-time for medical attention as well as a reduction in the expected delivery time for reports/responses from other team members. Table 9 confirms identical mean scores with relatively low standard deviations for the item

statements. A few of the respondents, however, were undecided (4.07%) and few did not share the positive perceptions of the majority (4.07%).

Table 10: Descriptive Analysis of Level of Team Cohesiveness

Descriptive Statistics				
	N	Sum	Mean	Std. Deviation
There is high feeling of cohesion in the delivery of healthcare service in my team, which has reflected on patients lengths of stay, depending on the condition	123	526	4.28	1.043
There is mutual consultation and understanding among professionals in the delivery of healthcare service in my hospital	123	516	4.20	.972
Essentially, tasks and responsibilities are handled by every team member with serious enthusiasm in the delivering of healthcare in hospital, which has reasonably lowered the rate of re-admission of our patients	123	520	4.23	.939
Valid N (listwise)	123			

As shown in Table 10, the aggregate response frequencies on team cohesiveness are 509, 533, and 531. The mean scores are 4.14, 4.33 and 4.32, which are all above 3.0 (the criterion mean cut-off). The respective standard deviations are 1.011, .893 and .871. These results indicate a perceived high level of team unity among healthcare professionals and a willingness to be part of a team. According to Heinemann et al (2006), group cohesion is one of the key indicators of the willingness of individuals to be part of a team.

Figure 9: Pie Chart Showing Percentage Responses on Team Cohesiveness

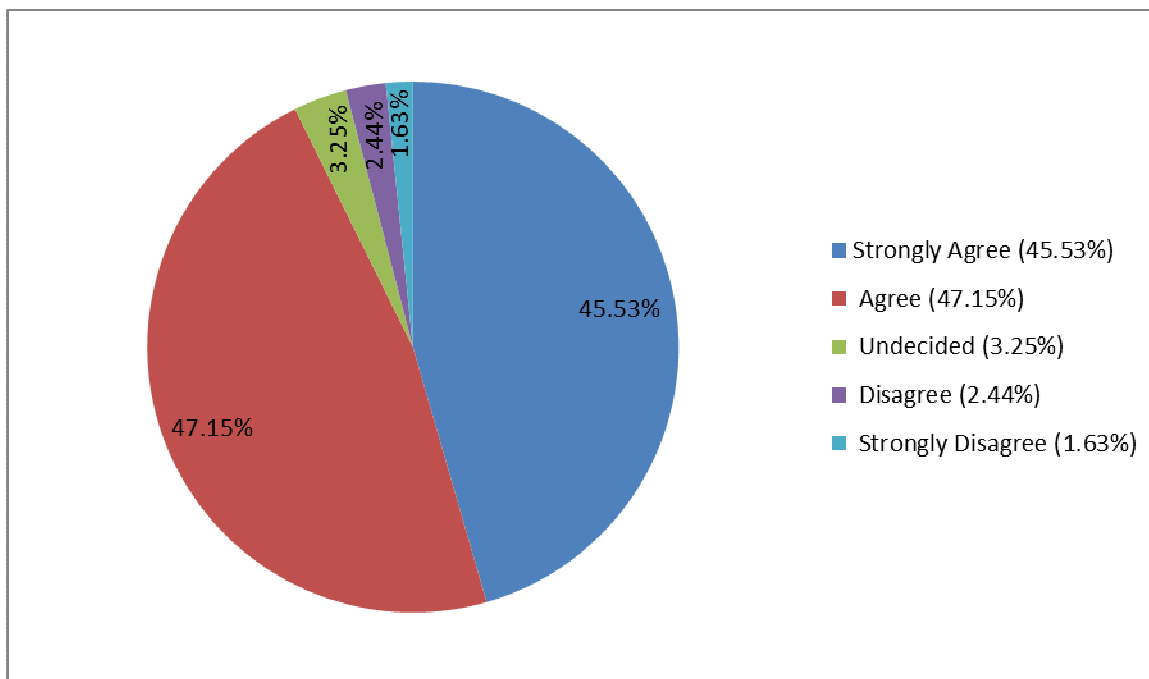


Figure 9 (above) shows an overwhelming majority of the respondents (strongly agree at 45.53% and agree at 47.15%) agree with the statement items related to the perception of team members on team cohesiveness. This is also reflected in the almost identical mean scores in Table 12 suggesting that these respondents are homogeneous as far as their high perception of team cohesiveness; that is, the professional groups have a cohesion score that is close to their group’s mean score. Some respondents, however, disagreed with the stated statements in Table 12 a while few were indifference to the statements, 2.44%, 3.25% and 1.63% respectively.

Analysis of Level of Patient’s Satisfaction

The eight (8) items on the Patients’ Satisfaction Survey Form were responded to with “Very satisfied”, “Satisfied”, “Average”, “Somewhat dissatisfied” and “Very dissatisfied”. For analysis purposes, the means of the items and the grand mean were calculated by quantifying response as “Very satisfied” = 5 points, “Satisfied” = 4 points “Average” = 3 points “Somewhat dissatisfied” = 2 points and “Very dissatisfied” = 1 point.

Table 11: Assessment of Level of Patients’ Satisfaction

ITEMS	MEAN	RESULT
1. Politeness and sympathy	3.3	Average satisfaction
2. Efficiency and professionalism	3.8	Satisfied
3. Time spent waiting to be attended to	2.8	Some what Dissatisfied
4. Availability of the healthcare personnel when needed	3.6	Satisfied
5. Availability of prescribed drugs	3.2	Somewhat dissatisfied
6. General neatness and tidiness of the wards /hospitals	3.7	Satisfied
7. Availability of running water	3.4	Average
8. Availability of electrical power	2.3	Somewhat dissatisfied

Grand mean = 3.3 which is equivalent to the response category of average satisfaction.

In the above table, the first item had a mean of 3.3 indicating that patients were averagely satisfied with healthcare personnel in terms of their display of politeness and show of sympathy. Some patients actually commented that some personnel were not polite and friendly. In the area of display of efficiency and professionalism as they attend to their

clients, respondents were satisfied with team services as the mean of 3.8 is above the grand mean of 3.3 (average). This finding is not surprising because the State Ministry of Health seeks to ensure that qualified professionals are employed in the healthcare system. The results also revealed that patients were somewhat dissatisfied (mean 2.8) with the time spent waiting to be attended to. Eleven of the respondents from Braithwaite Memorial Specialist Hospital and Bori General Hospital, for example, cited instances of waiting to be attended to by nurses before seeing doctors because of the number of patients.

Patients were satisfied (mean 3.6), however, with the availability of healthcare personnel when needed. Respondents were somewhat dissatisfied with regards to the availability of prescribed drugs. Some noted that they could hardly get all the drugs prescribed by the doctors in the hospital pharmacy. They bought what they could and had to procure the remaining drugs outside of the hospitals. Patients were satisfied with the general tidiness of the wards (mean 3.7) and averagely satisfied with the availability of running water. Some complained that the hospitals seemed to run short of water when the water pumping machine failed to work, the hospital power generating plant failed to work, or sufficient diesel wasn't available for the plant.

Respondents were somewhat dissatisfied with the regular electrical power supply or lack thereof. Most patients felt that the hospitals didn't know that PHCN light exist, rather they used generating sets to supply light whenever a doctor was operating in theatre and for a few hours at night. In fact, a few respondents suggested that government should caution PHCN officials to deny hospitals light because many patients and their relations become frightened in the night and this can worsen patient conditions. Some observed that the hospitals looked/felt like graveyards when there is no light and the majority of hospital staff have gone home for the night.

Bivariate Analysis of the Hypothesized Relationships

The null hypotheses formulated in this study were tested using Spearman's Rank Order Correlation Coefficient given as 'r' value. The Statistical Package for Social Sciences (SPSS) Software was used in the calculation of 'r'. Kerlinger and Lee (2000) as argued in Irving (2005, p-16) give guidelines for accepting or rejecting the null hypotheses as follows: (1) r-value of < 0.20 (less than) is the benchmark for accepting the null hypotheses and (2) r value of > 0.20 is the benchmark for rejecting the null hypotheses. In Ahiauzu and Asawo (2010), it is argued that r-value of > 0.20 (greater than) is a benchmark for accepting the alternate hypotheses and r-value of < 0.20 is the benchmark for rejecting the alternate hypotheses.

Guildford's (1956) scale given in Irving (2005, p.16) is used for interpreting the strength of correlation (r) between variables. It is thus stated: (a) < 0.20 = slight correlation, almost negligible; (b) 0.20 to < 0.40 low correlation, definite but small relationship; (c) 0.40 to < 0.70 = moderate correlation, substantial relationship; (d) 0.70 to < 0.90 = high correlation; and (e) 0.90 = very high correlation, very dependable relationship.

Hypothesis one: There is no significant relationship between professional diversity and team cohesiveness in the delivery of healthcare

Table 12: Correlation Analysis Showing the Relationship between Professional Diversity and Team Cohesiveness

Correlations

Type	Variables1	Statistics	PROFESSIONAL DIVERSITY	TEAM COHESIVENESS
Spearman's rho	PROFESSIONAL DIVERSITY	Correlation Coefficient	1.000	-.508
		Sig. (2-tailed)	.	.000
		N	123	123
	TEAM COHESIVENESS	Correlation Coefficient	-.508	1.000
		Sig. (2-tailed)	.000	.
		N	123	123

The result of the test of Ho₁ shows that there is an inverse relationship between professional diversity and team cohesiveness in the healthcare delivery system. This is shown in the correlation coefficient (r-value) of -0.508 in Table 12. Furthermore, the null hypothesis is accepted because the r-value of -0.508 is less than an r-value of < 0.20, (benchmark for accepting null hypothesis) with negligible strength of correlation. This result therefore reveals the

existence of the process of professionalism in the system, which may be characterized by the struggle for dominance, autonomy and control, rather than collegiality and cohesion. This diverges from the views of Heinemann et al (2006). They noted that group cohesion is one of the key indicators of the willingness of individuals to be part of a team. This inverse relationship among team players may be due to an unwillingness of some members to work or be regarded as a member of the health team.

Hypothesis two: There is no significant relationship between professional diversity and efficient material resource utilization

Table 13: Correlation Analysis Showing the Relationship between Professional Diversity and Efficient Material Resource Utilization

			Correlations	
Type	Variables1	Statistics	PROFESSIONAL DIVERSITY	MATERIAL RESOURCE UTILIZATION
Spearman's rho	PROFESSIONAL DIVERSITY	Correlation Coefficient	1.000	.670
		Sig. (2-tailed)	.	.000
		N	123	123
	MATERIAL RESOURCE UTILIZATION	Correlation Coefficient	.670	1.000
		Sig. (2-tailed)	.000	.
		N	123	123

Table 13 (above) shows a correlation coefficient (r-value) of 0.670. The test results for Ho₂ indicate the existence of a moderate association between professional diversity and efficient material resources utilization in the secondary healthcare delivery system. Furthermore since the r-value of 0.670 is greater than the r-value of 0.20, the benchmark for acceptance, the null hypothesis is rejected and the alternate hypothesis, which states that there is a significant relationship between professional diversity and efficient material resource utilization in the secondary healthcare delivery system, is accepted.

Hypothesis Three: There is no significant relationship between professional diversity and time minimization

Table 14: Correlation Analysis Showing the Relationship between Professional Diversity and Time Minimization

			Correlations	
Type	Variable	Statistics	PROFESSIONAL DIVERSITY	TIME MINIMIZATION
Spearman's rho	PROFESSIONAL DIVERSITY	Correlation Coefficient	1.000	-.035
		Sig. (2-tailed)	-	.703
		N	123	123
	TIME MINIMIZATION	Correlation Coefficient	-.035	1.000
		Sig. (2-tailed)	.703	.
		N	123	123

The test results for HO₃ show that professional diversity is negatively associated with time minimization. The prescription for decision suggests rejection because the test result shows r = -.035 where the p value = .703. Following Irving (2005), the null hypothesis is therefore accepted because the r value is < .20.

Hypothesis four: There is no significant relationship between professional interdependence and team cohesiveness

Table 15: Correlation Analysis Showing the Relationship between Professional Interdependence and Team Cohesiveness

Correlations

Type	Variables1	Statistics	PROFESSIONAL INTERDEPENDENCE	TEAM COHESIVENESS
Spearman's rho	PROFESSIONAL INTERDEPENDENCE	Correlation Coefficient	1.000	.802
		Sig. (2-tailed)	.	.000
		N	123	123
	TEAM COHESIVENESS	Correlation Coefficient	.802	1.000
		Sig. (2-tailed)	.000	.
		N	123	123

The test results show that professional interdependence is not just related to team cohesiveness but has a high association with the delivery of healthcare services by health professionals. The r-value is 0.802 and so > 0.20 the benchmark for acceptance. H_{03} is therefore rejected meaning that there is a significant relationship between the variables.

Hypothesis five: There is no significant relationship between mutual trust and team cohesiveness.

Table 16: Correlation Analysis Showing the Relationship between Mutual Trust and Team Cohesiveness

Correlations

Type	Variables1	Statistics	MUTUAL TRUST	TEAM COHESIVENESS
Spearman's rho	MUTUAL TRUST	Correlation Coefficient	1.000	.831
		Sig. (2-tailed)	.	.000
		N	123	123
	TEAM COHESIVENESS	Correlation Coefficient	.831	1.000
		Sig. (2-tailed)	.000	.
		N	123	123

The results of the test for H_{05} indicate a very strong relationship between mutual trust and team cohesiveness. This is shown in the calculated r-value of 0.831. This is, by Guilford's 1956 scale, described as a high correlation or marked relationship. The tested null hypothesis is therefore rejected. The alternate hypothesis is accepted. This hypothesis states that there is a significant relationship between mutual trust and team cohesiveness in terms of achieving quality patient care in the healthcare industry.

Hypothesis six: There is no significant relationship between mutual trust and time minimization

Table 17: Correlation Analysis Showing the Relationship between Mutual Trust and Time Minimization

Correlations

Type	Variables1	Statistics	MUTUAL TRUST	TIME MINIMIZATION
Spearman's rho	MUTUAL TRUST	Correlation Coefficient	1.000	.239
		Sig. (2-tailed)	.	.041
		N	123	123
	TIME MINIMIZATION	Correlation Coefficient	.239	1.000
		Sig. (2-tailed)	.041	.
		N	123	123

The test of H_{o6} shows a correlation coefficient of 0.239. According to Guilford's 1956 scale, this represents a very low correlation, which further indicates a small relationship. The prescription for decision suggests rejection because the r-value of $0.239 > 0.20$ (the benchmark for acceptance). H_{o7} is therefore rejected. The final result is such that there is a relationship, although it entails a weak association between mutual trust and time minimization in the delivery of patient care.

Hypothesis seven: There is no significant relationship between professional interdependence and patient satisfaction in the delivery of healthcare.

Table 18: Correlation Analysis Showing the Relationship between Professional Interdependence and Patient Satisfaction

Correlations				
Type	Variables ¹	Statistics	PROFESSIONAL INTERDEPENDENCE	PATIENT SATISFACTION
Spearman's rho	PROFESSIONAL INTERDEPENDENCE	Correlation Coefficient	1.000	.802
		Sig. (2-tailed)		.000
		N		123
	PATIENT SATISFACTION	Correlation Coefficient	.802	1.000
		Sig. (2-tailed)	.000	.
		N	123	123

The test results show that there is a strong relationship between professional interdependence and patient satisfaction in healthcare delivery. The hypothesis is rejected because r-value $0.802 > 0.20$.

Table 19: Summary of Decisions on Null Hypotheses Tested

S/NO	STATE OF HYPOTHESIS	DECISION
H_{o1}	There is no significant relationship between professional diversity and team cohesiveness	Accepted
H_{o2}	There is no significant relationship between professional diversity and efficient material resource utilization	Rejected
H_{o3}	There is no significant relationship between professional diversity and time minimization	Accepted
H_{o4}	There is no significant relationship between professional interdependence and team cohesiveness	Rejected
H_{o5}	There is no significant relationship between mutual trust and team cohesiveness	Rejected
H_{o6}	There is no significant relationship between mutual trust and time minimization	Rejected
H_{o7}	There is no significant relationship between professional interdependence and patient satisfaction	Rejected

DISCUSSION OF FINDINGS

Professional Diversity and Team Cohesion

The test for an association between professional diversity and team cohesiveness indicated not only the lack of a relationship, but the presence of negative correlation. In other words, professional diversity is inversely related to team cohesiveness. This appears to buttress Robins (2005) argument that diversity in groups tends to create demarcation among heterogeneous entities in the homogenous unit. These smaller diverse units thus tend to struggle for identity, superiority, status, resources, uniqueness, and fame, which further highlight their distinction over their sameness.

D'Amour,(2008) argued that whereas the development of collaborative practice depends on the mutual recognition by professionals of their interdependence as well as the acceptance of 'grey zones' where their respective contributions may overlap, the dynamics of professionalization lead to a differentiation of professionals and to territorial behaviors within the team. It is further pointed out by Clark (2007) that during the professional socialization phase, health professionals are immersed in the philosophies, values and basic theoretical perspectives inherent to their respective professions. Such differences between the various professionals are potential sources of conflict and hinder the development of a true collaborative practice.

Considering the professional diversity that naturally exists in the delivery of healthcare services in the health sector, it is expected, based on the argument above, that these doctors, nurses-midwives, pharmacists, laboratory technologists, radiographers, and medical social workers will pursue self-serving goals to strengthen their own ego/prestige and economic gains. This study has indeed found that the in-cohesive nature of healthcare medical teams is caused by professional differences that breed struggles for professional identity, power and economic self-interest.

Professional Diversity and Efficient Material Resource Utilization

Tests of the relationship between professional diversity and efficient material resources utilization show a positive and significant association. The diversity in terms of skills indicates the need for different materials in the dispensation of healthcare services. Since each professional category in the healthcare system tends to be largely unique in its material resource requirements and usage, the politics of material interdependence tends to be very weak or absent. The absence of self-serving-based competition around who uses which materials for which professional interest tends to make for efficiency in material resources utilization. This corroborates the argument by Pfeiffer (1982) that in population ecology, dependence on the same resources by members of the population leads to utilization problems because interest is diverted from economic utilization to political utilization. Conversely, resources tend to be properly utilized when they are unique to a work unit. This study found that efficiency in material resources utilization in a healthcare delivery system is a function of diversity in professional categories.

Professional Diversity and Time minimization

Tests of the relationship between professional diversity and time minimization show a lack of association. This implies that professional diversity does not minimize the time spent on the delivery of healthcare services to a patient. Diversity in professional skills tends to create dependency on shared resources like time, particularly when the services rendered by different professionals are done so in sequence. The outcome is that one professional depends on the time utilization efficiency of the other in the sequence to perform a required service or function. Within the healthcare system, for example, a nurse may depend on the efficiency of a doctor, and a doctor may depend on the efficiency of a laboratory technician. This unbroken chain of time dependence reduces time utilization efficiency in healthcare delivery. Ottih (2006) argued that such chains of dependence among functions tend to introduce friction among the functions. They also breed wastage and idle time as one function can be carried out only when another specific function has been completed. This study has found that professional diversity reduces the time efficiency of healthcare delivery teams.

Professional Interdependence and Team Cohesiveness

Tests of the relationship between professional interdependence and team cohesiveness show the presence of association. This implies that there is an awareness of professionals on a healthcare team that mutual interdependence is necessary for their functional relevance and for team cohesiveness.

Smiths and Corner (2003) argue that team cohesiveness can become the primary focus of the team and the opportunity for group think can then lead to premature decisions without a full consideration of a variety of alternative solutions. However, the need for functional interdependence created by the uniqueness of the professional contributions to the team does tend to produce closer ties among professionals on the team. Robins (2005) has further argued that mutual interdependence among entities, particularly where the interdependence is indispensable, evokes the spirit of unity. This study thus found that the relative indispensability of the professional units in a healthcare system makes interdependence inevitable. This breeds further team cohesiveness.

Mutual Trust and Team Cohesiveness

Tests of the relationship between mutual trust and team cohesiveness show the existence of positive relationship. Trust is a positive expectation that another will not through words, actions or decision acts opportunistically. Mutual trust as argued in Robins (2005) is the reciprocal expectation among people of the foregoing. Among the types of trust, Robins further argued that knowledge-based trust does not exist on some teams. In healthcare delivery services, however, knowledge-based trust is dominant. This trust is based on the behavioural predictability that comes from a history of interaction and is possible when members of a team have enough information about someone to be able to accurately predict their behaviour. In the healthcare sector there appears to be mutual professional trust as professionals share information to the extent that the behaviour of other team members is quite predictable. This study has found that mutual trust engenders team cohesiveness on healthcare delivery teams.

Mutual Trust and Time Minimization

Tests of the relationship between these variables show that time minimization is a function of mutual trust, though lowly correlated. Trust breeds reliance on co-members (Katzenbach and Smith, 2001) and the existence of reciprocal trust tends to quicken decision making time and enhance the minimization of time spent in the discharge of healthcare services. This follows the argument by Robins (2005) that the key factor of team existence is mutual trust which tends to enhance the way work is done. Work enhancement in the delivery of healthcare services is quickly seen in the optimum utilization of time. Conversely, this means that mistrust breeds delays in work operations. This study found that mutual trust among health professionals saves time and in turn quickens the delivery of healthcare services.

Professional Interdependence and Patient Satisfaction

Tests on professional interdependence and patient satisfaction produced a strong association implying that patient satisfaction is largely a function of professional interdependence. When the established chain of professional interdependence is maintained in the delivery of healthcare services, the outcome tends to be more efficient and patient satisfaction tends to increase (Heinemann et al., 2006).

The result of this study which shows a strong association between professional interdependence and patient satisfaction is further corroborated by Evans' (2008) view that the whole essence of the healthcare is the wellbeing of the sick. The sick as the focal point of healthcare services are therefore the ultimate recipient or either healthcare team interpersonal harmony exist or disorder. Given this strength of relationship, this study concludes that patients are satisfied or better cared for when healthcare professionals accept their interdependent role in healthcare units.

CONCLUSION AND RECOMMENDATIONS

This study empirically examined collaborative practice among professionals in secondary healthcare facilities in Rivers State, and how this enhances work efficiency and patient satisfaction. The interest in this area of study emanated largely from state government concerns about improving the healthcare system. While some attention has been paid to certain aspects of the system, such as the provision of healthcare infrastructures or staff recruitment, little or no consideration has been given to the nature of work relations (interactional factors) that can also affect the efficiency of the system.

This study has reviewed relevant literature on theories and models of collaborative teamwork. In light of the literature reviewed and the earlier stated objectives, seven hypotheses were formulated and tested. The findings can be summarized as follows:

- Team cohesiveness among healthcare professionals is hampered by the diversity of the professionals on the team.
- The efficient use of available material resources by healthcare professionals on healthcare teams is encouraged by professional diversity. The required material resources, however, are often not provided.
- Time minimization in the execution of healthcare delivery functions is negatively related to the diverse nature of professional categories on healthcare teams.

- Team cohesiveness amongst healthcare professionals on health teams is largely achieved through professional interdependence.
- Team cohesiveness in healthcare is strongly and positively influenced by mutual trust among the various professionals on the team.
- Time minimization in the delivery of healthcare services is enhanced by mutual trust among the various professionals on the team.
- Patient outcomes in terms of satisfactory treatment/attention are greater when there is professional collaboration in healthcare delivery.
- Most hospitals do not have some of the professional groups that are needed on healthcare teams.
- Most of the hospitals experience poor water and power supply which breeds inefficiency and time wastage in the delivery of needed healthcare services (some cases are referred out).

This work has empirically tried to show that there is a relationship between inter-professional collaboration and work efficiency in healthcare service delivery. This study has revealed that team cohesiveness is not easily achieved where there are different professionals with their own unique skills, although it is essential to achieving the objectives of the healthcare system. This study suggests that conflict of professional interests, professional identities or status and professional prestige will negatively affect the desired unity or cohesiveness of a healthcare team. This should be a concern for all stakeholders in the healthcare industry. In terms of this study's theoretical contributions, which attempted to address the meaning, insights and usefulness of collaborative practice in healthcare, this study evinces a theoretical design or framework of thought for scholars in this area of teamwork efficiency in general and healthcare teams in particular.

This study recommends that:

- Professional diversity is unavoidable on healthcare teams yet it does hamper team cohesiveness. This study recommends intensive diversity management among professionals to reduce feelings of importance, superiority, and/or inferiority that tend to breed in-cohesiveness.
- Healthcare administrators should provide the material resources needed for effective healthcare delivery to reduce the rate of referrals and out of stock syndrome.
- Healthcare administrators should manage the functional interfaces between professional services to reduce the time wastage created by the unavoidable sequence in the delivery of healthcare services. The provision and use of automation may also reduce the wastage of time due to interdependence.
- The unavoidable interdependence of healthcare professionals should be emphasized in hospital personnel management so as to encourage team cohesiveness. Understanding the indispensability of the other professionals in a complete healthcare system will make for stronger ties among practitioners.
- The management of interdependence between professionals in healthcare delivery should focus on enhancing the speed at which a function is completed so as to allow the subsequent function to commence. This will reduce the idleness of available facilities and staff.
- Hospital staff administrators should enhance the management of trust among healthcare workers to create the team cohesiveness needed for work efficiency.
- The efficient utilization of material resources and time should be enhanced through the encouragement of mutual trust relationships in healthcare delivery.
- Hospital management should focus on professional interdependence and mutual trust among team members to enhance patient satisfaction.
- Finally, periodic teamwork training programmes should be organized for staff to instill in teams and the healthcare system the spirit of collaboration.

Further research studies are needed in the following areas: to examine how political behaviour/organizational climate influence the workforce with respect to the bureaucratic system that makes it difficult for teams to collaborate effectively, to examine how to link inter-professional education with collaborative practice, and to reach out to the professional groups that make up healthcare teams to seek input on how to help minimize conflicts.

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Barriers to Parental Involvement in Primary Schools: A case of Central North Region of Botswana

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Abstract

Research in Botswana has shown the importance of parental involvement in primary school education. Consequently, researchers have argued for strengthening the school-community relationship in order to improve the quality of primary school programmes and enable children to succeed in the academic environment. Nonetheless, little has been done to identify barriers to parental involvement in children's academic work and possible solutions geared towards quality education. This study therefore seeks to investigate the causes of limited parental involvement in their children's schooling and to identify strategies to help minimise these barriers and improve academic performances in primary schools. This study is a qualitative case study wherein twenty-four participants (twelve teachers and twelve parents) are interviewed. The sample was drawn from the Central North region of Botswana and covered remote, remotest, sub-urban, and urban locations. Random sampling was used to select teacher-participants while parents were identified with help of village headmen. Botswana education policies and school regulation or guideline handbooks were also examined to determine the extent to which these documents promote community involvement. The findings of this study reveal significant divergences in the responses of parents and teachers. Most of the parents, especially those in remote areas, for example indicated that they were not aware that they were supposed to offer teaching assistance services in schools. Teachers in the same areas indicated that parents were not cooperative in contributing to their children's learning. Likewise, while teachers listed examples of workshop initiatives designed to sensitise parents to the importance of being involved in their children's learning, parents said they were only called to collect children's progress reports, for Parent Teacher Association (PTA) meetings, or to be threatened about failure to pay school development and sports fees.

Keywords: Parental involvement, Barriers to parental involvement, Primary school, Botswana, School-community programmes, School-community relations.

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INTRODUCTION

Community-school teamwork is believed to be fundamental to students' academic achievement. The important role of parents in their children's education has long been evident, particularly in the past when children were exposed to traditional indigenous education. Parents taught their children domestic chores, survival skills and societal expectations so as to preserve individual ethnic groups' cultures. Abosi and Kandjii-Muranga (2002) explain that "the education of the child was so important that it was shared by parents, siblings and neighbors" (p. 5). There is therefore a need to identify ways of alleviating barriers and promoting partnerships between schools and communities to support the healthy development of children (Mannathoko & Major, 2012).

Theory, research, policies, and exemplary programmes and practice especially in Western countries demonstrate the importance of family and community involvement in improving the quality of school programmes. Little is known, especially in Botswana, however, about barriers to family and community involvement in schools and effective programmes to help teachers and the community come together in the teaching of children at primary schools. Often times, blame falls to parents for ignoring their children's academic work. Nonetheless, most if not all research in Botswana indicates little has been done by government to identify major barriers and take appropriate and effective measures to eliminate these barriers and thus strengthen school-community teamwork. Statements alone, such as that in the Revised National Policy on Education (RNPE, 1994), which encourages schools to establish Parent Teacher Associations (PTAs) to promote the involvement of parents in children's academic work and other school activities, are not enough. Such policies need to be reworked to not only advocate for community involvement in children's learning, but to offer strategies that could help parents commit to their children's learning. There should be, for example, clear guidelines or programmes in schools to guide teachers in planning and implementing partnerships with the community and other stake holders in pursuit of children's academic achievement.

Henniger (2005) suggests that schools should involve the community in the initial planning and preparation of academic activities in schools. Dodge, Colker and Heroman (2002) note that "initially, parents and family members have much to offer the school in terms of support, insights and skills" (p. 145). For education to be worthwhile, teachers and parents must together alleviate learning barriers and share in the responsibility for educating children. In turn, the community's knowledge must not be undermined, as those we term 'illiterate' in reading and writing can still offer important ideas and impart practical skills in areas such as arts and crafts, home economics, and design and technology.

Given the above, the purpose of this study is to investigate the causes of limited parental involvement in children's academic work. There are currently limited academic publications addressing this subject. The study seeks to provide answers to the following research questions:

1. To what extent have parents been trained or prepared on school-community partnerships with regards to the education of their children?
2. What approaches or programmes do schools use to involve parents/communities in children's academic work?
3. How well do parents/communities understand their role in the education of children?

LITERATURE REVIEW

Parental involvement, according to Oakes and Lipton (1998), is "organized parent participation in school decisions or classroom instruction" (p. 33). This can be combined with Jones's (1993) idea that "a parent is anyone who has parental responsibility for a child, and this could go beyond the biological parents" (p. 43) so that any family member, relative or otherwise, biologically attached or not, is the parent provided that they hold parental responsibility for the learner.

Significance of Parental Involvement for Learners' Academic Performance

Each year it is important that teachers acquire insights into the developmental and academic history of their learners. William and Cutler (2000) note that "ignoring the home greatly increases the chances of failure because children spend far more time with parents who could easily counteract the schools influence" (p. 134). Thus, it is advisable that teachers aim to access and use parents' knowledge to better understand learners. In turn, parents need to be informed of and empowered by the schools' expectations, goals, mission statement and vision. Research confirms that a strong

connection between school and home help learners adjust and learn effectively. “Parents influence their children’s academic achievement by exposing them to intellectually stimulating experiences, directly teaching them and monitoring their homework” (McNergney & Herbert, 2001, p. 201). It is within this context that schools should devise effective means for involving parents in their children’s academic endeavours.

Possible Approaches to Parental Involvement in School

One of the factors identified by researchers which made Botswana private schools, especially English Medium Primary Schools, surpass government schools was active parental involvement. This is articulated in the Report of the National Commission on Education (RNCE, 1993) which notes that “comparisons were made between state schools and the English Medium schools and a large proportion of people had a conviction that the better performance of private schools was due to active parental involvement” (p. 129). As a result, the Ministry of Education encouraged primary schools to establish effective parent-teachers associations in order to improve children’s academic performance. This idea was adopted by the government and included in the RNPE (1994) to be implemented by government primary schools. The initiative was meant to encourage parents to support their children’s educational activities, promote parent-school relationships in educating the child, provide a plan for interaction with the community and parents concerning problematic issues of learner-discipline and academic underachievement, and raise funds for school projects. McNergney and Herbert (2001) have identified parent-teacher conferences, school open houses and PTAs as effective approaches to draw parents into school activities to then assist with problems that arise.

A number of scholars have highlighted distinctive ways of involving parents in schools. The New York City Department of Education (<http://schools.nycenet.edu/offices/teachlearn/ell>, retrieved 10th December, 2012) outlines four different types of involvement as follows:

- Parenting: Helping families to create home environments to support children as students.
- Volunteering: Recruiting and organising parents to assist children at school and home.
- Decision making: Giving parents and community members opportunities to participate in decisions about how the school functions.
- Collaboration with the community: identifying and using community resources to strengthen school programmes.

Involving parents in schools, however, remains a big challenge in part because most parents have respect for teachers and still believe that teachers are sources of all information. These parents are consequently hesitant to approach or question teachers about issues pertaining to the school. It is therefore important that teachers create mutual relationships with parents and the community by engaging them to make them feel at ease and win their confidence. These actions by teachers will render both the community and parents more likely to respond in a positive fashion when their help is needed. As Henniger (2005) points out “this outreach strategy has [also] shown to be highly effective in teaching parents skills that they can use in working with their children” (p. 182).

RESEARCH METHODOLOGY

The study used a qualitative research design in the form of a case study. A qualitative strategy was adopted because it allowed researchers to observe phenomena in a natural environment (Creswell, 2003) yielding results that are more true to life and generalizable. It also provided researchers with the ability to take an in-depth look at a small segment of society thereby providing a deeper and more complex understanding of what is going on (Yin 2003). In addition, this approach takes into account context, quality and meaning (Burns, 2000). Using this approach thus enabled the researchers to arrive at a deeper understanding of school-parent relationships, or formative data, because of the opportunity to probe for more information and clarify questions as needed. This approach was used to explore barriers possibly hindering the effective involvement of parents in their children’s academic work.

Twenty-four participants (twelve teachers and twelve parents; fourteen females and ten males) were interviewed. Eight of the parents had children presently attending primary school while the remaining four did not. These four parents were deemed parents according to Jones’s (1993) and Oakes and Lipton’s (1998) definition of ‘parent’. The sample was drawn from the Central North region of Botswana and covered remote, remotest, sub-urban, and urban locations. Random sampling was used to select teachers for participation while parents were identified with the help of village headmen.

Botswana education policies and school regulation or guideline handbooks were also examined to determine the extent to which these documents promoted community-involvement and whether or not they suggested programmes that schools could adopt to more effectively involve parents in primary school education. The data gathered from teachers and parents were recorded, transcribed and analysed separately so as to arrive at a clear picture of the individual groups. This data was later discussed in relation to themes derived from the research questions.

FINDINGS AND DISCUSSIONS

The findings of this study are presented, analysed and discussed below according to themes developed from the research questions. The sub-sections that follow include: respondents' biographic data, data from teachers, data from parents and discussion.

Teacher's Interview Data

As noted, twelve teachers were involved in this study. Data from teacher interviews is presented, analysed and discussed below under the following themes: parents' preparedness to contribute to their children's academic work, school-parent teamwork approaches, and schools' expectations of parents with reference to children's academic work.

Parents' Preparedness to Contribute to Their Children's Academic Work

When asked about the structures put in place to prepare or sensitise parents to the importance of involvement in their children's academic work, their role and expectations of them, five teachers (42%) stated that they often organised workshops for parents to inform them of these issues, two (16%) spoke with parents about these matters on 'open' days while the remaining five (42%) addressed these topics during PTA meetings, although attendance at these meetings is often poor. Teachers were concerned, that despite these efforts, parents continue to ignore their requests for participation in school activities. An additional question was asked with regards to recommendations around children's academic work. Respondents who had held workshops or attended other forums with parents noted that most parents committed to working with schools when possible, although some contended that they were not trained to teach and so teachers should do their job.

Parent-teacher conferences or forums are an effective communication tool as they bring parents into the classroom. Gordon and Browne (2007) explains that "when instituted well, the conference builds positive rapport with parents, as the teacher and parents discuss the child's strength, progress and possible areas of improvement" (p. 263). Macleod, Hookey, Frier and Cowieson (2000) thus suggest that conferences for parents should be scheduled at specific times during the year with information reaching parents well in advance.

When asked whether there was any change after the workshop, all twelve concurred that very few parents continued to attend PTA meetings and 'open' days. Five (42%) teachers further commented that the few active parents only participated in sports and music competition preparations and school funds raisers and were not comfortable with greater involvement in the classroom. A follow-up question was asked to determine what teachers did to further stimulate parents' involvement after low participation in the organised forums. Responses included: we meet with them concerning their children's performances, we have consultation days for parents to view learners' work, we call parents individually to discuss each child's work and offer suggestions for assisting them at home.

The overall results of the activities undertaken to more actively involve parents in their children's academic work shows that an effort was made by some schools to educate parents on the value of involvement. Nonetheless, low attendance at schools and a preference for participating in extra-curricular activities (sports and music) over academic work remained. Despite the interventions parents still seemed to understand little of their responsibilities and the value of education to their children.

Given the continuing resistance of parents to embrace academic involvement, it is important that all education stakeholders, education ministers, member of parliaments, counsellors, and chiefs team up to educate parents on the importance of this involvement and work with parents to develop effective programmes that can improve school performance (Mannathoko, 2009; Samberg & Sheeran, 2000).

Educationists, like Robinson (1982), have long advocated for community involvement in children's academic work from curriculum planning and development through to its implementation. This approach may motivate parents as they would feel greater ownership of the lesson content and be more prepared to take part in its implementation.

Macleod, Hookey, Frier and Cowieson (2000) believe that teachers do not always discuss with parents the range of ways in which they can become involved in their children's education. Other studies have likewise shown limited effort by schools to encourage parents to contribute and/or inviting parents to contribute only to activities such as sports and funds raising (Mannathoko & Major, 2012). Given this, programmes should be established to help teachers acquire new methods for drawing-in and working with parents.

School-parent Teamwork Approaches

The first question under approaches sought to determine the structures or programmes schools had in place for school-community partnerships around children's academic work. Respondents indicated that they communicated with parents through PTA chairpersons who were always a member of the community. Eight respondents (67%) said that the chairperson assigned the secretary to write letters to invite parents to meetings while the remaining four (33%) concurred that announcements were made to students during morning assemblies and their classes to inform parents about meetings. According to the case study teachers, although the chairperson was not always someone who had children studying in the school, parents who were invited to meetings were only those with attending children.

A follow-up question was asked to determine if there were programmes or guidelines articulating what was expected of PTAs and parents. Participants noted that although nothing was available in written form, the association knew what to do and parents who attended PTA meetings were informed of their roles. When asked what the Revised National Policy on Education (RNPE, 1994) said about school-parent teamwork, the teachers seemed to not understand the question and were not aware of information within the RNPE on school-parent teamwork or relationships. Six participants (50%) were not even aware of the RNPE. Four (33%) added, however, that their schools had school guidelines handbooks which each parent was issued that outlined school rules. The handbooks, according to the participants, were developed by teachers without the input of parents or PTAs. When asked what the handbook included, all four concurred that it communicated the type of uniform, students' expected behaviour and disciplinary action, school development funds and other school fees, extra-mural activities, school attendance expectations and the need for parents to ensure attendance.

It is evident from the results that there were no appropriate programmes in the case study schools that articulated the academic activities that parents could participate in with teachers, co-teach or help students with. The school handbooks which included only teachers' input did not include academic programmes aimed at parent-school partnerships. Cornwell (1988) argues that it is not always clear what the parental role in education is. If schools are not organised enough to develop clear goals and attainment targets which can in turn guide teachers and parents in the development of annual programmes, they will not succeed in attracting the active involvement of parents in schools. The effective input of parents in schools is thus determined by good school organisation in creating academic activities to engage the community. Wade and Moore (1993) advise schools to take the initiative to educate parents on how they can effectively assist in their children's academic work and Jenkins (1997) reiterates the value of this action, "...it is a long recognised bond between parents and schools to turn children into productive children" (p. 68).

Schools' Expectations from Parents with Reference to their Children's Academic Work

Under this theme, teachers were first asked to share the roles they expect parents to play in schools. Responses included: help with sports and music, help with other school activities, raise funds for the school, donate funds to the school, help children with homework, attend meetings to discuss children's academic work, and visit the class teacher during the term to discuss their children's performance. When asked whether they believed that parents were aware of their roles in terms of their children's academic work, nine (75%) of the respondents felt parents were aware, one (8%) said parents were not aware, and the remaining two (17%) were not sure whether parents understood their role in school. The nine participants who felt that parents were aware explained that they were informed through PTA meetings and school-parent conferences. Respondents were then asked if parents participated as per school requirements. The consensus was that only a few of the parents adhered to the requirements by attending school meetings, accompanying children to sports activities, and assisting children with their homework.

Respondents were also asked what they thought was the cause of limited parental contributions to their children's education. Responses included: parents do not relate well with us because they feel we are the cause of their children's poor performance in the Primary School Leaving Examination (PSLE), parents claim to be very busy and have no time for their children's school work, parents say we are paid for the job and shouldn't bother them with it, most parents here are illiterate and cannot help their children, some parents spend most of their time brewing and

drinking alcohol, often with their children and will tell you they should not be bothered, some parents do not know the value of education and so do not care about encouraging their children, and most parents do not attend meetings and are therefore not aware of their roles in education. A follow-up question sought to determine the efforts made by schools to encourage parental involvement in children's academic work. Nine (75%) said conferences were organised to sensitise them to the importance of involvement in their children's academic work while the remaining 3 (25%) noted that they called meetings to remind parents of their school roles. When asked if this led to any improvement, all of the respondents stated that few parents responded positively and demonstrated committed to their children's work.

A general and final question within this theme required teachers to share what they thought could be done to encourage the effective participation of parents in their children's academic work. Responses included: encourage parents to help their children and to work hand-in-hand with their children and the teachers, invite parents to 'open' days and awards ceremonies to view their children's work, sensitise parents to the importance of involvement in their children's academic work through workshops and motivational talks, and involve parents in general school planning to help them feel like an authentic part of the school.

It is evident from the above discussion that most teachers are informed about the role parents play in schools so as to improve their children's learning. What was lacking, however, were clear programmes for specific academic activities that specific parents could commit to do. These could include, for example, forums where parents could commit to work with teachers on specific topics to plan and present lessons to students or opportunities to engage in special projects with groups of children and their class teachers. Sensitising parents to the importance of school involvement without clear structures (who, what, when, where, why) will not help schools to meet their intended goals. In addition, while teachers seemed to focus on the community's capacity to help children with homework and attend ceremonies and meetings, they paid less attention to the primary purpose of attending school and the possibility that community members could prepare content and co-teach lessons. Deventer and Kruger (2003), cited by Mannathoko and Major (2012), advise that "for the relationship to be successful, schools should involve ... the community at large in the planning, implementation and review of the agreed programmes..." (p. 64). Teachers' responses were subsequently triangulated with parents' responses to increase the validity of data.

Parents' Interview Data

Twelve parents took part in the study. As in the preceding section, data is presented, analysed and discussed below under three themes informed by the research questions. These themes are: the community's preparedness to contribute to children's academic work, school approaches to involve parents in children's academic work, and possible barriers to parental involvement in children's academic work.

Parents' Preparedness to Contribute to their Children's Academic Work

Participants were first asked how they were sensitised by schools to involvement in their children's education. Responses included: encouraged during PTA meetings and 'open' day ceremonies to help children with homework and visit schools to check on their progress, encouraged to take part in school activities such as sports and to help in disciplining our children. Seven (58%) added that they were sometimes called by individual teachers about their children's misconduct and low performances at which time they were advised to help their children at home. Among the remaining five (42%), three mentioned that they were reminded of the need for involvement in social events. All respondents denied being invited to workshops by teachers when asked if they attended other forums such as workshop organised by schools.

These responses concurred with the responses of three teachers (25%) who said parents were told about the importance of involvement during PTA meetings and 'open' day ceremonies, and through individual classroom calls/meetings. This contrast with the nine teachers (75%) who stated they held workshops for parents. Calls for parental involvement in schools excluded class-teaching whereby community experts could help with class projects in various disciplines thereby assisting teachers with topics they were less well-versed in. This might include, for example, Creative and Performing Arts (CAPA) topics for primary schools that many teachers are not familiar with (Phibion 2006 and Phuthogo 2008). Cleave and Sharp (1986) note teachers must act as intermediaries between schools and the community so as to create a strong relationship that will benefit children academically.

One of the effective approaches which could be adopted in schools is the 'Artist in Residence' scheme recommended by art educationists such as Lancaster (1990), Robinson (1982, 2005) and Gelsthorpe and Burnham

(2003). This programme involves inviting and engaging experts of various topics from the community in the planning and teaching. They can work with students in schools or learners can visit them to learn certain processes depending on the topic at hand. This approach is commonly used in Britain and America and researchers proved that it has borne fruits for many schools which practice it.

Schools' Approaches to Involve Parents in their Children's Academic Work

The first question within this theme sought to determine how schools involved parents in curriculum planning, development and evaluation. All respondents indicated that they were never asked to become involved in curriculum development, evaluation or planning and teaching. A follow-up question was asked to find out how the community members contributed to the school. Here, some respondents gave more than one answer. Two (17%) said they bought puzzles for schools, ten (83) raised funds for schools, five (42%) volunteered for school cleaning campaigns, three (25%) contributed money for new school developments and two (17%) did not contribute. When asked how they think the community should be involved in schools, responses included: parents should encourage their children to work hard, check children's work regularly and revise with them as needed, help their children as needed and read school work with their children. The subsequent question asked respondents if, according to their observations, the community attended to their children's work. Three (25%) felt that some did, seven (58%) said they did not, and the remaining two (17%) were not sure whether parents were involved in their children's work.

These responses show no evidence of formal programmes in schools created to guide school-community projects. They also show no evidence of community involvement in planning and teaching children in a classroom environment or donating materials to be used for specific topics. These results correspond with those of the teachers which showed that parents only assisted their individual children on work offered by teachers as homework or attended to extra-mural activities. When looking at these results, it is not that parents valued those activities more than class-teaching services, but that their role in the school was not clearly defined. Henniger (2005) and the government of Manitoba (www.edu.gov.mb.ca > Education, retrieved December, 2012) thus advise schools to make parents aware of the full range of their possible roles and involve them in the initial planning and preparation of the curriculum and its implementation.

Possible Barriers to Parental Involvement in Children's Academic Work

Parents were also asked about possible causes of limited parental involvement in their children's academic work. Responses included: ignorance, lack of knowledge of what to do, work commitments, negligence, reliance on house maids, not being empowered in terms of what to do and how to do it, poor relationships between teachers and parents due to low PSLE results, a general lack of involvement in their children's education, not being aware of their role, not knowing the value of education therefore not valuing it and not getting involved, spending most of the school days taking alcohol and other drugs with their children, and unwelcoming teachers who see parents as uneducated and useless. A final question was asked to find out what participants thought should be done to more effectively involve the community in their children's work. Recommendations included: schools should invite parents to schools monthly to meet class-teachers, and parents should be invited to regular workshops and seminars about the value of education, their children's education and their role.

When surveying these responses, it is clear that a number of issues have been highlighted as inhibitors of active community involvement in children's academic work. Many of these relate to a lack of knowledge, by both parents and teachers, on the ways in which parents can participate in schools. Not surprisingly, there were no appropriate formal programmes developed to guide schools and communities on how to improve community involvement.

CONCLUSION AND RECOMMENDATIONS

The benefits of community involvement in school programmes are supported by several educationists who advocate for the development of formal programmes by both the school and the community. This in turn requires that both local schools and education regions adopt specific strategies for developing effective school-community partnership programmes. There is also need to involve parents/the community in schools starting at the planning and policy level. All of these actions are recognition of the shared responsibilities by schools and communities for children's high academic performance. Such shared responsibilities will also strengthen school and community capacities for future

mutual collaborations. All of the above will most directly be achieved with the support of government and other stakeholders, who can, for example, allocate funds to support the development of school-based, goal-oriented parent involvement.

The results of this study reveal that not having a formal defined programme was the main barrier to community involvement in schools. It is also evident that teachers and the community were not well versed in effective school-community teamwork programmes. Neither teachers nor parents in this study identified 'teaching' as one possible parental role, hence the poor relationships between the two parties given that student failure was blamed solely on teachers. This is a consequence of not understanding the many possible roles for parents in schools. Teachers must view the community as one source of children's education because undermining community knowledge leads parents to disown their children's failure and blame teachers. This finding demands a stronger collaboration between education policymakers, schools and communities so as to establish appropriate programmes to help schools and communities work as partners in pursuit of quality education and high student performances.

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The Relationship between Individual Innovativeness and Self-efficacy Levels of Student Teachers

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Abstract

In this study, the innovativeness and sense of efficacy of student teachers are analyzed. This study aims to determine the effect of individual innovativeness, family socioeconomic levels and gender on teachers' sense of efficacy. This study was modeled using relational screening. As the data did not show normal distribution, non-parametric tests (Mann Whitney U and Kruskal Wallis) were applied for during analysis. This study is comprised of 252 student teachers. Three separate instruments were used to collect data: the Individual Innovativeness Scale to measure individual innovativeness, the Socioeconomic Level Scale to determine socioeconomic levels, and the Ohio State Teacher Efficacy Scale to measure the self-efficacy perceptions of student teachers. The resistance to innovation among student teachers was found to be at a medium-level as they expressed opinion-leading desires and openness to new experiences and risk-taking for innovation. The sense of efficacy of student teacher respondents varied significantly across subcategories which included motivation, instructional skills and guidance. The student motivation, instructional skills and guidance subscales of the self-efficacy scale were found to increase as the innovativeness level of the student teachers did. A significant relationship could not be found, however, between innovativeness scores and self-efficacy in the subcategories of socioeconomic level and gender. This study recommends that student teachers should be encouraged to make better use of innovative techniques.

Keywords: Innovativeness, Teacher Efficacy, Socio-economic Level, Gender, Student Teachers

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INTRODUCTION

It is impossible today for educational organizations to resist major global changes, such as the onset of the knowledge era, new technological developments, and globalization given that these are fast becoming markers of the modern world. Educational organizations thus need to adjust their institutional structures, processes and strategies to embrace these changes in the external environment. To be able to address and embrace these changes, educational organizations require highly creative and innovative individuals. Innovativeness and a sense of efficacy are thus basic qualifications required for effective teaching. Most teachers today acquire this innovativeness and efficacy during time spent at teacher training/education facilities. These teachers then go on to develop their teaching career at surrounding elementary and high schools (Baloglu & Karadag, 2008).

Sense of Efficacy

According to social learning theory (Bandura, 1997), cognitive processes have an effect on the behaviors of individuals. Self-efficacy, one of the most important terms of this theory, is defined as “beliefs in one’s capabilities to organize and execute the courses of action required to manage prospective situations”. It has been found that a student’s perception of the magnitude of their self-efficacy has an effect on (I) what activities they select, (II) how much effort they show, and (III) how persistent they are in the face of difficulties (Bandura, 1997).

Although “self-efficacy belief” is considered a “domain-specific self-efficacy”, some researchers have advanced a “general self-efficacy belief” (Schwarzer, 1994; Zhang & Schwarzer, 1995; Schwarzer & Jerusalem, 1995; Marakas, Yi, & Johnson, 1998; Choi, 2004). Domain-specific self-efficacy can be defined as the belief in an individual’s abilities to fulfill a certain situation or duty successfully (Bandura 1986, 1997). Luszczynska, Scholz, and Schwarzer (2005) define general self-efficacy as the belief in one’s competence to handle a number of stressful or challenging demands (Celikkale & Capri, 2008).

Researchers have shown that teacher efficacy has been linked to a variety of teaching behaviors and student outcomes, including teachers' behavior in the classroom (Tschannen-Moran & Hoy, 2001), student achievement (Armor et al., 1976; Gibson & Dembo, 1984; Ashton & Webb, 1986; Ross, 1992; Caprara, Barbaranelli, Steca, & Malone, 2006; Guo, Piasta, Justice, & Kaderavek, 2010; Muijs & Reynolds, 2002), motivation (Midgley, Feldlaufer, & Eccles, 1989; Woolfolk, Rosoff, & Hoy, 1990), own sense of efficacy (Anderson, Greene, & Loewen, 1988). Teachers' efficacy beliefs, defined as teachers' perceptions of their own ability to bring about desired outcomes, are critical factors in the improvement of teaching and learning (Caprara, Barbaranelli, Steca, & Malone, 2006; Geijsel, Slegers, Stoel, & Kruger, 2009; Raudenbush, Bhumirat, & Kamali, 1992; Ross, 1992; Tschannen-Moran, Hoy, & Hoy, 1998; Takahashi, 2011). In other words, teachers’ sense of efficacy refers to personal beliefs about their capacity to manage instructional activities such as planning, organizing and achieving goals at a desired level (Skaalvik, 2007; Dellinger, Bobbett, Olivier, & Ellet, 2008).

When efficacy for teaching is high, teachers tend to utilize a variety of instructional strategies that are autonomy-supportive and positive for student engagement and achievement outcomes, even when faced with challenging situations (Fives & Alexander, 2004; Lin, Gorrell, & Taylor, 2002; Skaalvik & Skaalvik, 2007; Tschannen-Moran, Woolfolk-Hoy & Hoy, 1998; Woolfolk & Hoy, 1990; Woolfolk, Rosoff, & Hoy, 1990). Teachers with high self-efficacy and task persistence tend to exhibit greater academic focus (Gibson & Dembo 1984), criticize students less (Ashton & Webb 1986), and become enthusiastic about adopting new methods and techniques (Gurcay, 2012). Teachers with a higher sense of efficacy (Tschannen-Moran, & Hoy 2001) and greater enthusiasm for teaching (Allinder, 1994; Guskey, 1984; Hall, Burley, Villeme, & Brockmeier, 1992), have a greater commitment (Coladarsi, 1992; Evans & Tribble, 1986; Trentham, Silvern, & Brogdon, 1985) to teaching and are more likely to remain in teaching and experience low levels of burnout (Betoret, 2006; Skaalvik & Skaalvik, 2010).

Innovativeness

Innovativeness can be defined as the process in which new ideas are put into practice (Nail, 1994). Rogers (1995) defines innovativeness as “the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of a social system” and classifies adopters based on the time at which they adopt an innovation. Agarwal and Prasad (1998) define technological innovativeness as becoming “more enthusiastic about experiencing/using new information and communication technologies than the other people in the environment of the individual”. Individuals with higher innovativeness thus have more positive attitudes towards these technologies and are able to take risks in terms of their use and application (Yi, Fiedler & Park, 2006).

Innovativeness can be an umbrella term for risk-taking, openness to experiences, creativeness and opinion-leading. Clearly, individuals have different experiences with and orientations to innovativeness. Rogers (1995) classifies individuals into five different categories in terms of their innovation characteristics. These categories are Innovators, Early Adopters, Early Majority, Late Majority and Laggards (Kilicer & Odabasi, 2010).

The infusion of technology into the discipline of education has affected teaching, learning, and planning processes (Yildirim, 2000). Today's teachers are expected to be technologically literate and to incorporate technological tools into their teaching practice (Pamuk & Peker, 2009). Hopson, Simms, and Knezek (2002) thus observe that technological improvements in the form of instructional and pedagogical developments have changed ordinary education standards. These technology-driven developments have led to changes in teaching/learning methods and environments (Marina, 2001). Furthermore, researchers (Zimmerman, 1986; Ropp, 1998; Lewis, 1998; Drucker, 2000; Balci, 2011) expect that technology will continue to change and advance learning

environments and strategies. Accordingly, the incorporation of new technologies in school curricula and the demand for teachers who are capable of using these technologies is increasing (Pamuk & Peker, 2009). Teachers must not fall back on using only the most basic technological tools; they must also be enthusiastic about new technology and its possibilities as well. High innovativeness levels are the expected outcomes when teachers take the responsibility for infusing innovations into their students.

Researchers (Berman, McLaughlin, Bass, Pauly, & Zellman, 1977; Guskey, 1988; Stein & Wang, 1988; Czerniak & Lumpe, 1996; Tschannen-Moran & Hoy, 2001) have noted that teachers with a high sense of efficacy are more open to new ideas and are more willing to implement instructional innovations and experiment with new methods to better meet the needs of their students. There are, however, only a few studies analyzing the relationship between individual innovativeness and one's perceived sense of efficacy. This study thus focuses on the relationship between the individual innovativeness levels and self-efficacy beliefs of student teachers. It attempts to determine how the innovativeness levels of student teachers effect their sense of efficacy. The socioeconomic status and gender of the student teachers constitute the other variables in the study.

METHOD

Population and Sample

This study was conducted with the senior student teachers studying at the Faculty of Education of Pamukkale University - fourth year students who have completed their in-school practicum. The population for this study consisted of 1079 student teachers, 260 of whom were sampled for the study. Because they did not complete the instrument, eight (8) student teachers were excluded and so 252 student teachers were included in the study. Of these, 167 (66%) student teachers were female and 85 (34%) were male. The distribution of student teachers based on their majors is as follows: 82 (32.5%) from Primary School Teaching, 39 (15.5%) from Preschool Teaching, 9 (3.6%) from English Language Teaching, 25 (9.9%) from Social Sciences Teaching, 15 (6.0%) from Music Teaching, 25 (9.9%) from Arts Teaching, 21 (8.3%) from Science Teaching and 36 (14.3%) from Turkish Language Teaching.

Instruments

To collect the data, the following three separate instruments were administered: the Individual Innovativeness Scale (Kilicer & Odabasi, 2010) to measure individual innovativeness, the Socioeconomic Level Scale (Bacanli, 1990) to determine socioeconomic levels, and the Ohio State Teacher Efficacy Scale (Baloglu & Karadag, 2008) to measure the self-efficacy perceptions of student teachers.

Individual Innovativeness Scale (IS): The IS was designed by Hurt, Joseph and Cook (1977) to measure the general innovativeness of individuals and was adapted into Turkish by Kilicer & Odabasi (2010). While adapting the scale, the correlated factors were found in the 20-item Turkish in the scale. These factors were "Resistance to change", "Opinion-leading" and "Risk-taking" based on the literature and the features of these items. These four factors accounted for common variances between .415% and .628%. The reliability and validity of the scale was tested with 343 university students. To determine the internal validity of the Turkish form, Cronbach's alpha correlation coefficient was computed. As a result of the analysis, the internal validity for the scale was found to be $\alpha=0.82$, and the internal validity coefficients for the factors were found to be $\alpha=0.81$, $\alpha=0.73$, $\alpha=0.77$ and $\alpha=0.62$ for "Resistance to change", "Opinion-leading" and "Risk-taking" respectively.

The original scale consisted of 20 items based on a five-point Likert-type scale that ranged from strongly agree to strongly disagree and involved five different categories from innovator to laggard. The scale was comprised of 12 positive items (1, 2, 3, 5, 8, 9, 11, 12, 14, 16, 18 and 19) and 8 negative items (4, 6, 7, 10, 13, 15, 17 and 20). The innovativeness score was computed by subtracting the scores of the negative items from the score of the positive items, and adding 42 points to this score. Using the scale, the lowest possible score was 14 and the highest possible score was 94. Based on the calculated scores, individuals were categorized in terms of their innovativeness. Individuals with a score of 80 or more were classified as "*Innovator*", with a score between 69 and 80 as "*Early Adopters*", with a score between 57 and 68 as "*Early Majority*", with a score between 46 and 56 as "*Late Majority*" and with a score below 46 as "*Laggard*". It was thus possible to make evaluations about the innovativeness levels of the individuals based on their scores.

The Socioeconomic Level Scale (SLS): To identify the socioeconomic levels of the student teachers, the Socioeconomic Level Scale developed by Bacanli (1990) was administered. Some of the items were revised to better reflect present conditions. Choices for the question about monthly income, for example, were renewed. Some of the possessed goods were removed and other goods were added based on current technologies. Fridge, for

instance, was replaced by dishwasher. There were 16 items in the scale. Fifteen of the items had a certain score for each item option, and a score was assigned in the 12th question based on the number of possessed goods. At the end of administration, the points associated with each items were summed and the total score was obtained. To determine the socioeconomic levels of participants, standard deviation was subtracted from the arithmetic mean ($41-9=32$), and this score was categorized as *low socioeconomic level* (SL). By adding standard deviation to the arithmetic mean, *high SL* was thus determined ($41+9=50$). Scores between 32 and 50 were considered a *medium SL*.

The Ohio State Teacher Efficacy Scale (OSTES): This scale, developed by Tschannen-Moran & Woolfolk-Hoy (2001), was designed to evaluate teachers' sense of efficacy. The Ohio State Teacher Efficacy Scale was adapted into Turkish by Baloglu & Karadag (2008) and is now referred to as the Teachers' Sense of Efficacy Scale (TSES). Five-correlated factors were found in the 24-item scale and so the subscales were entitled "Guidance", "Behavioral Management", "Motivation", "Instructional Skills" and "Assessment and Evaluation". The eigenvalues and the explained variances of the subscales were respectively: (I) 3.262 and 13.591%, (II) 3.062 and 12.759%, (III) 2.465 and 10.273%, (IV) 2.402 and 10.009% and (v) 1.587 and 6.612%. The sum of the eigenvalues and the explained variances were 12.778 and 53.243% respectively. To identify the internal validity coefficient, Cronbach's alpha coefficient was computed. As the result of this analysis, the internal validity was found to be $\alpha=.90$ for the whole scale. For the subscales of "Guidance", "Behavioral Management", "Motivation", "Instructional Skills" and "Assessment and Evaluation" the results were $\alpha=.79$, $\alpha=.78$, $\alpha=.73$, $\alpha=.69$ and $\alpha=.66$, respectively.

Procedure

Data was obtained from student teachers studying at the Faculty of Education of Pamukkale University throughout the last two weeks of the 2011-2012 spring term. The data, across the different majors, was collected from the student teachers voluntarily after they finished their in-school practicum. Students who did not take school experience courses were excluded from the study. The instruments were administered in the classrooms of the participants, and adequate time was given to students to complete the questionnaire.

Data Analysis

To examine the consistency of the data, the required statistical analysis was carried out, and it determined that a normal distribution was not present. Accordingly, the Kolmogorov-Smirnov value of the data was calculated as less than .05 excluding the resistance to change subscale on the individual innovativeness scale. For the Ohio State Teacher Efficacy Scale, the Kolmogorov-Smirnov value was calculated as less than .05, as well. There was not a normal distribution largely because it was less than the Kolmogorov-Smirnov table value. As the result of these tests, non-parametric tests were conducted in the data analysis. For the statistical analyses, the level of significance was considered to be 0.05. In analyzing the data, arithmetic mean, standard deviation, the Mann Whitney U test, the Kruskal Wallis test and Spearman's Correlation test were applied.

RESULTS

For views of the participants on individual innovativeness and teachers' sense of efficacy, the results of the descriptive statistics (mean, standard deviation, Cronbach's alpha value, the Kolmogorov-Smirnov test, and correlation coefficients) are presented in Table 1.

Table 1: Descriptive Statistics and Correlations (N=252)

Scale and Sub-scale	Descriptive Statistics			Kolmogorov-Smirnov		Spearman Correlation Coefficient				
	χ^2	SD	α	Z	p	5	6	7	8	9
Individual Innovativeness Sub-Scale										
1. Resistance to Change	2.67	.73	.85	1.120	.163	-.252**	-	-.118	-.121	-
2. Opinion-leading	3.70	.65	.78	1.534	.018	.314**	.266**	.421**	.376**	.179**
3. Openness to Experiences	3.96	.63	.79	2.179	.000	.328**	.450**	.361**	.245**	.415**
4. Risk-taking	3.57	.84	.67	2.306	.000	.187**	.347**	.254**	.178**	.217**
Teacher Efficacy Sub-scale										
5. Behavioral Management	3.87	.48	.61	1.553	.016					
6. Motivation	4.06	.46	.73	1.600	.012					
7. Instructional Skills	3.84	.46	.66	1.789	.003					
8. Assessment and Evaluation	3.88	.54	.62	3.541	.000					
9. Guidance	3.96	.46	.73	1.513	.021					

**Correlation is significant at the 0.01 level (2-tailed).

Based on Cronbach’s alpha internal validity coefficients, the scales are highly reliable since they are between .66 and .85 intervals. In the Individual Innovativeness Scale, the scores for resistance to change are close to the mean (\bar{x} =2.67/5), and the scores for the opinion-leading, openness to experiences and risk taking subscales (\bar{x} =3.70/5, \bar{x} =3.96/5 and \bar{x} = 3.57 respectively) are at high levels. According to these results, the student teachers resist change at a moderate level, and their views on opinion-leading, openness to experiences and risk-taking are above average. The student teachers’ sense of efficacy can be said to be fairly high, between \bar{x} =3.84/5 and \bar{x} =4.06/5. In Baloglu and Karadag’s study, the self-efficacy level of student teachers varied between \bar{x} =3.81/5 and \bar{x} =4.06/5 as well.

Based on the correlation analysis, a poor, negative and significant relationship at the level of p=.01 was found between resistance to change and the behavioral management, motivation and guidance subscales of the self-efficacy scale. However, there is a significantly positive relationship at the level of p=.01 between the five subscales of the teachers’ sense of efficacy scale and the other subscales of the individual innovativeness scale. The correlation coefficients vary between .178 and .450, and these values indicate a poor and moderate relationship.

As part of the study, the individual innovativeness scores of the student teachers were estimated. Student teachers with two points more than the standard deviation are deemed innovators. Student teachers with scores between one point more than standard deviation and two points more than standard deviation are deemed early adopters. Student teachers with scores between one point more than standard deviation and the mean are the early majority. Student teachers with scores between the mean and one point less than standard deviation are the late majority. Lastly, student teachers with scores one point less than the standard deviation are deemed laggards. The distribution of student teacher individual innovativeness scores are presented in Table 2.

Table 2: The Distribution of Individual Innovativeness Scores (N=252)

Categories of individual innovativeness	Individual innovativeness classification and scores	Frequency	Percent
Innovator	82>	6	2.4
Early Adopter	74-81	40	15.9
Early Majority	67-73	82	32.5
Late Majority	66-58	107	42.5
Laggard	57<	17	6.7

As shown in Table 2, approximately half of the student teachers are laggard and late majority, and have low innovativeness scores. Of note, the number of laggard and late majority student teachers is three times more than the number of early adopters and innovators. When the early majority group is considered to be cautious and deliberate around innovations, it can be said that the innovativeness level of the student teachers is low. This is concerning.

The effects of innovativeness levels of the student teachers on their sense of efficacy are presented in Table 3.

Table 3: The Effect of Individual Innovativeness Levels on Student Teachers’ Sense of Efficacy

Subscale	Groups	N	Mean Rank	SD	χ^2	p	Significance
Behavior	1- Innovator	6	172.00	4	4.57	.334	No significance.
	2-Early Adopters	40	135.71				
	3-Early Majority	82	128.99				
	4-Late Majority	107	118.17				
	5-Laggards	17	129.18				
Motivation	1-Innovator	6	215.00	4	16.68	.002	Innovator - Early Adopters Innovator - Early Majority Innovator - Late Majority Innovator – Laggards Early Adopters - Late Majority
	2-Early Adopters	40	146.50				
	3-Early Majority	82	130.59				
	4-Late Majority	107	112.16				
	5-Laggards	17	118.74				
Instruction	1-Innovator	6	202.33	4	17.03	.002	Innovator - Early Majority Innovator - Late Majority Innovator – Laggards Early Adopters - Late Majority Early Majority - Late Majority
	2-Early Adopters	40	143.26				
	3-Early Majority	82	137.33				
	4-Late Majority	107	111.13				
	5-Laggards	17	104.79				
Assessment	1-Innovator	6	191.42	4	6.50	.165	No significance.
	2-Early Adopters	40	134.51				
	3-Early Majority	82	123.59				
	4-Late Majority	107	123.76				
	5-Laggards	17	116.03				
Guidance	1-Innovator	6	193.83	4	14.07	.007	Innovator - Late Majority Innovator – Laggards Early Adopters - Late Majority Early Adopters - Laggards
	2-Early Adopters	40	148.45				
	3-Early Majority	82	131.84				
	4-Late Majority	107	113.84				
	5-Laggards	17	105.03				

The effect of individual innovativeness scores on student teachers’ sense of efficacy was analyzed using the Kruskal-Wallis test. The significant groups were compared one by one with the Mann Whitney U test. Based on the results of these tests, at least two group means are significant in the motivation, instruction and guidance subscales in terms of their sense of efficacy. For the behavior and assessment/evaluation subscales, a significant correlation could not be found between the scores of individual innovativeness and sense of efficacy.

In the motivation subscale, the scores of early adopters, the early majority, the late majority and laggards are differentiated significantly in favor of innovators. The scores of early adopters are differentiated significantly from the scores of laggards in favor of early adopters. In the instruction subscale, the scores of the innovators are significantly differentiated from the early majority, the late majority and laggards in favor of innovators; early adopters from the late majority in favor of early adopters; and early majority from the late majority in favor of early majority. On the guidance subscale, the scores of innovators and early adopters are significantly differentiated from the scores of the late majority and laggards.

Having a high individual innovativeness score was not significantly differentiated on the behavior and assessment subscales. High individual innovativeness scores, however, indicate high self-efficacy on the motivation, instruction and guidance subscales.

The individual innovativeness scores of student teachers were analyzed with the Kruskal-Wallis test by comparing results with the socioeconomic level of the student teachers. The results of this analysis are presented in Table 4.

Table 4: A Comparison of the Views of Student Teachers about Innovativeness with Their SL

	SL_3	N	Mean Rank	SD	χ^2	p
Resistance to Change	Low	48	133.16	2	.498	.780
	Moderate	161	125.05			
	High	43	124.50			
Opinion-leading	Low	48	114.81	2	2.565	.277
	Moderate	161	126.60			
	High	43	139.19			
Openness to Experiences	Low	48	124.46	2	1.488	.475
	Moderate	161	123.84			
	High	43	138.74			
Risk-taking	Low	48	139.75	2	2.799	.247
	Moderate	161	121.14			
	High	43	131.79			

As is seen in Table 4, a significant relationship could not be found between the individual innovativeness scores and SL of the student teachers. In other words, SL does not have an effect on the individual innovativeness scores of the student teachers. The reason for this might be that innovative technologies are getting cheaper and so individuals from each SL are able to acquire basic innovative goods, information technologies and knowledge.

It is commonly highlighted in the literature that teachers are largely from low and moderate socioeconomic. As shown in Table 5, the student teachers in this study are mostly of the moderate socioeconomic level. The Kruskal-Wallis test was conducted to see if the socioeconomic level of the student teachers had an effect on their sense of efficacy.

Table 5: Student Teachers' Sense of Efficacy Based on Their SL

	SL_3	N	Mean Rank	SD	χ^2	p
Behavior	Low	48	117.60	2	.902	.637
	Moderate	161	128.46			
	High	43	129.10			
Motivation	Low	48	118.74	2	1.856	.395
	Moderate	161	125.49			
	High	43	138.95			
Instruction	Low	48	131.29	2	.302	.860
	Moderate	161	124.85			
	High	43	127.34			
Assessment/Evaluation	Low	48	126.63	2	.762	.683
	Moderate	161	124.28			
	High	43	134.66			
Guidance	Low	48	119.39	2	.606	.739
	Moderate	161	127.70			
	High	43	129.97			

A significant difference could not be found between the SL of the student teachers and their sense of efficacy. In other words, SL does not have a significant effect on the student teachers' sense of efficacy.

In many studies carried out with student teachers, gender is used as the independent variable. The effect of gender has, not surprisingly, been studied on a host of dependant variables. In this study, the effect of gender on individual innovativeness scores and student teachers' sense of efficacy was analyzed. The data from this analysis is presented in Table 6.

Table 6: The Effect of Gender on Individual Innovativeness Scores and Student Teachers' Sense of Efficacy

	Gender	N	Mean Rank	Sum of Ranks	U	p
Resistance to Change	Female	167	126.56	21135.00	7088.00	.986
	Male	85	126.39	10743.00		
Opinion-leading	Female	167	124.12	20728.00	6700.00	.465
	Male	85	131.18	11150.00		
Openness to Experiences	Female	167	126.01	21044.00	7016.00	.881
	Male	85	127.46	10834.00		
Risk-taking	Female	167	122.70	20491.50	6463.50	.237
	Male	85	133.96	11386.50		
Behavioral Management	Female	167	129.06	21553.00	6670.00	.430
	Male	85	121.47	10325.00		
Motivation	Female	167	123.41	20610.00	6582.00	.343
	Male	85	132.56	11268.00		
Instruction	Female	167	124.65	20817.00	6789.00	.569
	Male	85	130.13	11061.00		
Assessment and Evaluation	Female	167	121.95	20365.00	6337.00	.144
	Male	85	135.45	11513.00		
Guidance	Female	167	129.52	21629.50	6593.50	.354
	Male	85	120.57	10248.50		

As shown in Table 6, a significant relationship could not be found between gender, and individual innovativeness, and student teachers' sense of efficacy. In other words, being male or female did not have a significant effect on the innovativeness and self-efficacy of the student teachers.

DISCUSSION

Based on the student teachers' views of individual innovativeness, their resistance to change is at moderate level and they have a high desire for opinion-leading, openness to experiences and risk-taking. The mean and standard deviation of individual innovativeness are ($C = 66.82$) and ($Sd = 7.56$). In Kilicer and Odabasi's (2010) study, the mean and standard deviation of individual innovativeness are ($C = 66.86$) and ($Sd = 8.94$). The mean score was 66.03 in the study authored by Yalcin and Yelken (2011). All three studies were conducted with student teachers and the results of each are remarkably similar. A different situation emerges, however, when student teachers are classified in terms of their individual innovativeness scores. As one third of the student teachers are cautious and deliberate when it comes to changes, they can be deemed to not have decided on their path. Half of the remaining student teachers are laggards and the late majority, and just one out of five is an innovator or early adopters. The distribution of innovativeness scores for laggards and the late majority differs from Baloglu and Karadag's study. The percentage of laggards in the present study is 6% lower and the percentage of the late majority is 6% higher than in Baloglu, and Karadag's study. The current study also differs from the studies of Hurt, Joseph, and Cook (1977) and Rogers (1995).

In terms of the relationship between individual innovativeness and student teachers' sense of efficacy, there is a poor, negative and significant relationship at the level of $p = .01$ between resistance to change and the other subscales of behavioral management, motivation and guidance. There is a significantly positive relationship at the level of $p = .01$ between the five subscales of the teachers' sense of efficacy scale and the behavioral management, motivation and guidance subscales of the individual innovativeness scale. In the innovativeness and self-efficacy relationship, the two correlated concepts are innovation and self-efficacy. In this relationship, self-efficacy enhancing innovation and self-efficacy transforming innovation have been discussed by Cakmakci (2008). In this relationship between innovativeness and self-efficacy, the resistance to change subscale correlates significantly with other subscales excluding the subscales of instructional skills and assessment/evaluation.

When the effect of individual innovativeness on students teachers' sense of efficacy is considered, the individual innovativeness levels correlate significantly with the motivation, instructional skills and guidance subscales of the sense of efficacy scale. For the behavior and assessment-evaluation subscales, there is not a significant relationship with individual innovativeness levels. According to these results, the self-efficacy beliefs of student teachers with a high individual innovativeness score are significant for early adopters, the early majority, the late majority and laggards in the motivation subscale. The innovators believe that they will motivate students better than the other groups. The same situation can be observed between early adopters and laggards in favor of

early adopters. Celik (2003, pp. 147-152) defines innovativeness as an important internal motivation tool. Student motivation in turn increases in encounters with new tools and ideas.

In the instructional skills subscale, the scores of innovators are significantly different from the scores of the early majority, late majority and laggards; the scores of early adopters from the scores of the late majority; and the scores of the early majority from the scores of the late majority. In the guidance subscale, the scores of innovators and early adopters differ significantly from the scores of the late majority and laggards. According to these results, having a high individual innovativeness score has a positive effect on self-efficacy beliefs in terms of motivating students, developing instructional skills and guiding students. In other words, the higher individual innovativeness score a student teachers has, the greater their sense of efficacy in terms of their motivating, guiding and instructing abilities.

Research related to self-efficacy has investigated the relationship between self-efficacy and variables such as gender, age, socio-economic status, and experience with gender being the most investigated of these. In this study, when considering the SL of the student teachers, a statistically significant difference could not be found between the individual innovativeness scores and self-efficacy scores of the student teachers. In other words, SL does not have an effect on the innovativeness and self-efficacy beliefs of the student teachers. Gender likewise does not correlate with the innovativeness and self-efficacy of the student teachers. In other words, being male or female is not a predictor of innovativeness or self-efficacy. A number of studies (Riggs, 1991; Cantrell, Young & Moore, 2003; Mulholland, Dorman & Odgers, 2004; Chan, 2004; Gencer & Cakiroglu, 2007; Rastegar & Memarpour, 2009; Pamuk & Peker, 2009; Gulden, Yaman, Deringol, Ozsari, 2011; Gungor & Yayli, 2012) corroborate the findings of this study in terms of the absence of a gender impact. There are, however, a few studies that contend that males or females have a higher sense of efficacy (Evans & Tribble, 1986; Kalaian & Freeman, 1994; Chester & Beaudin, 1996; Celep, 2000).

CONCLUSION

Student teachers' sense of efficacy decreases when they resist change. Their sense of efficacy increases, on the other hand, when they are open-minded, take risks and seek to be opinion leaders. In this study, nearly half of the student teachers were found to be among the late majority or laggards, while only one out of five was an innovator or early adopter. One of three was deemed to be among the early majority.

Student teachers' sense of efficacy was evaluated in terms of their individual innovativeness. There was not a statistically significant result for the behavior and assessment/evaluation subscales. In other words, being innovator or a laggard did not affect the behaviors and assessment/evaluation understanding of student teachers. Their sense of efficacy was found to be statistically significant in terms of the motivation, instruction and guidance subscales. On these subscales, the self-efficacy beliefs of student teachers increase according to their innovativeness category. The self-efficacy scores of laggards are thus lower than the scores of innovators.

Socioeconomic level and gender did not have an effect on the student teachers' sense of efficacy and innovativeness. Thus, it did not matter from which socioeconomic level or gender the student teachers came from. Based on the results of this study, the innovativeness of student teachers must be reinforced. Student teachers could, for example, be encouraged to adopt more innovative techniques and applications from/for in-class activities.

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Theoretical Insights into Curriculum Reform in Botswana

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Abstract

This paper examines the technicist approach to curriculum innovation and argues that the approach is wanting in that it ignores a number of important factors. These factors which determine whether an innovation will succeed or fail include: the characteristics of the innovation, local factors, external factors, and the importance of the context and culture. These are exemplified by what has happened to the Botswana General Certificate of Secondary Education given recent curriculum and assessment innovation. The results of this study clearly demonstrate that the above factors are crucial if curriculum reform is to achieve its desired objectives. This study concludes that because local context and culture, such as teacher-dominated classroom cultures and the availability of material resources in schools, are usually not taken into consideration, curriculum reform often fails.

Keywords: Curriculum, Innovation, Curriculum reform, Curriculum implementation, Curriculum assessment.

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INTRODUCTION

The traditional framework for understanding educational reform or pedagogical change has been the technicist paradigm. Teachers' classroom practices have thus tended to be explained in terms of technical issues only. Likewise, teachers' failure to adopt pedagogical innovation has been attributed to technical issues such as poor teacher training programs leading to poor teacher quality, a lack of resources, and poor examinations, among others. Measures taken to address the problems associated with teaching have also tended to be technicist in nature involving massive investments of time and resources in teacher in-service programs, workshops and seminars, all aimed at changing classroom teaching practice. While this paradigm is useful, to some extent, in explaining educational reform, it is not adequate as it ignores the wider social context that influences the locus of pedagogical change.

The main problem with the technicist approach is its implication that teaching is a value-free, objective activity whose problems are solvable through the application of the rigorous procedures of the scientific method (Senge, 1990; McNiff, 1988; Smyth, 1991; Tabulawa, 1997; Tabulawa, 1998). Schon (1983, p21) has referred to this technical rationality as the "view that ...professional activity consists in instrumental problem-solving made rigorous by the application of scientific theory and technique". This input-outcome model of curriculum, which is typical of the empiricist/positivist tradition, renders pedagogical reforms far less problematic than they actually are.

This paper posits that the technicist input-output model of curriculum development, typical of the technicist approach to educational change, tends to ignore the wider social context that influences the locus of pedagogical change. Tabulawa (1997) has problematized current pedagogical processes by contending that the teacher-centred pedagogical style and classroom organization in Botswana schools is a product of social, economic and historical forces, and has evolved over a long period of time. This style, as suggested by Tabulawa (1997), now constitutes the taken-for-granted classroom world and is so rooted in educational institutions, it is almost a tradition. The fact that these teachers are working within a certain incomplete paradigm makes educational reform a mammoth and daunting task.

Fullan (2001) asserts that educational reform is more than just putting into place the latest policy as it involves changing the cultures of classrooms, schools, school districts, universities and the education system as a whole. Fullan (2001) further argues that the main reason innovations fail on any scale, and are not sustained when they do initially succeed, is that the infrastructure is weak or serving a different agenda. Infrastructure in this context includes the layers above the unit in question. A teacher, for example, cannot sustain change if he/she is working in an opposed culture, in the same way that a school can initiate and implement change but not sustain it if it is operating in an unhelpful district. The district cannot continue to innovate if it is working in a state or country that is not helping to sustain the reform.

Often times the culture of schools in an education system can work against reforms. As studies on Botswana classrooms have indicated, the prevailing pedagogic style, a teacher-centred style, can work against reform, especially if the proposed reforms are incongruent with the dominant approach (Alverson, 1977; Botswana, 1977; Fuller, 1991; Prophet & Rowell, 1990; Fuller, Snyder, Chapman, & Hau, 1994; Tabulawa 1997; Yandila, Komane, & Moganane, 2003). In such a system or context, even those at the core of the reform may act in ways that slow or obstruct the reform. For Fullan (2001), there are a number of factors in the implementation process that need to be carefully considered if reform is to succeed and become institutionalized. These factors are: 1) the characteristics of the innovation, 2) local characteristics, and 3) external factors.

The Characteristics of the Innovation

The characteristics of innovation include issues such as need, clarity, complexity, and quality or practicability. Need involves asking oneself whether the main players, such as teachers, see the need for the advocated change and how urgent they consider this need to be compared to other needs. Clarity refers to how clear the goals of the innovation are and whether the means of implementation have been identified. A lack of clarity, in the form of diffuse goals and unspecified means of implementation, can present major problems at the implementation stage; teachers and others may find that the change required is unclear in terms of how it translates into practice. Complexity refers to the difficulty and the degree of change required of the main players responsible for implementation. A determination should be made in regard to the difficulty, the skills, teaching strategies and materials required, and even the alterations in beliefs that the change will impose on the implementers. The quality and practicality of the innovation is also very important. Poor quality or the unavailability of needed materials and other resources can result when adoption decisions are made on the grounds of political necessity or perceived need without appropriate time for development.

Fullan (2001) contends that sometimes, especially in politically driven projects, when adoption is more important than implementation, decisions are made without the follow-up or preparation time needed to amass adequate materials. He concludes by asserting that to achieve large scale reform one cannot depend on people's capacity to bring about substantial change in the short run. Furthermore, one needs to propel this process with high quality teaching and training materials.

Local factors

Fullan (2001) asserts that there are a number of local factors that need to be considered if implementation of an innovation is to be successful. These include: 1) the local education administrative institution such as a regional school district or the Regional Education Office in the case of Botswana, 2) the role played by principals, and 3) the role played by teachers. Firstly, the support of the regional administration is critical for change in practice in the educational system. Teachers will not take change seriously unless central administrators demonstrate through actions that they should. Regional administrators can demonstrate that the innovation should be taken seriously by actively supporting new proposals through visits to schools in their regions and by following through on decisions and commitments.

Secondly, the role played by principals or headmasters must be taken into account. The main agents of change in a school are the principals and teachers. Research has shown that the principals' actions serve to legitimate whether a change is to be taken seriously and to support teachers both psychologically and in terms of

resources (Berman, 1977; Berman, Pincus, Weiler, & Williams, 1979; Fullan 2001). Prophet and Rowell's (1993) study on whether teachers were using the official learner-centred pedagogy in Botswana has revealed that teachers, students, and school administrators (headmasters & their assistants) were perfectly happy to maintain traditional teacher-dominated classroom interactions. In this case, headmasters are supporting their teachers and students in resisting an innovation from a central authority (the Ministry of Education). In such a situation the innovation cannot be expected to take root as the schools appear to be subverting the innovation.

Thirdly the role played by teachers must be considered. Both individual teacher characteristics and collective factors play can influence implementation. The psychological state of a teacher can be more or less predisposed to considering and acting on curriculum innovations. Some teachers, depending on their personality, and influenced by their previous experiences and the stage of their career, are more self-actualized and have a greater sense of efficacy, which spurs them to take action and persist in the effort required to effect successful change (Huberman, 1988; Fullan, 2001).

On the other hand Prodromou (1995) has argued that many teachers trapped in an endless examination preparation cycle, as is the case in Botswana, see innovative teaching approaches including student-centred communicative methodologies as luxuries they cannot afford. Here, teachers, who are believed to have more knowledge of the exam and its required preparations, are expected to dominate classroom discourse. It is thus not surprising that the Prophet and Rowell (1993) study cited above found teachers, students and school administrators to be perfectly content with teacher-dominated classroom interactions, in spite of the fact that the pedagogy dismissed the student-centred one recommended by the Ministry of Education. Several other studies on classroom practice in Botswana have reported that classroom interaction continues to be teacher-centred in spite of the fact that the Ministry of Education has prescribed a student-centred pedagogy (Fuller & Snyder 1991; Prophet & Rowell 1990; Fuller 1991; Fuller et al. 1994; Tabulawa 1997; Tabulawa 1998; Yandila et al. 2003).

External Factors

The third category of factors to be considered during curriculum reform is external factors. In the case of Botswana, the Ministry of Education (MoE) is the main external factor. The relationship of schools to the MoE is straight forward. The system is bureaucratic and hierarchical. MoE officers contact schools through headmasters and teachers contact MoE officers through the headmaster. This system makes contact and communication between teachers and the officers responsible for curriculum development and assessment formal and cumbersome.

The BGCSE syllabus innovation, for example, was designed at the political level of the central government who then delegated the working out the details of the syllabus to task forces that drew up the new BGCSE syllabi. Teacher representation took the form of a few teachers from a few schools on these task forces with the bulk of the teachers being excluded from the exercise. There were also representatives from some University of Botswana (UB) Departments, in particular the English Department and the Communication and Study Skills Unit, who assisted with the English syllabus. The syllabi were then taken to teachers through regional workshops where teachers could comment on the new document and suggest changes. The whole exercise was rather top-down and the majority of teachers felt too intimidated to make any meaningful suggestions as the document came to them, for the most part, as a finished product (Nkosana, 2006).

THE IMPORTANCE OF LOCAL CONTEXT AND CULTURE

It has been argued that an innovation usually fails because the reformers do not treat the local context and culture as vital. They impose external ideas without taking into account the unique local environment and lean towards quick fixes (Micklethwait & Wooldridge, 1996; Senge, 1990; Fullan, 2001). Tabulawa (2003) argues that pedagogical approaches like student-centred teaching methodologies are usually prescribed by educational reform donor agencies, and are not just value neutral technical issues. These reforms indeed involve values, particularly values intended not just to improve the learning of students, but to inculcate in them certain values and worldviews it is hoped will ultimately permeate throughout the host society. Tabulawa (2003) contends that the fact that the activity of these agencies increased after the fall of the Soviet block, including the fall of the Berlin wall and the democratization of Eastern Europe and the Soviet Union itself, is significant. The trend, from then onwards was to assist those places, and other regions and countries of the world seen not to be democratic by the rich western nations, to democratize.

The democratization of these countries was considered to be particularly difficult if their education systems were not democratic and were using what were deemed to be undemocratic pedagogical approaches, including teacher-centred approaches. Because the transformations that have taken place in western countries and which are taking place in former Soviet Union and Eastern Europe may have not taken place in Asian and African countries, new/external methodologies are often seen as foreign and so rejected. In other words, it may be that student-

centred methodologies are incongruent with the social and political contexts of these countries. This is, perhaps, the reason that student-centred methodologies have not yet gained a foothold in Botswana despite their promotion by the National Commission on Education and the syllabi that were implemented in the early 1980s.

Fullan (1993) contends that in a situation where the education system is fundamentally conservative, like that of Botswana, change will never come from merely designing better reform strategies, but from changing the mind-set of the education system. This is because in a conservative education system, the way teachers are trained, the way schools are organized, the way the educational hierarchy operates, and the way that education is treated by political decision-makers results in a system that is more likely to preserve the status quo than to change. When change is attempted it results in defensiveness, superficiality or at best short-lived pockets of success. For change to come about then, a new mind-set needs to develop in the system's major players. This will, in turn, help the whole education system to develop a greater capacity for change so that change becomes part of the system's culture.

Fullan (1993) argues that a new mind-set among major players and greater change capacity develops in the education system when teachers develop a clear moral purpose for teaching. The moral purpose of education is to make a difference in the lives of students regardless of their background and to help produce citizens who can live and work productively in increasingly dynamic and complex societies. This purpose can only be realized if teachers are continuously innovative and changing as society changes. Teachers must seek out and embrace innovation because their work entails making improvements, and to make improvements in an ever changing world is to contend with and manage the forces of change on a continuous basis (Fullan, 1993). Teachers and other players in an education system, such as the education officers in Botswana, must consider themselves and be seen as experts in the dynamics of change. If they become skilled change agents and can also internalize the moral purpose of education, they will make a difference in the lives of students from all backgrounds, and by so doing help produce a society with a greater capacity to cope with change.

Block (1987) contends that teachers and education officers with moral educational purposes should have personal visions. He asserts that "creating a vision forces us to take a stand for a preferred future" (p102). He goes on to note that if one articulates a vision one is forced to voice doubts about the organization and the way it operates as well as doubts about oneself and one's actions. According to Block (1987, p. 123), "we all have strong values about doing work that has meaning, being of real service to our customers, treating other people well, and maintaining some integrity in the way we work." If teachers can create and pursue their personal visions and moral purposes for teaching they will become moral change agents in society.

Fullan (1993) has argued that teachers' resistance to change is not a straight forward factor but must be understood within the broader context of the school, the education system and the wider economic and socio-political system. MacDonald (1977) suggests that a number of barriers to successful implementation can be identified which relate to the extra demands that are made of people and institutions, the embodiment of new value positions which mobilize resistance, and problems of understanding underlying principles. Empirical studies have shown that planned curriculum change that requires teachers to substantially change their behavioral roles and perceptions of students is not likely to succeed (Klein, 1980; Fullan, 1993; Fullan 2001). In other words, the success of a change can be a function of how congruent it is with teachers' current practices. It has also been argued that some teachers resist change because they are unconvinced of the benefits of the extra work required in the adoption of the innovation (Hurst 1981).

Doyle and Ponder (1977) have proposed what they call the practicality ethic to try to explain how teachers decide to adopt or reject an innovation. They assert that the practicality ethic is manifested in the common practice of teachers labeling certain change proposals as "practical" or "impractical". The labels are said to be non-technical expressions of the taken-for-granted world of the practitioner. They are expressions of teacher perceptions of the potential consequences of attempting to implement a change proposal in the classroom. Recommendations perceived as practical are ones which a given teacher will most likely incorporate. Those perceived as impractical have little chance of being tried unless control mechanisms, such as those which frequently accompany innovation projects, render teacher decisions unnecessary (Doyle & Ponder, 1977).

Doyle and Ponder (1977) go on to provide a useful theoretical framework called practicality for analyzing teacher decisions about accepting or rejecting a particular educational innovation. They see the practicality of a proposed change as a crucial element in the decision of teachers to adopt and implement a change. Their framework has three components: instrumentality, congruence, and costs. Instrumentality refers to how realistic the procedural guidelines are for the teacher. Congruence relates to how the proposed change fits with existing practices, classroom conditions and self-image of teachers and cost considers the positive returns in relation to the extra time and effort invested by teachers.

Practicality is perceived to be high when the innovation is deemed to satisfy all components of the framework and less when it meets only one or none of the components. In a study that assessed how curriculum reform was being implemented in Botswana, Nkosana (2006) studied teachers' response to the proposed

introduction of a speaking test in the BGCSE English examination. The results confirmed that teacher reaction to this innovation was guided by Doyle and Ponder's (1977) practicality framework.

In the study, teachers were asked whether they thought the recommended school-based continuous assessment of speaking skills was a feasible and practical proposition. The results revealed that 21/51 (41.2%) saw it as a feasible proposition, 11/51 (21.6%) didn't see it as a feasible proposition, and 19/51 (37.3%) were uncertain. Asked to provide reasons for their answers, those who thought that the innovation was not feasible noted the following: there are no resources for testing speaking (9/11, 81.8%); continuous assessment would not be a valid and reliable way of assessing students' speaking ability if done by unqualified examiners (5/11, 45.4%); and only written exams are fair (3/11, 27.2%). Those who were not sure gave the following reasons: the Ministry of Education never implements all its recommendations (7/19, 36.8%); speaking has never been tested before in Botswana (8/19, 42.1%); student numbers in each class and teacher workloads are already too high (3/19, 15.7%); speaking assessment would take up some of the time currently devoted to teaching (2/19, 10.5%); teachers do not know how to assess speaking (11/19, 57.8%); and the system is not ready for it (13/19, 68.4%). It seems clear from these reasons that those who were not sure if the testing was feasible, although they did not want to commit themselves, actually thought that it was not feasible. Consequently, the majority of the respondents, about 60% (58.9%), thought that testing speaking as recommended by the BGCSE English syllabus was not feasible.

Nkosana (2006) divided the reasons advanced by the teachers into four categories.

The First Category

The first category related to the unavailability of the resources needed for the successful assessment of speaking. The material resources mentioned by teachers, including audio-visual equipment such as tape players, video players and television monitors are not available in the schools in sufficient numbers to be used for the practice and assessment of speaking skills. These are required in the event the teacher or assessor is not sure what mark to give to a candidate's performance and needs to review it, especially in cases of paired or group testing where it may be difficult to adequately assess the performance of each candidate on the spot. Adequate recording equipment would make it easy to rate the performances of the candidates later or to review performances if the assessor or assessors doubt the fairness of their initial assessment.

In terms of human resources, many teachers reported that they were not qualified to assess and rate speaking. Some of the reasons they advanced included: teachers do not know how to assess speaking; the training they received did not equip them with the skills for assessing speaking; and teachers need proper training. It should be noted that the majority of ESL teachers who were then teaching in senior secondary schools in Botswana were trained to teach English for the COSC exam which did not test speaking, and so were not trained to assess speaking. This explains why some teachers claimed that they were not taught how to teach and assess speaking in their pre-service training.

In applying Doyle and Ponder's (1977) practicality framework to explain why/how teachers in Nkosana's (2006) study decide if something is feasible or not, most of the reasons advanced by the respondents for their uncertainty or unwillingness fit within the congruence part of the framework. Congruence relates to how the proposed change fits with the existing practices, classroom conditions and self-image of teachers. Most of the reasons provided thus have to do with how the proposed change related to respondents' existing practices, classroom conditions and self-image. The unavailability of material resources, for instance, such as audio-visual equipment in the schools implies that existing classroom conditions were not well suited to the assessment of speaking (one aspect of congruence). The reasons 'many teachers are not qualified to assess and rate speaking, and 'teachers do not know how to assess speaking' can be seen to invoke respondents' self-image. Thus when respondents assessed the conditions of the classrooms with regard to their suitability for the assessment of speaking and their own skills with regard to assessing speaking, they decide that the recommendation to assess speaking was not practical and therefore not feasible.

The Second Category

The second category of reasons advanced by teachers have to do with the difficulty of ensuring validity and reliability in an assessment involving numerous teachers with varying qualifications, experiences and backgrounds. In such a situation, for an acceptable level of validity and reliability to be achieved a considerable amount of teacher training in speaking assessment and in the rating of speaking performance would be needed. Moreover a system of moderation would need to be established to make sure the agreed upon procedures are followed and standards maintained. Establishing an efficient moderation system would be an expensive and daunting task for the Botswana Ministry of Education.

Here, two parts of the practicality framework, instrumentality, which relates to how realistic the procedural guidelines are to teachers, and congruence, seem to be useful in explaining respondent uncertainty or resistance. The reasoning that ‘continuous assessment would not be a valid and reliable way of assessing speaking ability if done by unqualified examiners’, has to do both with how realistic the procedural guidelines are (in this case for assessing speaking) to teachers and teachers’ self-image. While it was not clear to the teachers how speaking was going to be assessed as no guidelines had been provided by the Ministry at the same time some teachers realized they were not qualified to assess speaking. The cost aspect of the framework is also applicable here in regards to reasons such as ‘speaking assessment is too time-consuming’. When the teachers compared the effort and time they would have to invest in assessing speaking with the likely benefits, they decided that the recommendation to assess speaking was not practical or feasible. Given the above factors and reasoning, respondents in the study decided there were unsure about or opposed to the implementation of the Ministry’s recommendation.

The Third Category

The third category concerns the difficult logistics of assessing speaking in view of the large numbers of students involved. Problems relating to the logistics of assessing speaking were also mentioned by education officers who were part of Nkosana’s (2006) study. The BGCSE English classrooms are crowded as English is a compulsory subject. The problem of crowded classrooms is compounded by the fact that each teacher handles many classes and has a high teaching load of up to 40 periods per week or five day teaching timetable. The logistics of assessing speaking, even through coursework, in such a situation are daunting. Thus when teachers considered the crowded classrooms and high teaching loads they found these realities to be incongruent with the proposed changes and so they decide that the innovation was not practical or feasible.

The Fourth Category

The fourth category had to do with the view that the Ministry of Education never implements all its recommendations. Fullan (1993) asserts that in a system like that of Botswana, where education is highly centralized and under the control of political leadership, innovations can be introduced for political reasons rather than educational ones. In such a situation, a number of steps that should be taken to ensure successful implementation are not taken. Fullan (2001) contends, for instance, that a determination should be made in regard to difficulty, the skills, teaching strategies, materials and alterations of beliefs that the change will impose up its implementers. In the case of the BGCSE English syllabus, this pre-determination was not done as it seems that decisions were made based on nationalistic considerations without allowing adequate time for planning, preparation and development. The main concern of the Botswana government seemed to have been localizing the administration of senior secondary school examinations and certification as it did not want to continue to rely on a foreign organization (UCLES) for this (Botswana, 1991; Botswana, 1997). The decision was thus a top-down taken more for national political reasons than educational necessity. This is not to suggest that the educational pedagogy did not need reforming (there was need for reform as even under UCLES there was no assessment of speaking) but rather to indicate that because the decision was not made mainly for education reasons, certain implementation prerequisites were not fully considered before the decision was made. Some of the respondents confirmed this assessment in their opinion that ‘the system is not ready for it’. The other important reason teachers indicated that the recommended assessment of speaking was not feasible was the relative lack of experience assessing speaking in the Botswana public school system compared to experience with the other three skills of listening, reading, and writing.

CONCLUSION

This paper has examined the main theoretical framework that has been used to understand curriculum reform. The traditional and common technicist framework was found to be inadequate because of its implication that teaching is a value-free, objective activity whose problems are solvable through the application of the scientific method. It has also been argued that the technicist input-output model of curriculum development, typical of the technicist approach to educational change, tends to ignore the wider social context that influences the locus of pedagogical change. Lastly, it has been argued that educational reform requires more than just implementing the latest central government policy. It requires changing the culture of classrooms, schools, educational administrative institutions, universities and the education system as a whole. The role played by school principals and teachers in education reform was found to be important in any education reform initiative. This study concludes that if educational innovation is to be successful, all major players, including class teachers and students, need to be brought onboard

in order to secure their full cooperation in the implementation of the innovation. The necessary human and material resources must also be provided.

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Quantitative Analysis of Human and Material Resources in the Implementation of Vocational and Technical Education in Rivers State, Nigeria

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Abstract

This study examines the implementation of vocational and technical education programmes in Rivers State, Nigeria. A socio-technical system approach supported by human capital theory provided the framework for the study. A descriptive survey design was adopted and used for this study in which the population was comprised of five public technical colleges in Rivers State. A sample of 144 academic staff was selected using a stratified random sampling technique. This sample responded to a 30 item Vocational and Technical Education Programme Implementation Assessment Questionnaire (VATEPIAQ) designed by the researcher and based on a modified Likert-type model. Descriptive statistics were used for data analysis. This study found that the quality of teaching staff in vocational and technical schools is moderately high, but relatively inadequate. The facilities available in vocational and technical schools in Rivers State for programme implementation are grossly inadequate and in poor condition. It is recommended by this study that only professionally qualified technical and science teachers be recruited into the system. Those without professional qualification who are already in the system should be encouraged to undergo post-graduate diploma courses in education.

Keywords: Quantitative Analysis, Human and Material Resources, Implementation, Vocational and Technical Education, Nigeria.

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INTRODUCTION

With the onset of colonialism and the introduction of Western education in Nigeria, science and technical education have long been treated as relatively insignificant aspects of the country's education system. This has created a situation whereby the majority of Nigerian youth, especially prior to the last decade, were trained for clerical and/or white collar jobs and so failed to develop a number of practical skills. The early pre and post-independence education policies aimed at sustaining the new and independent political structure and administration thus led to high rates of unemployment, and increases in crime rate and juvenile delinquency. In other words, the marginalization of practical education indirectly fed the creation of new social problems that Nigeria continues to contend with (Fafunwa in Nwosu, 2005). It is increasingly important that schools not only develop the mental, moral and physical capabilities of the

students, but also enable them to acquire skills in technology, including computer literacy, so that they might participate effectively in contemporary economic activities. In other words it is the role of the education system to ensure that the population is reproduced culturally and socially, and that the children, in particular imbibe the values and skills they need to function as mature adults.

The political, economic and cultural changes brought about by the country's independence highlighted the need for total reform of the education system in Nigeria. In 1969 a national curriculum conference was held in Lagos in response to this need. Its greatest result was a new philosophy for Nigerian education that later gave birth to the National Policy on Education first published in 1977 and later revised several times (1981, 1989, 2004). The National Policy on Education became the first document to streamline education concepts and goals and to prescribe uniform operation of the country's educational system, thereby giving vocational and technical education programmes in Nigeria a scheme of place.

Vocational and technical education, according to Yusuf (2006), is a form of education that seeks to prepare persons for employment in recognized occupations. This type of education provides the skills, knowledge and attitudes necessary for effective employment. Odogwu (2005) describes vocational education as a type of education that emphasises preparation and participation in an occupation of social value. Contrasted with general education, vocational education is skill-oriented and trains both the head and the hands (Oranu, 2009). The Federal Republic of Nigeria (2004) further describes vocational education as that aspect of education that leads to the acquisition of practical skills as well as applied scientific knowledge.

This type of education was underemphasised in the early Nigerian education. Jacob (2006) lamented that in the early Nigerian education system, little focus was placed on vocational and technical training that could produce persons adequately skilled, confident and properly oriented towards eventual self-employment and self-reliance. This phenomenon, he concludes, accounts for the large scale unemployment of youth still today. This neglect does not in the least suggest that there were no attempts by the government in those early days to implement skill acquisition and training. To the contrary, Nworise (2006) reports that attempts were made to introduce vocational and technical education into the school system as far back as 1847, with the recommendation of the Privy Council to the colonial office. The committee recommended among other things that Nigerian schools should:

- a) Provide a means of improving on the conditions of the peasantry by teaching them how health may be preserved by proper diet, cleanliness, ventilation and clothing.
- b) Give practical training in household economy and in the cultivation of the cottage garden as well as those common hand crafts by which a labourer may improve his domestic comfort.
- c) Provide an improved agriculture to replace the system of exhausting the virgin soil and living to natural influence alone the work of reparation.

In the traditional period, vocational programmes included: metal smelting, weaving (cloth and mat), dyeing, pottery, leather work, bead making, wood carving and canoe carving, artistry, agricultural activities, singing, dancing, music, hair styling, tattoo or body art, and hunting. The modern vocational curriculum, which has been enlarged, includes: carpentry and joinery, furniture making, baking, shoe making and repairing, dress making, sign writing, photography, metal work, hairdressing, fashion design, fabrication, motor mechanic work, electronic servicing, mechanical engineering, building, home economics, advanced agriculture, and secretarial and accounting work. Today it is referred to as vocational and technical education to justify the application of science and technology in the training of most of the contemporary trades and crafts (FRN, 2004). The objectives of technical and vocational education in Nigeria today are such that if adequately implemented, will bring about the revolution of technological development in Nigeria thereby having a significant and positive impact on the national economy. These objectives include, among others, the training of manpower particularly at professional grades, the provision of technical knowledge and vocational skills, and providing training and skills that lead to the production of craftsmen, technicians and other skilled personnel (FRN, 2004).

The fact remains, however, that none of these will be accomplished if students in schools are improperly trained. Effective training of students cannot be accomplished in the absence of certain ingredients that create conducive environments for teaching and learning. These ingredients include the right quality and quantity of teachers, well equipped workshops and laboratories with up-to-date materials, and adequate tools and other materials. Omekwe (2009) argues that for the effective implementation of any education programme, adequate human and material resources must be made available to the schools. In particular, a large enough number of trained teachers with different types of expertise (science, language, technology, etc.) must be recruited and posted to the schools as and when required. In addition, for effective management, academic staff must be complemented by non-academic staff in proportionately adequate numbers.

The importance of vocational and technical education cannot be overemphasized. The Federal Republic of Nigeria (2004) noted that the federal government recognizes the importance of vocational and technical education

and the need to relate its programmes to the requirements of commerce and industry. The Curriculum Conference of 1969 did, in fact, give vocational and technical education its deserved position and prominence. Likewise, the Federal Republic of Nigeria (2004) has since recommended that Introductory Technology, Practical Agriculture and some pre-vocational subjects be made core subjects at junior secondary schools. At the senior secondary school level, agriculture and food and nutrition are now offered.

The Federal Republic of Nigeria (2004) stated that as part of the Nigeria Certificate in Education (NCE) and at degree levels, teacher education programmes will be expanded to cater to the requirements of vocational, technical and commercial education. Recognizing the problems with Nigeria's education system, the federal government has promised to implement the Commission's recommendations by providing physical facilities and quality staff in schools. There has also been an acknowledgment of the federal government's willingness to direct universities to work out a programme that makes it possible for suitably qualified holders of the Nigeria Certificate in Education (NCE) to complete a degree in education at universities in two (2) years instead of the presently required three (3).

Sub-section 74 states that teacher education will continue to recognize changes in methodology and curriculum and teachers will be regularly exposed to innovations in their profession. In-service training will thus be developed as an integral part of continuing teacher education. Even with all of these commitments and the programmes they have led to, however, little has been achieved as the goal for which these moderate preparations were made has not been met due to poor implementation strategies. Olorube (2009) argues that in Nigeria, as in most developing nations, the problem is not designing beautiful programmes for national development but implementing them.

The Federal Government has, for example, instituted Introductory Technology as a compulsory subject at the Junior Secondary (JSS) level with the aim of graduating students with sufficient practical skills in the areas of building technology, wood work, electricity, and electronics. To facilitate the take-off of this project, different types of equipment were imported from Europe and America. Many years after the implementation of this project, it is disheartening to observe the non-attainment of its objective. Several reasons have been given to explain this state of affairs. Some of these, according to Olalekan in Ojo (2002), include haphazard planning, inadequate supply of technical manpower to teach the courses, a dearth of indigenous textbooks, poor administrative and implementation strategies, and the absence of guidance and counseling facilities.

The importance of this type of education stretches from the individual to community and beyond to the nation at large. Olalekan (1996) notes that although the individual is the primary beneficiary of vocational and technical education, the community or nation is always the better for it. He contends that vocational and technical education reduce drop-out and unemployment rates by providing training opportunities to persons who are not too far removed from the realities of the world of work. Experts have observed that Nigeria, and Rivers State in particular, has an unprecedentedly high unemployment rate because of a lack of skills among youth and few job opportunities. Consequently, it appears that Nigerians are educated but unemployed because of the forms of general education they receive.

The history of formal vocational education in Rivers State coincides with the localization of the oil and service industries in Port Harcourt and area. Over the last three decades, vocational and technical education has improved tremendously and expanded considerably across the state (Nworise, 2006). This is demonstrated by the number and types of vocational and technical colleges in operation today. Before national enforcement of vocational courses in secondary schools in Nigeria in 1982, vocational programmes were offered in the following institutions in Rivers State: Comprehensive Secondary School, Private Commercial Institutes (unaided), Trade Centres (now Technical Colleges), Penal Institutions (Prisons) and Craft Development Centres. In addition to these skills acquisition centres, the Skills Acquisition Authority at Port Harcourt, and local government industrial units in the local government areas were established and functioning (Wordu, 1989).

Contrary to expectations, vocational and technical education programmes have not been effectively and efficiently carried out over the years, despite a number of good vocational and technical education policies. It seems likely that these policies were either poorly implemented or not implemented at all. According to Onwuchekwa (2002), the vocational teacher education workshop at the University of Nigeria, Nsukka (UNN) resembled the junkyard of the Nigeria Railway Co-operation. The machines in this workshop were supplied by the Ford Foundation in 1960 and have not been supplemented with more modern machines despite the fact that the workshop turns out hundreds of vocational-technical educators every year. As with other disciplines, developing nations like Nigeria often exert great effort to fashion relevant education systems, the greatest barrier to which is implementation.

Some of the current challenges faced by vocational and technical education derive from the fact that administrators and chief executive officers of educational institutions tend to be general educators not specialists in vocational or technical education (Oranu, 2009). These general educators often direct funds meant for vocational technical education equipment and facilities to other sectors more in line with their interests. Oranu (2009) thus

recommends, that policies concerning vocational and technical education programmes be left to those in the field of vocational and technical education to formulate and implement.

Given all of the above, there is a need to investigate the issues and challenges facing the implementation of vocational and technical education programmes at technical schools in Rivers State and make recommendations for improvement. Such research will help to redirect these programmes towards achieving their objectives for a sustainable democratic society.

Statement of Problem

Before the introduction of formal education in Nigeria, young people were trained for specific occupations and careers through an apprenticeship scheme or on-the-job training. The introduction of reading, writing, and arithmetic, and colonial academic education in general, become associated with white collar jobs which were seen as an instrument for upward mobility in the social classes. In an attempt to address this problem, the Federal Government built vocational and technical education programmes into its National Policy on Education, and as a strategy for effective implementation of the programmes, made science education compulsory at the primary school level. The purpose of this policy was to give children in technical schools different subject options upon which they could build a career. The policy identified several types of vocational and technical education programmes, including pre-vocational and vocational programmes offered at the junior and senior secondary schools and technical colleges, at the secondary level, and polytechnics and colleges of education (technical) at the post-secondary level. Others programmes include open and private apprenticeship schemes, skills acquisition (NGOs), and on-and-off the job training schemes (non-formal).

As laudable as the policy was, issues have been raised regarding the implementation of its programmes, especially in terms of staffing, facilities, and funding in Rivers State. The result of this ineffective implementation has been the production of misleading or unreliable plan projections, forecasts and targets against predetermined goals. This situation calls for proper identification of factors that inhibit the effective implementation of the programmes via an assessment of the shortcomings that have plagued the policy since the inception. This study thus seeks to investigate the issues and challenges around the implementation of vocational and technical education programmes at the technical school level in Rivers State.

Purpose of the Study

The main purpose of this study is to investigate the implementation of vocational and technical education programmes in Rivers State. Specifically, this study seeks to:

- Determine the quality of teaching staff recruited for vocational and technical education programmes in Rivers State.
- Assess the facilities put in place for the implementation of vocational and technical education programmes in Rivers State.

Research Questions

Based on the aforementioned purposes, the following research questions, guided this study:

- What quality of teaching staff have been recruited for vocational and technical education programmes in Rivers State?
- What facilities have been put in place for vocational and technical education programmes in Rivers State?

LITERATURE REVIEW

Quality of Teaching Staff

According to Bacchus cited in Ololube (2009) "quality in education" often means raising the level of academic performance of pupils, usually as measured in test scores, in the various subjects which form part of their school curriculum. Continuing, he asserts that teachers are a vital force in educational effectiveness at the classroom instructional level. Teachers are regarded as prime movers in the improvement of quality in education. Based on this, experts often call for the employment of quality teachers in the school system to reduce waste and improve the

overall quality of students and schools. McCormick (1996) asserts that quality teachers are the ones who inspire students to compete against themselves, to take on tasks that seem to exceed their grasp, and to discover and develop their real mettle as thinkers. He went on to identify three features of an excellent teacher:

- High quality teachers have a passion in their lives and a deep regard for their students.
- High quality teachers lead challenging and demanding lives that set high standards and inspire their students. In other words they are prophetic.
- High quality teachers are always fully engaged in the mysteries of life with heart and minds full of wonder and awe, open to learning new things and understanding new realities. Quality teachers are lifelong students.

On a similar note, Peterside (2010) asserts that it can be highly embarrassing if teachers who are hired to inculcate problem solving skills and processes in students lack these same skills. He went on to note that adequate student training cannot take place without competent teachers because no education system can rise above the quality of its teachers. He argues that the potential and quality of manpower depends on the quality of teachers, and teachers, as much as possible, should be qualified, suitable and interested in the teaching profession. Given the above evidence, it seems clear that a nation's education system at all levels is, to a great extent, improved upon or marred by the quality of its teaching staff. A quality teacher is a facilitator of learning, and therefore must be resourceful, improvisational, well-trained and dedicated.

The most acute problem of vocational and technical education in Nigeria today is the shortage of qualified teachers. Worst still, most serving technical teachers do not have the required industrial experience. Adiele and Abraham as cited by Okwe (2006) note that in an effort to secure highly motivated, conscientious and efficient classroom teachers, the existing policy on teacher quality stipulates that all teachers in Nigerian educational institutions will be professionally trained, and that the Nigeria Certificate in Education (N.C.E.) will be the minimum qualification for entry into the teaching profession. They reveal that at the secondary school level, while a majority of teachers possess teaching qualifications a good number of those recruited to teach at that level are without professional certificates. Based on this, they asserted that teachers in the school system are indeed willing to improve on their professional skills but are constrained due to the high cost of in-service programmes and the inability of government to provide the required assistance for the programmes as stipulated in the National Policy on Education. Subsequently, Omekwe (2009) noted that government policy so far, has not favoured the recruitment and training of more teachers to meet the challenges posed by various newly introduced educational programmes such as Universal Basic Education (UBE). He added that the problem is even more evident in technical and vocational education, despite claims of the adequate provision of quality teachers.

The practice of putting all technical courses together as one subject called Introductory Technology, and associated implementation problems, has attracted the attention of experts who feel that it is misnomer because unlike in integrated science, there is no relationship amongst so many of the subjects. As a result, the teacher often chooses to teach the component subject in which he or she is conversant and prepared. Given this integrated approach, both NCE Technical teachers and B.Sc. Technical Introductory Technology teachers often don't do well in many of the subjects relevant to their areas of study or have only shallow knowledge of the course contents. According to Olaitan (1992), however, an awareness of the importance of teacher calibre has since led the Federal Government to encourage polytechnics and universities to establish departments of technical teacher education. A register of qualified but unemployed technical teachers has also been compiled with a view to engaging them as needed. Despite these efforts, reports of acute shortages of technical teachers all over the country continue to come in.

Okwe (2006), citing Avan, draws attention to the fact that introductory technology equipment installed in various schools is not being used because there are no, or very few, trained introductory technology teachers. He emphasised the need for technical teachers to have industrial experience, or the necessary orientation in the operations of relevant and imported technical equipment immediately after engagement. Otherwise both the learning process and student performance suffer. Olaitan, in turn, observed that because of inadequately skilled and experienced manpower, the economic and social development of most African countries including Nigeria has been slowed.

The range of qualifications permitted for teachers at the post-primary school level in Nigeria include:

- Teachers holding the Nigeria Certificate in Education (NCE) that is those teachers with three years of studies in academic and professional subjects from colleges of education after obtaining their senior secondary school certificate (WAEC or NECO)
- Teachers holding a National Diploma (ND) or Higher National Diploma (HND) without professional

qualifications in education

- Teachers holding a Bachelor of Arts degree (BA), Bachelor of Science degree (B.Sc.), Master of Arts degree (MA), or Master of Science degree (M.Sc.)
- Teachers holding a Bachelor of Arts in Education (B.A. Ed), Bachelor of Science Education degree (B.Sc., Ed), Bachelor of Education degree (B. Ed), Master of Education degree (M. Ed), Master of Arts Education degree (M.A Ed), or Master of Science Education degree (M.Sc. Ed)
- Teachers holding a B.A, B.Sc., M.A, M.Sc., or certificates and postgraduate diploma certificates in education after one or two years of studies in Education at a University.

It is interesting to note at this point that the Federal Government of Nigeria in the National Policy on Education (FRN, 2004) has emphasized that the NCE certificate will ultimately become the minimum basic qualification for entry into the teaching profession.

School Facilities and Vocational Education Programmes

Most often, planners do not relate school facilities to the learning process and expect learning to take place in the absence of books, seats, and writing materials; any decline in standard of performance is blamed on teachers and students. Aghenta (2009) asserts that achievement in education depends on the optimum performance of all school administrative elements, which include the technical, the managerial, and the institutional subsystems. Mkpa (2009) is likewise of the view that the availability of requisite facilities is important for the effective implementation of any predetermined objective. He contends that the qualifications and background of a teacher can only be considered fully effective when adequate and appropriate instructional facilities are provided for optimal teaching and learning. He reiterates that there must be a variety of equipment made available to students to enable them to explore the new areas they are exposed to.

In Nigeria, vocational education practical and field courses are said to be “board or desk-bound” to the detriment of the students. Based on this, in 1984/85, the Federal Government entered into self-loan agreements with Bulgaria, Hungary and Czechoslovakia for the supply of pre-vocational workshop tools and equipment to all secondary schools in the country. The supplies were sent and mostly installed. Some, unfortunately, have degenerate into scraps in school corridors because of the non-availability of workshop buildings, thereby rendering them useless (Nworise, 2006).

Although most leaders over time have meant well in terms of education development and reform, the resources allocated to the education sector were historically meagre and often not properly utilized as a result of poor planning. Today, the number and size of workshops required for a standard technical school continues to be ignored. Similarly, Ogushi (2008) asserts that the 6-3-3-4 education policy which does emphasize technical education has run into serious complications because more than 50% of the approved multibillion dollar equipment is lying idle all over the country, due to the lack of a relatively small amount of money needed to this equipment and build technical workshops.

Much like technical workshops, school libraries in Nigeria, where available, are inadequately equipped resulting in what Omekwe (2009) describes as a book drought with disastrous consequences. In schools today many teachers avoid certain practical lessons because they know the technical or library resources are non-existent or not functional. This does not bode well for the effective implementation of vocational and technical education programmes. Iyalla (2005) opines that government has failed in its responsibility to equip school libraries and laboratories, and argues that this lack of facilities has been proven to be one of the main hindrances to successful vocational education programmes. Edem, as cited in Obulor (2006), reiterates that it is the duty of the Ministry of Education to provide equipment and expendable materials to schools, and that their inadequacy constitutes a source of frustration and disillusionment among students and teachers.

METHOD/PROCEDURES

Research Design

This study represents descriptive survey research, aimed at investigating the implementation of vocational and technical education programmes in Rivers State. This research collects data and describes it in a systematic manner. Data is collected as is, analysed and reported without manipulation or distortion of any of the variables. Ololube (2009) defined this approach as research designed to gather systematic descriptions of existing phenomena in order to describe or explain what is going on. The choice of a descriptive survey method is borne out of the fact this method focuses on people and their attributes which will help the researcher to understand and explain the way

in which vocational programmes can be effectively implemented. To achieve this, the researcher has used a survey questionnaire, observation schedule and document analysis.

Population

The population for this study is comprised of all the five (5) government-owned technical colleges involved in developing and providing vocational education in Rivers State. These five (5), which include GTC Ahoada, FSTC Ahoada, GTC Port Harcourt, GTC Tombia and GTC Elogu, have 241 academic staff comprised of eleven (11) principals (six in senior and five in junior sections) and 230 technical and science teachers.

Sample and Sampling Technique

The sample for the study consisted of one hundred and forty-four (144) respondents, (8 principals and 136 technical and science teachers) across all five (5) technical colleges in Rivers State. A stratified random sampling technique was used to select the one hundred and forty-four (144) academic staff, representing 59% of the population.

Instrumentation

The instruments for the study included an observation schedule, document analysis, and a thirty-five (35) item-survey questionnaire (Vocational and Technical Education Programme Implementation Assessment Questionnaire - VATEPIAQ) that used a modified Likert-type scale with four response options. The questionnaire was divided into two sections. The first section was made up of five (5) items used to gather demographic information about the respondents, while the second section was made up of thirty (30) items used to elicit information from respondents on their assessment of and strategies for the implementation of vocational and technical education programmes. The observation schedule included items used to collect concrete evidence on the availability, quantity and conditions of existing facilities and equipment in the assessed schools, while document analysis was used to obtain information on the availability, quality, experience and teaching relevance of academic staff in the technical colleges.

Validity

After developing the instrument, its face and content validity were established by subjecting it to a critical assessment by the researcher's supervisor and two other experts in educational measurement and evaluation from the Faculty of Education at the University of Port Harcourt. They helped to ascertain that the contents of the instrument were in line with the purpose of the study, research questions and hypotheses.

Reliability

To ascertain that the instrument was reliable, i.e. able to consistently elicit the same information from the respondents, the researcher adopted the test re-test technique. Twenty five (25) copies of the questionnaire were administered to twenty five (25) academic staff, (3 principals and 22 technical teachers) not participating in the study. The instrument was re-administered to the same respondents within an interval of two weeks. The responses (results) of the first and second instrument were collated and subjected to a reliability test using the Pearson Product Moment Correlation Analysis. The result obtained yielded a reliability index of 0.957, indicating high reliability of the research instruments.

Administration of Instrument

The instrument was administered by the researcher in person, with the support of a well-informed research assistant to ensure a one hundred (100) per cent return of completed questionnaires. The researcher administered the questionnaire and collected them after an interval of four days. On arriving at the schools, the researcher explained to the respondents the purpose of the study to allay their fears and reduce misinterpretation of the items. The researcher also engaged in a discussion with the head of each school to obtain access to documents (nominal roll and attendance register) and to allow observation of the equipment and facilities therein. Finally, the researcher assured confidentiality of all information provided. One hundred and forty four (144) copies of the questionnaire were printed, distributed and retrieved, representing a one hundred (100) per cent return.

Method of Data Analysis

In preparing the data for analysis, the researcher developed keys for coding the information contained in the research. Descriptive statistics was used to analyse the data collected and to obtain the mean assessment for each scale item. Responses to the Section B questionnaire items were weighted across a four point Likert-type scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The deductions from the document analysis were weighted based on availability, quantity, qualification, relevance and experience. The data gathered from the observation schedule was weighted based on availability, quantity, condition, and adequacy. A percentage scale of the responses to each item was analysed and used to answer the research questions. The research hypotheses for this study were tested using *z*-test statistics to establish the significant differences between the variables in the study. There was a $p < 0.05$ level of significance for all of the hypotheses, while the acceptance or rejection of null hypotheses was based on the calculated value of the *t*-test analysis.

RESULTS

The data presented in this chapter was gathered using three sets of instruments. The first was document analysis, which gathered data on the availability of teachers, their quality, experience, and subject relevance. The second instrument was an observation schedule (chart) used to gather information on the availability, quantity, condition and adequacy of facilities and equipment in vocational and technical colleges in Rivers State. The third was a 35-item vocational and technical education programme implementation assessment questionnaire (VATEPIAQ), which elicited information on funding strategies adopted by government, and challenges and strategies for improving the implementation of vocational and technical education programmes in Rivers State.

Research Question One

What quality of teaching staff have been recruited for vocational and technical education programmes in Rivers State?

Table 1 and Figure 1 show that at GTC Ahoada, there are 53 teachers of which 45 (84.9%) have qualifications ranging from NCE, National Diplomas and Degrees in Science and Technical Education, and are therefore qualified. Eight (8) (15.9%) did not possess these qualifications and so are not qualified. At FSTC Ahoada, there are 47 teachers, 35 (74.4%) of whom also had qualifications ranging from NCE, National Diplomas and Degrees in Science and Technical Education and are qualified, while 12 (25.5%) did not possess these qualifications and are not qualified. Of the 107 teachers at GTC Port Harcourt, 82 (76.6%) have qualifications ranging from NCE, National Diplomas and Degrees in Science and Technical Education and are qualified, while 25 (23.4%) did not have these qualifications and are not qualified. Of the 17 teachers at GTC Tombia, 12 (70.6%) are deemed to be qualified based on their educational attainments, while 5 (29.4%) are not qualified in that they are working with less than standard qualifications. GTC Elo-ogu has a similar number of teachers and qualified/unqualified teachers as GTC Tombia.

These results shows that larger percentage of the teachers in existing vocational and technical education programmes are qualified and moderately experienced and have met the teaching requirements as required by the National Policy on Education (FRN 2004). It became clear, however, in interviews with the principals that such teachers are not sufficiently provided for by the government.

Table 1: Analysis of respondents perceptions towards the quality of teaching staff

S/N	Schools	No. of Teachers	No. of Qualified Teachers	% of Teachers Qualified	No. of Unqualified Teachers	% of Teachers not Qualified
1	GTC Ahoada	53	45	84.9	8	15.9
2	FSTC Ahoada	47	35	74.5	12	25.5
3	GTC PH	107	82	76.6	25	23.4
4	GTC Tombia	17	12	70.6	5	29.4
5	GTC Elo-Ogu	17	12	70.6	5	29.4
TOTAL		241	186		55	

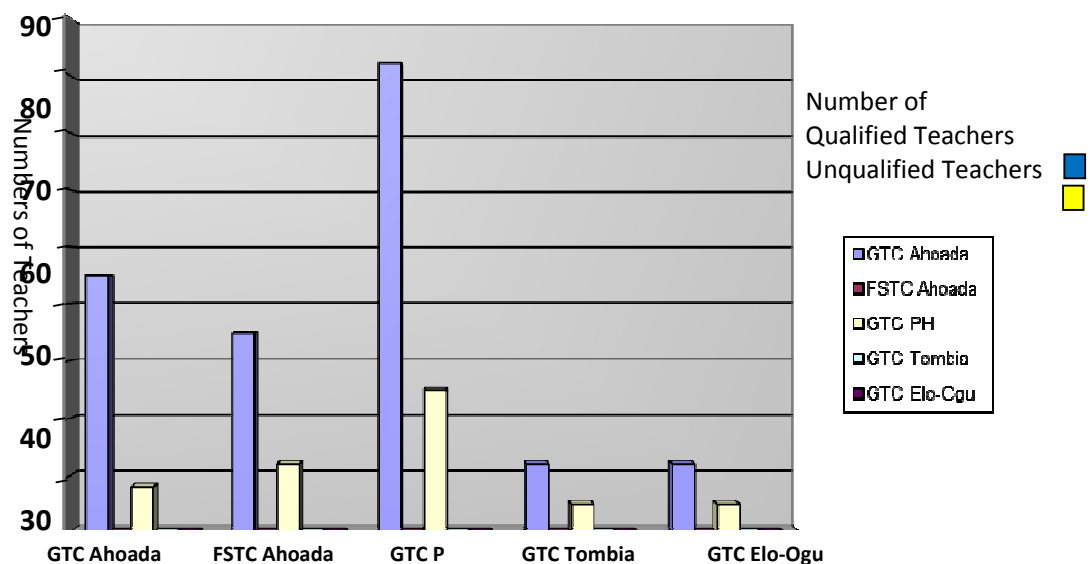


Figure 1: Labour force quality for implementation of vocational and technical education programmes in Rivers State

Research Question Two:

What facilities have been put in place for vocational and technical education programmes in Rivers State?

Table 2 shows that items with serial numbers 1, 7, 9, 15 and 16, 18, 20, 22 (8 items in total) are deemed to be 66.7, 66.7, 80, 80 and 80 per cent adequate and so are sufficient for the implementation of vocational and technical education in Rivers State. The remaining, 2, 6, 8, 10-14, 17, 19 and 21 (14 items in total) were deemed to be less than 50% adequate and so fail to meet the needs of vocational and technical education programmes in Rivers State.

Table 2: Analysis of respondents' perceptions of facilities and equipment in technical schools

s/n	ITEMS	ADEQUACY		
		% Adequate	% Inadequate	Status
1.	Classroom Blocks	66.7	33.3	Adequate
2.	Electrical Workshop	20	80	Inadequate
3.	Welding Workshop	25	75	Inadequate
4.	Automobile Workshop	25	75	Inadequate
5.	Assembly /Exam Hall	40	60	Inadequate
6.	Wood Work Workshop	33.3	66.7	Inadequate
7.	Painting and Decoration Workshop	66.7	33.3	Adequate
8.	Building Workshop	33.3	66.7	Inadequate
9.	Home Economics Lab	80	20	Adequate
10.	Computer and Secretarial Studies Lab	20	80	Inadequate
11.	Photography Equipment	14.3	85.7	Inadequate
12.	Air-Conditioning and Refrigeration Equipment	20	80	Inadequate
13.	Welding and Fabrication Equipment	25	75	Inadequate
14.	Electrical and Electronics Workshop	20	80	Inadequate
15.	Electrical Installations and Maintenance Equipment	80	20	Adequate
16.	Radio, Television Repair Equipment	80	20	Adequate
17.	General Study Classes	40	60	Inadequate
18.	Wood trade Equipment	75	25	Adequate
19.	Printing Workshop	40	60	Inadequate
20.	Textile Workshop	66.7	33.3	Adequate
21.	Library	40	60	Inadequate
22.	Integrated Science Lab	80	20	Adequate

DISCUSSION

Quality of Teaching Staff

This study had revealed that the quality of academic staff in vocational and technical colleges in Rivers State is moderately high but relatively inadequate, and that some staff are far less experienced. It is also evident from this study that some teachers do not have the requisite teaching qualifications even though they hold high degrees in the trade that they teach. Further investigation revealed that some qualified teachers are working only on a part-time basis (on casual appointment) and so embargo employment. Oranu (2009) upheld that teachers play an indispensable role in any educational system and should be adequately equipped with relevant qualifications since the ability of the teacher to perform their functions is dependent on the learning they have done.

Earlier studies by Ogushi (2008) found that the problems faced by education administrators in the implementation of vocational education programmes in Nigeria include, among other things, incompetent technology teachers. The present findings are consistent with the earlier findings of Omekwe (2009) which revealed that teachers in some of the core subjects, including physics, chemistry and biology, were not qualified and so degraded the quality of the education provided. The present findings also corroborate the United Nations Education and Children's Organization (UNICEF) 1976 Report that found that poor quality of teaching staff is responsible for the poor quality of skill acquisition in vocational schools.

This study, and its predecessors, makes a strong case for quality teaching staff as a pre-requisite for quality vocational programme implementation. In line with Ololube (2006), the engagement of unqualified teaching staff in Nigerian schools including technical colleges has an undoubtedly negative and unpleasant effect on student performance in technical school examinations.

Facilities

This study also revealed shortages in equipment and other facilities needed for successful vocational skills acquisition training. The present findings support earlier findings by Yusuf (2006) that facilities in vocational and technical schools were scarcely available, grossly inadequate and most of them in poor condition. In a similar study by Putsoa (2005), the foremost factors affecting the effective implementation of technical education objectives were also inadequate instructional equipment and the lack of up-to-date school plants.

The present study discovered that some of the available facilities are not functional and/or in deplorable conditions. It is true that a few new structures and or repaired/renovated structures are slowly springing up in some schools as a result of the establishment of the government's Educational Trust Fund (ETF) and interventions by other government commissions (NDCC). The fact remains, however, that the pace of these developments is too slow. Government must act quickly, realizing that the establishment of vocational schools is capital-intensive, to source the funds needed for purchasing relevant equipment and facilities as the availability of these materials in schools accounts for the quality of their graduates. Obulor (2006) concurs and notes that vocational schools must produce people with broad knowledge and skills to fill existing gaps in the workforce and fulfil the nation's aspirations in the world of technology.

Adesina (1982) likewise asserts that the quality of education that our children receive bears direct relevance to the availability or the lack of physical facilities. Discussions with the principals of the schools involved in this study reinforced the opinions of other respondents on the importance but lack of facilities for the implementation of vocational and technical education programmes in Rivers State. This situation is, in part, responsible for the poor quality of skills acquired in vocational schools as facility availability has a direct effect on the teaching and learning process.

CONCLUSION

This has offered new insight into the condition and challenges of vocational and technical education programmes in Rivers State. It has created an awareness of the need to provide well equipped technical colleges in Rivers State for successful programme implementation.

The successful implementation of vocational and technical education programmes is yet to be achieved in Rivers State. The main issues of concern include a dearth of qualified vocational and technical teachers, especially in semi-urban areas, inadequate equipment and facilities, and poor funding strategies. In the current context, the desired goals of these programmes can hardly be expected to be met. In order to arrive at the effective implementation of these programmes in Rivers State, it is important to realize that successful management of any policy depends to a large extent on the support it receives, not only from the formulators (government), but also

from those expected to implement and consume it. On the strength of the results of this study, the researcher recommends the following:

- Only professionally qualified technical and science teachers should be recruited into the system. Those without professional qualifications already in the system should be encouraged to undergo post-graduate diploma courses in education.
- Policy provisions should include arrangements to attract foreign agencies and private investors to provide grants-in-aid to the vocational and technical colleges to tackle the issue of inadequate instructional materials and facilities, up-dating and improving on the conditions of existing ones.

It is important that similar studies be carried out in other states in Nigeria and that subsequent investigations cover other vocational programmes such as the skills acquisition scheme of NGOs, private and public apprenticeship schemes, and on-and-off the job training schemes as found in polytechnics and colleges of education.

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Beginning Primary School Teachers' Perspectives on the Role of Subject Specialization in Botswana Colleges of Education: Implications for the Professional Development of those who did not Specialize in Languages (English and Setswana)

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Abstract

In recent years, there have been a number of innovations and reforms aimed at making education relevant to the needs of the society. Despite the premium placed on education, there continue to be challenging and persistent issues negatively affecting teacher education. One of these challenges is the generalist approach of primary schools whereby teachers teach all subjects in the curriculum. This is often a departure from their pre-service training where they were trained as specialists. The purpose of this study is to establish new teachers' perspectives on the role of subject specialization in Botswana Colleges of Education and the implications of this training for the professional development of those who did not specialize in languages. This study adopted a survey research design in which questionnaires were the main data collection instrument. This study targeted two primary schools in the Southern Region with a sample of twenty (20) beginning teachers (with Diploma Certificates in primary schools). Of this sample of twenty, ten (10) completed the questionnaires. The results of this study reveal that beginning teachers advocate for specialization in primary schools because it allows them an area they can teach with confidence. These teachers raised the issue of in-service development and support as a source of information on matters pertaining to language teaching because for those who did not specialize in languages, teaching this complex subject is a challenge and can be highly demotivating.

Keywords: Teacher training, Primary Schools, Botswana Colleges of Education Generalist approach, Specialist approach.

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INTRODUCTION

Primary education in Botswana, both before and immediately after independence, was not treated as an important educational and societal foundation. This neglect manifested itself in terms of the resourcing. At independence, for instance, most of the country's primary teaching staff were employed without any training.

For most of those who qualified, entry into teacher training colleges required a Primary School Leaving Certificate (PSLE). As reflected in the report of the National Commission of Education (1977) a decade after independence, as many as 81% of untrained teachers had completed standard seven, while 56% of trained teachers had completed standard seven to qualify for admission to a college of education (Republic of Botswana, 1977).

The Government of Botswana has since made efforts to improve the quality of primary education. During National Development Plan 5 and in line with the recommendations of the National Commission on Education (1975), primary education was accorded the highest priority within the education sector (Republic of Botswana, 1985). National Development Plan 6 also emphasized, inter-alia, raising the quality of primary education through the training of teachers. The government subsequently took initiative to invest in the training of teachers and the minimum entry qualification for training as a primary school teacher was raised initially to the Junior Certificate (JC) and later to the Cambridge Overseas School Certificate (COSC) and the Botswana General Certificate of Secondary Education (BGCSE). Training for the Diploma Certificate in Primary Education is three years in duration the colleges conferring this accreditation are affiliated with the University of Botswana and so all teachers are trained in programmes validated by the University. Successfully completing teaching practice is a Diploma requirement, as is completing the core courses of the program. The University of Botswana also offers Bachelor of Education (B.Ed.) degrees in Primary Education. Entrants to the B.Ed. Primary must be teachers with several years of professional experience in primary schools (National Report, 1996).

All primary school teachers are now required to have a Diploma in Primary Education. Those possessing lesser qualifications are required to undergo an upgrading course to acquire the Diploma Certificate. For in-service teachers, upgrading to a Diploma Certificate is offered through the Centre for Continuing Education at the University of Botswana. This is generally an in-service upgrading course for primary school teachers holding the Primary Teachers Certificate (PTC), which has been phased out.

In the thirty years since independence, very little training has been provided to prepare teachers to teach as generalists in primary schools given that their training focuses on subject specialization. The general public, and teachers in particular, are thus concerned about the quality of teaching and learning in Botswana primary schools. This concern emanates, in part, from the unsatisfactory pass rate in the PSLE, which is used to assess the performance of primary schools in Botswana. As Section 4.8.35 of the Report of the National Commission on Education (1993) notes, “one factor that both teachers and the general public consider to affect the quality of teaching and learning at primary level is the generalist teacher”. This study is thus interested in teachers’ perceptions of the specialist preparation they received in their respective Colleges of Education. This is an area of research that has been thus far neglected and one that could make an important contribution to the development and improvement of programmes and courses at Colleges of Education across Botswana. While what follows is only an initial small scale study, it is hoped that it will set the stage for more wide ranging and in-depth research with all newly qualified teachers in Botswana primary schools.

Research Questions

- What are the views of primary school teachers on subject specialization in Colleges of Education?
- What are the views of teachers on teaching as subject generalists early in their career?
- What are the challenges facing teachers who did not specialize in languages (English and Setswana) but are teaching these subjects?
- To what extent is the content proficiency of teachers as generalists developed in schools?
- What further training do new teachers believe is needed for their professional development?

LITERATURE REVIEW

Curriculum Implications on Teacher Training

Teacher education is an important component of any educational system charged with the training of teachers to acquire the knowledge and skills need to lead in the classroom (Lamb, 1995; Roberts, 1998). The education system in Botswana has, however, been performing this task within the limits of training teachers as specialists. In other words, a trainee upon completing the Diploma programme, which is the minimum requirement for teachers in primary schools, should be able to display his/her intellectual abilities in the teaching of two subject. For those who specialize in

languages, these two subjects are English and Setswana. Subject specialization is thought to make an individual more relevant, efficient and effective in his/her teaching endeavor. The thoroughness with which such a person will be displaying his/her expertise or teaching skills will be so profound that will reveal a high level of knowledge, understanding and mastery of the subject matter (Bailey, Curtis & Nunan, 2001).

An examination of Botswana primary schools reveals the proliferation of a generalist approach, contrary to the objectives and structure of teacher education programmes. This is an obvious barrier to achieving basic education excellence. One simply cannot a teacher to efficiently teach all school subjects across the curriculum (Sharpe, 2001). Its adverse effect on the thoroughness, mastery, skills and efficiency with which subjects are taught cannot be over emphasized. This assessment is reiterated by Sibanda and Madome (2000) in their observation that the generalist approach has begun to have an adverse effect on the minor subjects taught by generalist teachers in primary education.

A recent study by Nthobatsang (2000) investigated the impact of the introduction of a Diploma programme to primary teachers training with various stakeholders including a small number of Diploma graduates. The graduates reported that the Diploma programme had prepared them well in the subjects that they selected as their majors and that it had improved their overall classroom instruction. They felt, not surprisingly, that specialization should be the preferred instructional method in primary schools. Sharpe, (2001) agrees with this position and highlights three particular advantages of specialization in terms of language instruction: the production of language experts, the introduction of linguistic role models in schools, and the correct teaching of intonation and pronunciation. Specialist teachers are thus able to use target language spontaneously as they have knowledge of the linguistic and cultural context and plan lessons from a point of full knowledge of the target language.

Teachers' Beliefs in Pre-service Training

Research has shown that the education of pre-service primary teachers is a pertinent focus in efforts to achieve education reform. Despite the debate as to whether current teachers can change the context of teaching English as a Second Language (ESL), it is worth noting that College of Education lecturers are important in terms of assisting pre-service teachers to become agents of ESL education reform (Brown, 1995; Sharpe, 2001). These lecturers in turn acknowledge that primary teachers, whether or not they have a specialized background in teaching ESL, hold the key to properly teaching the existing ESL curriculum if they are adequately educated themselves (Brown, 1995).

Delivering and implementing effective programmes for change for second language teachers must include collaboration, as collaboration supports the change process, lessens the fear of risk taking, and provides a forum for analysis of what works and what does not for new teachers (Brandon, Moorad, Bogopa & Dambe, 1998; Sharpe, 2001).

However, if teachers still teach as generalist across the curriculum after training as specialists in their subject areas then, the government of Botswana has to change the education policy in order to support teachers and ensure enhanced professional development (Brandon et al. 1998).

Teachers possess an extensive array of complex beliefs and pedagogical preferences and perspectives (Borg, 2003; Johnson, 1994). Their complex beliefs form a structured set of principles, and have been formed as a result of a teacher's prior experiences, both before and after training, school practices, and a teacher's individual personality (Borg, 2003). Teachers' behaviours in the classroom are said to be governed by what they believe and these beliefs often serve to act as a filter through which instructional judgments and decisions made. In English as a Second Language instruction, there has been a growing realization of the need to understand and account for the underlying belief systems of language teachers and the impact these have on their classroom. Research has thus established that the aim of training pre-service teachers must be to develop their professional reasoning ability, rather than helping them to acquire pre-defined behaviors (Akyeampong, 2003).

Support Services Needed for the Professional Development of Beginning Teachers

Researchers have acknowledged that teaching is a dynamic process requiring teachers to constantly review their practice. In-service programmes and support programmes are two of the means through which teachers can examine their classroom practices and enhance their professional growth (Richards & Nunan, 1990; Richards, 1998; Richards & Farrell, 2005). In-service programmes offer teachers the opportunity to find solutions to the classroom challenges they encounter. In-services are also seen to involve attempts to change the way teachers undertake the task of teaching. The government of Botswana appreciates the ever-changing challenges of teaching and is of view that "teaching is a dynamic field with new methods, techniques and curriculum evolving all the time. Thus teachers need constant in-

service training if they are to keep up with developments in education” (Ministry of Education, 1999, p. 57). A study by Irvin and Tombale (1997), demonstrates that in-service training through school-based workshops offers several advantages particularly that they are contextual as they are based on the needs identified by the teachers themselves. They are cost effective, as there are no accommodation and travel expenses, and tend to be managed by teachers thus enhancing ownership and commitment. A study by Lamb (1995) designed to follow-up on an in-service course undertaken a year earlier revealed, however, that the ideas presented to teachers during the in-service training were not ultimately used by teachers, but instead remained theoretical issues with no direct bearing on classroom teaching.

In addition to in-service formats for the development of new teachers, researchers have identified a number of other approaches including mentoring, peer teaching, modeled lessons, observations and journaling (Richards & Farrell, 2005). These formats have the advantage of being able to reach and impact a relatively large numbers of teachers efficiently and economically (Richards & Nunan, 1990). Mentoring is the establishment of a personal relationship for the purpose of professional instruction and guidance. In education, the value of mentoring has been recognized by teachers and other professionals in the one-on-one instructional educational instruction of students. It is equally important that new teachers are surrounded by people who are passionate about the profession because it helps them to feel included rather than isolated. It is also important that new teachers have opportunities to connect with colleagues who possess effective strategies and are well informed professionally (Bailey et al. 2001). In terms of the networking needs of new teachers, Bell and Gilbert (1996) have noted that new teachers “seek new teaching ideas, new resources and equipment to improve the learning of their students. They seek to improve their teaching skills, their knowledge about the subjects they are teaching (p. 1).

Peer observation improves the teaching skills of new teachers and according to Bailey et al. (2001), “is an excellent way to break down barriers and begin conversations that lead to professional development” (p.157). When a new teacher is present in another teacher’s classroom, it is an opportunity to observe and learn firsthand how to best address common classroom, learning and student behaviour challenges. In Hong Kong schools, the main advantage of peer observation relates to class size. It is common in Hong Kong schools to have more than 40 learners in a classroom and so peer observation helps new teachers learn how to manage such large groups of learners (Bailey et al. 2001). Peer teaching, on the other hand, offers both teachers involved a model to observe in the classroom and an opportunity to develop critical decision-making skills (Freeman & Richards, 1996).

Modeled lessons are very important for new teachers and the literature shows that teachers need effective teaching practices to model (Bailey et al. 2001). Such modeling demonstrates teaching knowledge, syllabus implementation, and the teaching of language subjects. Through modeled teaching, new teachers can come to understand another’s reasoning, motivations, approaches and outcomes. They are also able to witness enthusiasm for teaching and ways of coping with the demands of teaching (Bell & Gilbert, 1996).

Resources Needed for the Professional Development of Generalist Teachers

Teaching resources in the form of textbooks often represent the hidden curriculum and thus play a significant part in the process of teaching and learning. Textbooks, in other words, have an impact on teachers and teaching (Sharpe, 2001; Richards, 1998). While some ESL teacher guides are only concerned with course content, some serve as thorough training manuals for new teachers with detailed information that goes well beyond course material. For the new teachers, textbooks and teaching guides are thus central resources and if not available or not available in sufficient quantities, hinder teaching and learning.

Classroom resources must be adequate enough to provide learners with the skills needed to be competent in language learning. According to Driscoll and Frost (1999), language competence grows incrementally through the interaction of reading, writing and talking. Sharpe (2001) concurs, noting that with “a range of resources and employing extravagant gestures, vivid actions and animated facial expression, the teacher communicates to the children the imaginary L2 context and introduces the appropriate language items” (p. 154). Classroom resources are thus crucial and must be able to be accessed by all learners in a class rather than shared. Small class size is likewise important because it improves and maintains good teacher-pupil relationships. It increases a teacher’s knowledge of each child’s needs and monitoring their learning becomes easy. Computer use and radio lessons also enhance language teaching and learning. In this context, the Internet is described as “a dynamic, ever changing source of ideas and materials for teachers and resources for use with pupils” (Cajkler & Addelman, 2000, p. 176).

METHOD

This study adopted a quantitative approach within the umbrella of the positivist paradigm. This study employed a questionnaire (see to Appendix 1) where all participants were asked the same questions (Creswell, 2005). This approach is inclined to produce results that can be generalized to all new teachers in the population. An open-ended questionnaire was used because according to Wiersma and Jurs, (2005), it encourages full and meaningful answers based on participants' own knowledge and feelings as they are free from most restrictions. Furthermore, the questions tend to be more objective and less leading (Richards, 2003). By then analyzing the data descriptively, the researcher sought to gain additional information to better identify problems with current generalist practices of teaching, determine what others in similar situations are doing and assess what teachers feel should be done to improve the situation. As observed by Gorard (2004), "figures can be very persuasive to policymakers whereas stories are more easily remembered and repeated by them for illustrative purposes" (p. 7).

Population

The population of this study consists of new primary school teachers who graduated from Colleges of Education with Diploma certificates. New teachers were chosen because we know that during their training specialized in two subjects, a major and a minor, whereas upon starting to teach they found themselves responsible for all curriculum subjects regardless of their area of their expertise.

Sample

The proposed sample for this study was a stratified one so as to cover new male and female teachers in a variety of typical Botswana schools in urban, semi-rural and rural village areas. Due to various resource constraints, however, this proved impossible. The actual sample consisted of twenty teachers from two schools in Gaborone, which is urban in Botswana. From the two schools chosen for convenience, a systematic simple random sampling procedure was used to reach a desired sample size (Creswell, 2002). One new teacher with a Diploma Certificate was chosen from each stream (Standards 1-7).

Methods

A questionnaire was used in this study. It elicited information on new teachers' qualifications, training experiences at Colleges of Education and concerns about how their training has affected their professional development in the content area of the minor subjects that they must teach, especially teachers whose minor subjects are English and Setswana. The questionnaire is comprised of open ended questions, limited response questions and a few Likert-type statements where the participants had to circle the most appropriate answer (Bell, 1999). The return rate of the questionnaire was fifty per cent. Out of twenty questionnaires, ten were returned with responses that helped the researcher acquire the required data for the study.

Piloting of the Instrument

The questionnaire was piloted/pre-tested with two new teachers not included in the sample. The pre-test helped to ensure that questions and instructions were clear and allowed the researcher to remove items that did not yield usable data" (Bell, 1999, p. 128). Minor changes were made as a result of feedback from this pre-test.

Ethical Considerations

The head teachers of each school were approached by the researcher and shown a copy of the questionnaire. They were also given a brief verbal and written rationale for the research and asked to select a time when all new teachers who hold a Diploma Certificate would be available to meet with the researcher to complete the questionnaire. The questionnaire allowed the participants to express their opinions anonymously.

RESULTS

The results of the study are presented below by interpreting each question descriptively and using examples of participants' responses to illustrate their views. Some of the data is presented in tables for quicker understanding.

Section A: Background Information

Table 1: Personal Information

1. Age	Number of Teachers
23-27	9
28-33	1
2. First Year of Teaching	
2006	4
2007	6

Participants' age and first year of teaching were included in the study to establish if the participants completed teacher training after completing COSC or whether they remained for some time without formal training. The results revealed that the majority of the participants were young and with only one year of experience in the teaching field thus giving an accurate representation of new teachers.

Section B: Previous Training

Table 2: Previous Training

Questions	Very Well	Quite Well	Not Very Well	Badly	No Response
(6) How well do you feel that the content portion of your major subjects prepared you for teaching at school?	3	6	1	0	0
(7) How well do you feel that the content portion of your minor (English and Setswana) subjects prepared you for teaching at school?	1	3	5	1	0

In terms of how they were trained, the majority considered the content of the major subject training to be good (Q. 6). The majority did, however, feel that their minor training was inadequate (Q. 7) It is possible that responses here may have been explained further if there was a follow-up question.

Section C: Current Professional Training needed in the Workplace

With regards to the problems faced when teaching languages (Q. 8), two main issues were identified relating to methods/techniques and interpreting course objectives. Four participants commented on the lack of awareness of appropriate teaching methods/techniques. One respondent noted that:

“Identifying appropriate teaching methods, focusing on the specific objectives, and developing the language skills is difficult.”

Another respondent seemed to be aware of certain specific areas where training in methods was required:

“Training is needed in specific techniques on teaching how to write and mark compositions as well as preparing for English radio lessons.”

Four participants commented on the lack of competence of interpretation and preparation of relevant content for specific objectives. One respondent noted that the selection and matching of objectives was complicated:

“Dealing with general and specific objectives is tricky and it is not easy to select and match them with appropriate language skills”.

Issues relating to the teaching of grammar, composition, and reading and listening comprehension were raised as a serious problems, as one has to follow a series of predetermined steps when teaching them. One respondent articulated concern with the procedure one has to follow when teaching languages:

“Techniques/methods used in teaching grammar, comprehension and compositions is a challenge which is frustrating” .

With regards to resources used to teach languages (Q. 9), two main issues were raised around the accessibility and availability of resources. Six participants pointed out that resources have not been made easy for them to access. One respondent noted in terms of ineffective management:

“The few resources used are not stored where teachers can access them easily because they are only issued by Head of Department for Languages”.

Another respondent pointed out that even the resources that are available are not always in good condition:

“Some of the radios are not working and one would find out when it is time for the radio lesson and sometimes they do not have batteries”.

Four participants were of the opinion that there is shortage of resources as the number of materials are insufficient for large classes thus making teaching difficult:

“Teachers share teachers’ guides while learners share a textbook in a group”.

Regarding the challenges they face as beginning teachers (Q. 12), three main issues were raised relating to teaching as generalists, a lack of resource materials and a lack of in-service development. Three participants mentioned that they do not enjoy teaching as generalists. One respondent commented that the content of her minor subjects did not prepare her to teach as a generalist teacher:

“I did not get enough content and methodological foundations to handle language subjects”.

Three participants commented on the lack of resource materials as a challenge that hinders teaching and learning. The comment below shows that computers would be an ideal resource:

“Have no access to computers to research for content and techniques that one could use in teaching and it is not possible to photocopy the material for each learner to have a copy” .

Three participants remarked that they do not receive sufficient in-service development and support from policymakers and school management. One respondent commented on the value she placed on such support services:

“Provided with very little support from the school and Policy makers, which is really frustrating and de-motivating. Mentoring could have been ideal for the first two months to boost my confidence”.

One participant identified teaching languages in large classes as a challenge as it is difficult to address unique learning needs and to teach large groups with confidence. One respondent was quite aware of the pitfalls associated with teaching a large class as it limits her ability to offer learners individual assistance:

“Teaching of large classes of 40-45 learners in a class makes it difficult to cater for every child’s learning needs”.

Table 3: Development Support needed by Language Teachers

Support Services needed by Language Teachers	Number of Teachers
(a). Mentoring	3
(b). Peer teaching	3
(c). Modeled lessons	3
(d). Observation	1

As Table 3 shows, teachers were equally in favour of three methods of support but were less keen on observation. They provided a number of reasons for their choices (Q. 13). With regard to mentoring, one respondent, referred to the need for moral support as well as professional guidance:

“Language teachers have to guide and advise us on how to teach language subjects as well as give us moral support, in fact they should be mentoring us and providing us with feedback on how we teach.”

For those who favored peer teaching and modeled lessons, the idea of emulating language teachers was clearly significant. One respondent was aware that assistance from language teachers is vital in their situation:

“Learning how to prepare a lesson plan would be helpful as well as how to handle learners with reading problems as there are reading strategies used in languages” .

One respondent highlighted the importance of collaborative teaching and having time to discuss feedback after the lesson:

“Watching a modeled lesson and having time to discuss my strengths and weaknesses after the lessons is very crucial in teaching.”

With regards to changing the education and training curriculum for pre-service teachers, all participants favored the current curriculum. One respondent did comment on the need for specialization in primary schools:

“Training is devoted in producing subject specialists. The main problem lies with the policy of the Ministry of Education of teaching as generalists. Therefore, the change should be subject specialization in schools.”

On Questions 15 and 16 on development support in the form of short courses and further training, the comments repeated much of what was said on the need for training in the work place in the form of in-service and school based workshops. One respondent was of the view that on-the-job training was vital in the areas that new teachers lacked expertise:

“In-service and school based workshops where I could be helped on how to deal with the specific objectives, language skills and learn how to teach remedial reading lessons and appropriate methods/ approaches for teaching Languages.”

Another respondent noted that further training was important to developing teachers professionally:

“Training into Bachelor of Education degree should be a continuation from Diploma without a break in order to produce fully effective and competent language teachers.”

With regards to support services from schools for new teachers (Q. 17), two issues were raised relating to school based workshops and orientation by the senior management team. One respondent was quite dissatisfied with the support services provided by the school:

“School based workshop was done once on how to write a lesson plan and I felt that there was a need for a modeled English and Setswana lessons by language teachers”.

“We had a general orientation of the school management where we were promised team work and cooperation. I felt that team work meant working closely with languages department of which is not the case. It is difficult to teach language subjects” (Marea).

With regards to whether primary schools need teaching specialists rather than generalists (Q.20), the issue of subject specialization was raised by all the participants. One respondent felt strongly that:

“I trained as a specialist teacher and should be teaching the major subjects only”.

“Teach as specialists because the subjects that I teach very well are those I did as my major subjects during pre-service training”.

DISCUSSION

The findings of this study indicate that the majority of new teachers are satisfied with the way they were prepared to teach their major subjects but dissatisfied with their minor subject training. They thus feel more comfortable when teaching their major subjects, an area in which they have expertise and can show their mastery of the subject matter. This complements the results of the study by Nthobatsabang, (2000), and what Sharpe, (2001) terms the advantages of specialization. It is, of course, not possible for them to have the same degree of expertise for all subjects in the curriculum. On the other hand, their teaching skills as generalists need to be improved through ongoing professional development. New teachers also need a sense of belonging and knowledge that overtime they will make a difference not only in the learners they are teaching but also in the profession. There was one participant who felt that the curriculum of his major subject did not prepare him well even though it was the same curriculum as the other participants. This could have been explained further if there was a follow-up question to account for the response. This contradicts the work of Sharpe, (2001) and Bailey et al. (2001) who argue that after pre-service training, teachers should be able to display competence and confidence when teaching the curriculum of the subjects selected as their major.

New teachers whose minor subjects were languages felt that they needed professional training from the schools because they encounter problems when they have to use language-teaching methods. These teachers were not thoroughly trained in this area as experts during their pre-service education. On other words, the content portion of their minor did not prepare them adequately to teach languages. They thus noted serious problems when it comes to selecting and preparing relevant content for specific objectives, teaching composition/essay writing and reading/listening comprehension. For many, even though they use the target language and plan in the cultural context as indicated by Sharpe (2001), the lack of methodological foundations for teaching languages is a challenge. Teachers' current situation thus often forces them to depend on their assumptions and beliefs when teaching English and Setswana. This can lead to a mismatch between activities selected by the teacher and the purpose for which they are intended (Kumaravadivelu, 1994). This, the under-training of language teachers, has been identified as one of the factors affecting “the quality of teaching and learning” (Report on National Commission on Education, 1993, section 4.8.35). Consequently, it will have an impact on their implementation of the entire language curriculum.

This study has also found obvious discontent with regards to teaching resources in that these are generally adequate and those that are available are not easily accessed by teachers. Insufficient textbooks, teachers' guides and radios for use in classrooms, and difficulties accessing computers for researching content for lessons were causes for concern. Teachers are often urged during their training to use such resource materials and so enthusiasm is quickly dampened when it becomes apparent that they are not available or not available in sufficient quantities. As Richards (1998) points out, textbooks can help inexperienced teachers to develop skills in teaching. These resources are thus contributing factors to teachers' professional development and subsequently student learning.

The issue of teaching large classes was also raised as a constraint given that it is difficult in such situations to establish language learning levels and offer individual assistance. Large classes thus hindered the achievement of learning across the curriculum as English is the primary language of instruction. If language learning objectives in English classes are not achieved because of class size, then learners will likely retain problems in comprehension and composition, crucial for all the subjects in the curriculum.

In terms of the training needed by new teachers for their professional development, most of the participants felt they needed professional support in the form of mentoring, modeled lessons and peer teaching. Their views are supported by the theories surrounding the importance of in-service development and support services as articulated by Richards and Farrell (2005), Bailey et al. (2001), Freeman and Richards (1996), and Richards and Nunan (1990). The teachers in this study felt that such services would help them to adjust to the demands of teaching language subjects, address difficulties that may arise in the classroom, and provide a model to emulate in teaching. Such models would, in turn, assist and enable them to gather varied ideas on how to engage their learners and develop content proficiency when teaching minor subjects. Most of the participants also revealed that they need guidance and moral support from teachers who specialize in languages in order to help them to combat negative attitudes towards language teaching. In some instances, having another teacher in the classroom can offer a helpful second point of view, something that is good for the professional development for both teachers. When teachers receive these types of support it helps them to remain passionate about their work.

In terms of more structured or formal training, new teachers in this study highlighted the need for school-based workshops where language curriculum issues, such as specific objectives, language skills, remedial reading, and appropriate methods for teaching languages, are addressed. Some felt that training in the Bachelor of Education degree should be in many ways a direct continuation of Diploma training so as to produce highly competent and robust language teachers trained with a communicative competence approach, the central goal of which is to enable learners to communicate efficiently using the target language for real purposes (Brandon et al. 1998). Unfortunately, it is not always easy for teachers to continue their training in a Bachelor of Education program because of the procedure used to select teachers for further education.

All of the participants in this study advocated for subject specialization in primary schools. They felt that teaching the subjects they are most proficient in would improve the quality of education and PSLE results as it has been observed that the teaching of minor subjects is creating adverse effects in primary education (Sibanda & Madome, 2000). The main obstacle here is lack of content proficiency in the minor subjects as schools have not put professional development mechanisms in place that would help new teachers to improve their minor subject knowledge. With subject specialization, teachers become competent in only the subjects they specialize in (major in) as there is a relationship between the depth of subject knowledge and the quality of the teaching process. This is supported by Driscoll and Frost (1999) who note that “one important factor which distinguishes the specialist from the generalist teacher is that the former has gained considerable proficiency and competency in the target language, through higher academic study” (pg. 28). There is thus no compelling reason why subject specialization should not be encouraged in primary schools considering the broad nature of primary education curriculum.

Implications

The aim of this research study was to determine new teachers’ perspectives on the role of subject specialization during their training and the impact it has on their professional development. The results of this study have shown that new teachers lack the methodological foundations, support services and resources needed to effectively teach languages.

The pre-service curriculum needs to be structured in such a way that it incorporates the theoretical and practical components of language teaching as major subjects for all students if they are expected to teach as generalists. Following this, support services, adequate resources and professional development must be put in place by policymakers and school administrators to ensure the ongoing and relevant professional development of new teachers. Given that the teacher education programme is already tailored toward subject specialization in Botswana, the government must embrace subject specialization in schools and strive to employ more teachers who have been trained in Colleges of Education in order to have a sufficient number of specialized teachers in schools.

The findings of this study should be of interest to policymakers, College of Education lecturers and the Ministry of Education as an important starting point for considering the shift to subject specialization in primary schools. At the same time, the researcher recognizes that this is a preliminary research study situated in one urban area and carried out in schools sharing significant similarities and therefore care must be taken when generalizing the findings to all new teachers holding a Diploma Certificate.

CONCLUSION

The results of this study suggest that a generalist approach wherein a teacher teaches all subjects is a key-contributing factor in the low quality of education in primary schools. This finding is in line with evidence presented in the

literature review, which suggests that subject specialization allows for efficiency, effectiveness and thoroughness in the teaching of subject matter. Languages are the foundation for all subjects taught in the curriculum and if not taught well, the learner's performance in all subject areas may suffer.

It is worth noting that the generalist approach has been widely used in Botswana. If it had been successful there would not be little concern from the general public about the unsatisfactory pass rate in PSLE. Subject specialization allows teachers to teach subjects which they are most proficient in and if provided with learning and teaching resources, to produce better results. Pass rates at any level of education are an important test of national progress towards achieving quality in education. Achievements in learning in turn inform us of the impact our schools are making in terms of nationally desired knowledge, skills and attitudes.

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