EDUCATIONAL PLANNING

Vol. 21 No. 4

ISEP

Reprints: Articles and reviews are available from the editor. Please contact the editor for availability and costs. Translations: *Educational Planning* will attempt to provide readers with major language translations of journal articles. Interested members should contact the editor regarding availability and costs.

For more information visit our web site: <u>www.isep.info</u>

EDUCATIONAL PLANNING
A JOURNAL DEDICATED TO PLANNING, CHANGE, REFORM, AND THE IMPROVEMENT OF EDUCATION

From the Editors

This special issue of Educational Planning is focused on the planning of educational resources in support of education. Educational resources covered in this issue involve the soft resources of teacher supply and the hard resources of facilities and technology. All the soft and hard resources need to be well planned to meet the educational demands.

An article by Wanangwa W. N. Chikazinga, Bob W. Chulu and Richard W. Nyirongo reports on the wastage rate of education graduates from University of Malawi. The authors found that the most important factors influencing teacher wastage were lack of opportunities for professional development, inadequate teacher salary and non-availability of alternative employment. They claim that projections of teacher supply that do not take into account the wastage rate are bound to be inevitably inaccurate.

Oyetunde Awoyele and Mushay A. Ogundipe investigated the status of teacher supply and facility adequacy of private nursery schools in Ogun State, Nigeria. The findings of their study showed that most of the private nursery schools were accommodated in substandard buildings. Pupil-teacher ratio in the schools was adequate but teaching staff qualifications were generally inadequate.

Jim Wright's article reports the findings of his mixed-method study that investigated the factors that motivate and impede higher education faculty to teach online. The growing population of online students requires a highly qualified pool of teachers. This is a challenge for strategic planners in higher education. The findings of his study are beneficial to guide colleges, universities, and other organizations who want to adopt online instruction or other technology initiatives.

The article authored by Walter S. Polka, Jerald I. Wolfgang, Rosina E. Mete, Augustine Ayaga and Attique J. Khokhar is focused on facilitating comprehension of the contemporary "high-tech" interests and usage rates of digital-age students as well as to encourage professional reflections about educational planning that combines those interests with their respective "high-touch" learning needs. The intended outcome of this article is to provide useful information in order to promote effective curriculum and instruction planning to increase student achievement in both developed and developing countries.

In addition to disclosing the findings of their studies, the authors of this issue have made professional recommendations to address teacher shortage, enhancement of teacher qualifications, improvement of substandard school facilities, and preparing teachers in K-12 and higher education to meet technology challenges. In planning for the supply of educational resources, educational planners and policy makers at all levels will benefit from the shared experiences of our intelligent authors.

Editor: Tak C. Chan
Associate Editors: Walter S. Polka and Peter Litchka
Assistant Editor: Holly Catalfamo

November, 2014

About the Authors

Oyetunde Awoyele is a Professor of Educational Planning, College of Applied Education and Vocational Technology, Tai Solarin University of Education, Ijagun, Ijebu-Ode, Nigeria. He was the Director of Academic Planning of the University. He had served as the Head, Department of Educational Management of the same university. Dr. Awoyele has published extensively in local, national and international journals.

Augustine Ayaga was born, raised, and educated as well as ordained a Catholic diocesan priest in Ghana. He is currently a doctoral candidate, and a research assistant in the Leadership and Policy Ph.D. program at Niagara University, NY. In 1998, he obtained his Master's degree in Development Studies from the Institute of Social Studies of the Erasmus University of Rotterdam, The Netherlands. Prior to starting the doctoral program, he was executive director for social development programs in Ghana. He is currently working on his dissertation: "Assessing the perceptions of partnerships between church and government educational leaders vis-à-vis pre-tertiary education in Ghana: Implications for Leadership, Policy, and Practice."

Wanangwa W.N. Chikazinga is a Lecturer in Education at the University of Malawi, Kamuzu College of Nursing but has previously taught in Secondary Schools in Malawi for five years. He received his Master of Education, in Policy, Planning and Leadership with distinction, and Bachelor of Education Degrees from the University of Malawi. His areas of research interest include educational policy, educational planning and financing and educational leadership and Management

Bob Wajizigha Chulu is Dean of Education at the University of Malawi, Chancellor College where he also teaches psychometrics. His research interests include assessment of learning outcomes and application of item response theory in real life situations. Dr. Chulu holds a doctorate degree in measurement and evaluation form University of Massachusetts (USA) and has authored a number of papers on equating high states educational measurements, college admission testing, language factor in mathematics tests and assessment in higher education.

Attique J. Khokhar is a Ph.D. Candidate in the Leadership and Policy Program at Niagara University. He is a Doctoral Research Assistant at Niagara University and also an Adjunct Professor at both Niagara County Community College and Niagara University. He completed his Master Degree in Business Administration from Medaille College, Buffalo, NY in 2008 and completed his Master Degree in Statistics in 1991 from Bahauddin Zakariya University, Multan, Pakistan. He is an entrepreneur and owns a Financing Company dealing in Real Estate, Accounting, and Insurance.

Rosina E. Mete is a Research Coordinator at the Child and Parent Resource Institute (CPRI) in London, Ontario, a children's mental health facility operated by the Ontario Ministry of Children and Youth Services. Currently, Rosina is coordinating a research project involving the use of mental health assessments with a youth justice population. Rosina completed her Master of Science degree in Clinical Mental Health Counselling from Niagara University in 2013. She has research experience and publications in the fields of educational leadership and health sciences. Rosina also has clinical experience providing therapy in post-secondary and outpatient hospital settings.

Richard Nyirongo specializes in educational leadership and management especially the way it influences public education policy, development and training. Currently he is teaching foundation courses at Chancellor College, University of Malawi. Dr. Nyirongo has done research and consultancies in HIV and AIDS, decentralization and local governance, gender equity and sports development. He received Doctoral and Master's Degrees from Ohio University (Athens), USA and Bachelor of Education degree from the University of Malawi.

Mushay A. Ogundipe is an Associate Professor of Economics of Education in the Department of Educational Management, College of Applied Education and Vocational Technology, Tai Solarin University of Education, Ijagun, Ijebu-Ode, Nigeria. He served as the Director, Distance Learning Institute of the University and is presently the Director, Centre for Part-Time and External Programmes (CEPEP) of the university. Dr. Ogundipe has published widely in local, national and international journals.

Walter S. Polka is a tenured Professor in the College of Education Professional Studies Department and Coordinator of the Ph.D. Program at Niagara University. Previously he was an Associate Professor and Doctoral Program Coordinator at Georgia Southern University. In 2003 he retired from public education in New York after 37 years of service as a teacher, curriculum coordinator, assistant superintendent, and superintendent of schools. His educational leadership and planning research has been widely published.

Jerald I. Wolfgang has been the Executive Director of the Western New York Regional Center for Economic Development since 1983. He possesses a Master's of Science Degree in Educational Administration from Buffalo State College. He oversees the distribution of Federal and State funds for the education of unemployed and/ or dislocated workers and for upgrading current workers' skills. He has been the Chair of the National Association of Small Business International Trade Educators and is currently a member of the Niagara County Industrial Development Agency. He is also an Adjunct Professor at Niagara University's College of Hospitality and Tourism Management.

James M. Wright is an Assistant Professor of Instructional Technology at Kennesaw State University. With a 20-year career in technology and teaching, he holds degrees from the University of Georgia, Peabody at Vanderbilt University, and Kennesaw State University. His research focuses on distance learning, technology integration, and the instructional effectiveness of technology. Wright was awarded the International Society of Educational Planning (ISEP) Dissertation of the Year for 2013.

Wastage Rate Of Education Graduates From University Of Malawi, Chancellor College From 2005 To 2009

Wanangwa W. N. Chikazinga
Bob W. Chulu
Richard W. Nyirongo

ABSTRACT

Reports have shown that many students that graduate as secondary teachers from the University of Malawi do not enter the teaching profession. The purpose of this study was to investigate the wastage rate of education graduates from University of Malawi, Chancellor College from 2005 to 2009. Cross-sectional data were collected from the total population of education graduates from 2005 to 2009 (n=760) through document analysis, structured interviews, and telephone-administered and self-administered structured questionnaires. The study revealed a wastage rate as high as 12.0%. Using the χ^2 test of homogeneity, the calculated χ^2 (1df) = 4.992, p = 0.03, exceeded the critical value of $\chi^2_{0.05}$ (1df) = 3.84 denoting that there was a difference in wastage rate in terms of gender and that more female (R= 1.842) than male (R= -1.00) graduates were likely to decline to enter the teaching profession. The study established that the most important factors influencing teacher wastage were lack of opportunities for professional development, inadequate teacher salary and availability of alternative employment. The implication of these findings entails: projections of teacher supply that do not take into account the wastage rate are bound to be inevitably inaccurate and fundamentals that attract people to an occupation should be addressed in the teaching profession without which teacher wastage would remain a major challenge.

INTRODUCTION

The success of expanded access to primary education in many countries in Sub-Sahara Africa including Malawi, has pushed both governments and donors to turn their attention toward establishing a more widely accessible, more relevant and high quality secondary education (Mulkeen, Chapman, DeJaeghere & Leu, 2007). As such, teacher policy and planning becomes very central to the challenges of both expansion and quality of education at all levels. This is because qualified teachers are indispensable; they form the firm edifice of educational development and play a fundamental role in determining quality, effectiveness and relevance of education which is recognized as a precondition to achieving poverty eradication, sustainable human development and equity. Increased effort has to be put to expand secondary education in response to the need for qualified secondary school teachers. Paradoxically, the supply of qualified secondary teachers has not increased rapidly enough to match with the demand (Ministry of Education, 2007). The perennial shortfall in teacher supply seems not only to be confined to the concern for numbers but quality as well. It has been ubiquitously observed that teacher training institutions in Malawi are characterized by very low institutional output of teachers. The total institutional output from all institutions has probably stalled at 450 teachers per year (Ministry of Education, 2007) while 2000 new secondary teacher are needed to meet the

demand every year. As a result, the shortage of qualified secondary teachers in general and in certain subjects and geographical areas in particular has continued to be a matter of serious concern for policy makers, education planners and schools in Malawi (Centre for Education Research and Training [CERT], 2005). The gravity of teacher shortages has been well manifested by three potential measures "vacancy rates", "out-of-field teaching" and "hidden shortages" (Santiago, 2002, p.22). Vacancy rate refers to the number of unfilled vacancies for teachers while hidden shortage or out-of-field teaching is a scenario where teaching is carried out by someone not qualified to teach the subject (Wilson & Pearson, 1993). Studies in Malawi confirm that the exorbitant number of teachers in the secondary education system are either unqualified or under qualified (Kayuni & Tambulasi, 2007; Mtika & Gates, 2010). For instance Mulkeen (2010) found that 61.5 percent of secondary teachers are qualified as primary school teachers and could be teaching at primary schools. Unfortunately, most of these qualified primary school teachers are in CDSSs yet these are the secondary schools that enroll 70 percent of the secondary school population in Malawi (Ministry of Education Statistics 2007). It can therefore be concluded that the largest population of students in secondary schools in Malawi is taught by unqualified teachers.

THE CONTEXT OF THE PROBLEM

Over several decades the shortage of qualified secondary school teachers has been attributed to two main factors: very low institutional output of trained teachers (recruitment problem) and too many qualified teachers leaving the teaching profession after a short period of time (attrition problem) (CERT, 2005; Kadzamira, 2005; Mtika, 2008). There is limited recognition that students that graduate as teachers may think about the option of becoming a teacher differently when alternative graduate opportunities are plentiful (Chung, Dolton & Tremayne, 2004). Unfortunately, research evidence has shown that the completion of a teaching course is not always a positive predictor for entrance into teaching (Rots, Aelterman, Vlerick & Vermeulen, 2008). It is further echoed that the challenge of persuading substantial number of young education graduates to enter the teaching profession is currently proving difficult (Cockburn & Haydn, 2004). Smithers and Robinson (2000) concluded that "there appears to be less research on the decision to either enter the profession or not once training has been completed, yet this appears to be a key area of 'wastage' in the profession; those qualified to teach did not do so" (p.17). Purcell, Wilton, Davies and Elias (2005) also contend that "there has been little investigation of the critical point between the completion of teacher training and the entry to the profession proper where a significant proportion of potential teachers are lost" (p.31). These authors strongly wondered why individuals who completed either postgraduate or undergraduate education training programs in the United Kingdom never entered the profession for which they are qualified (Purcell, Wilton, Davies & Elias, 2005). Kadzamira (2006) and Ministry of Education (2007) acknowledge that few people trained as secondary teachers from the university actually take up teaching posts in Malawi. Mulkeens' study (2010) on teachers in six Anglophone Africa countries including Malawi found that the entry to teacher training does not necessarily reflect either perceived availability of teacher jobs or the desire to work as teachers. As a result many of these teachers are trained but never enter the teaching profession a phenomenon often known as "wastage". However, Mulkeen (2010) also indicates that accurate information on wastage is rarely available in all the Anglophone African countries under study, despite indications that it is a significant problem in some cases. This

provided a legitimate impetus for policy makers, education planners and teacher educators to get to know the magnitude of the wastage rate. It is surprising that despite the great expense in teacher training, Malawi and many other sub-Sahara Africa countries still invest extensively in teacher education expecting graduate teachers to enter the teaching profession after they complete the program. Unless efforts are made to investigate the magnitude of graduate teachers that never enter the teaching profession and their reasons for doing so and necessary steps are taken to rectify the problem, the education programmes will continue to be filled by people who do not become teachers. This study therefore endeavored to measure the magnitude of the wastage rate and to uncover the reasons why education graduates decline to enter the teaching profession.

PURPOSE OF THE STUDY

The purpose of this study was to investigate the wastage rate of education graduates from the University of Malawi, Chancellor College from 2005 to 2009. The study focused only on education graduates from Chancellor College because the University of Malawi is the oldest and main university of the country and Chancellor College is one of its constituent colleges housing the oldest and main faculty of education which is responsible for training the majority of graduate secondary teachers in Malawi. Therefore, in order to achieve the purpose, the study is designed to answer the following research questions:

1. How many education graduates from Chancellor College declined to posting?
2. Is there a difference in the wastage rate by gender?
3. What are the most cited reasons why graduate teachers from Chancellor College decided not to enter teaching after graduating as teachers?
4. How important were the cited factors to the decision of education graduates to decline to enter the teaching profession?

SIGNIFICANCE OF THE STUDY

This study will contribute to the knowledge of teacher education graduates' choice of not entering the teaching profession. Most importantly, the study attempts to close the critical gap in literature on planning for teacher supply. According to Mulkeen (2010) planning teacher supply requires information on "the projected student enrolment, the policy on pupil-teacher ratio, the existing number of teachers broken into their subject specialties where applicable, the annual teacher attrition rate, the annual output of newly trained teachers and the wastage rate" (p.55). Unfortunately, the wastage rate of graduate secondary school teachers in Malawi and other sub-Sahara Africa Countries is not known. This suggests that there is a high likelihood that the wastage rate is omitted when planning for teacher supply. Thus, all teacher planning models are likely to underestimate the national teacher requirements. The findings of this study will broaden stakeholders' understanding of the underlying reasons why some students never enter the teaching profession after graduating from the university as secondary teachers.

THE CONCEPT OF "TEACHER WASTAGE"

A thorough examination of literature shows that the concept of teacher wastage is an elusive term which means different things to different researchers. Smithers and Robinson (2000) define teacher wastage as "the combination of trainees not completing

their courses, not choosing to go into the profession at the end of the course or leaving the profession within few years of service" (p.17). Macdonald (1999) considers teacher wastage as "the number of teachers who leave full time teaching in the pre-school, primary and secondary sector of education through causes such as death, retirement, resignation, dismissal, temporary withdrawal and resignation within education" (p.836). There are two major problems inherent in these definitions. First, students that dropout of the teacher education who have not yet qualified to be teachers are incorporated in the first definition. Second, both definitions equate 'teacher wastage' with 'teacher attrition' despite the two concepts being different although they address a similar problem. Mulkeen (2010) distinguishes the two concepts in that "the annual number of teachers leaving the teaching job through causes such as death, retirement, resignation, dismissal, temporary withdrawals and movement to non-teaching post is *'teacher attrition'* whereas *'teacher wastage'* is a phenomenon where teachers who are trained never actually enter the teaching profession" (p.34). Mulkeen further defines *teacher wastage rate* as "the percentage of newly qualified teachers who do not take a teaching job" (p.34). This study adopted Mulkeen's definition of 'teacher wastage' to investigate education graduates who decline to enter the teaching profession after graduating as secondary teachers.

THEORETICAL PERSPECTIVE

A perspective on the decision never to enter the teaching profession is most appropriately grounded in the occupational choice theories. Therefore in terms of the theoretical standpoint this study was guided by Zabalza's (1979) theory of occupational choice and Grissmer and Kirby's (1993) human capital theory of occupational choice. Zabalza's theory analyzes occupational decision by means of comparing pecuniary returns that might be anticipated from different courses of actions. The theory argues that the expected utility of career alternatives are evaluated before a job choice is made. According to Zabalza, the relative earnings in the teaching profession compared to the non-teaching alternative have a marked effect on graduates' choice of an occupation to the extent that individuals will choose to enter the teaching profession or the other alternative, depending on which of them offers the higher discounted expected returns. The theory also recognizes that the job market may pose difficulties in obtaining a job, such that the subjective probability per period of finding a job in each occupation may contribute to the career decision. This implies that if graduate teachers fail to find alternative employment opportunities, they are compelled to join the teaching profession. Zabalza's theory therefore provides a vital perspective to account for teacher wastage although it does not explain the impact of non-pecuniary factors on career decisions. The human capital theory of occupational choice (Grissmer & Kirby, 1987, 1993) was further adopted by the study as it gives an account of non-pecuniary factors. While the theory has been extensively used to interpret the phenomenon of teacher attrition, Al Kaabi (2005) observed that it does also illuminate antecedents of the graduate teacher's decisions not to enter the teaching profession. The theory states that individuals make systematic assessment of the benefits and costs of entering and staying in a profession.

> The fundamental tenet of the human capital theory of occupational choice is that individuals or households make systematic assessment of the net monetary and non-monetary benefits from different occupations and make systematic decisions throughout their career to enter, stay or leave an occupation (Grissmer & Kirby, 1987, p. 34).

The monetary benefits comprise the stream of likely income, promotion opportunities and value benefits such as health and life insurance and retirement benefits in a particular occupation while *non-monetary benefits* encompass working conditions, support of workers, compatibility of hours and schedule with family, leisure needs and availability of adequate materials and equipment (Grissmer & Kirby, 1993). The theories of Zabalza and Grissmer and Kirby provided a catalogue of relevant dispositions couched in the teacher education graduates choice of a career that were used by the study as key parameters to investigate the phenomenon of teacher wastage.

REVIEW OF RELATED LITERATURE

Teacher Wastage as a Global Phenomenon

Cockburn and Haydn (2004) argue that despite teaching being established as a graduate career for many generations in most developed countries, the number of graduates entering the teaching profession has declined in recent years raising a big concern about wastage from the profession. A study of students recruited to initiate teacher education courses in United Kingdom (Thornton, Bricheno & Reid, 2002) shows that students held deep concerns about their subsequent pay, workload, media image, status, paper work and stress. Mtika and Gates (2010) derived low pay with no incentives, and low status profession and lack of trust among male teachers as some of the images held by Malawian secondary teacher trainees. Thus, vision of low status, demotivation and deteriorating retention of serving teachers are likely to present a gloomy image to those considering entering the teaching profession. A research report, "Enhancing the teaching profession" in the United States of America reveals that the growing number of students indicate their interest and enter teacher preparation programmes in various universities and colleges. However, upon graduation many of these students especially those in high demand fields decide not to apply for teaching jobs or do not accept positions when they are offered (Hirsch, Rodriquez, Curran & Laine, 2001). Findings from this study agree with other studies which suggest that graduates' subject specialization is an essential predictor of who will enter the profession or not (Guarino, Santibanez & Daley, 2006; Murnane & Steele, 2007). Purcell, et al. (2005), using data from two national surveys of United Kingdom graduates of 1995 and 1999 at 38 UK higher education institutions, found that on average 20 percent of BEd/BA/BSc (QTS) graduates and 39 percent of PGCE holders never entered the profession after completion of teacher education. The study also revealed that a   higher proportion of males did not subsequently go into teaching once qualified. In Sub-Saharan Africa, Mulkeen's (2010) synthesis of research data from case studies on teachers in eight Anglophone Africa countries (Malawi, Uganda, Zambia, Gambia, Lesotho, Liberia, Zanzibar and Eritrea) shows that in some countries many of the teachers who are trained never actually enter the teaching profession. A case study in Liberia indicates that the University of Liberia graduated 13 teachers with degrees in primary education and 23 with degrees in secondary education in 2007. It is reported that most of these were existing teachers who had undergone the degree course on study leave from the post. However, despite a system of bonding where students were required to sign a bond committing them to work in schools, after completing the training, very few returned to teaching once training was completed. Evidence from these studies shows that the problem of teacher wastage is not confined to any particular country or region. It is a worldwide but

emerging problem. However, few empirical studies have been conducted internationally to investigate the problem.

Predictors Of The Phenomenon Of Teacher Wastage
Commitment to the Teaching Career

Coladarci (1992) defines commitment to teaching as the "teachers' psychological attachment to the teaching profession" (p.362). Studies in Taiwan, Hong Kong and United States of America have shown that there is a relationship between the motivation for choosing teaching and the degree of commitment to the career (Chan, 2006; Wang & Fwu, 2001). These studies found that teacher trainees who are more committed to teaching regard the teaching career as a calling, display more enthusiasm and place less emphasis on extrinsic motives such as salary and working conditions. In addition, the studies predicted that where teachers are not committed to the teaching profession, most of these teachers would likely decline to enter or remain in the teaching profession (Allison, 1982; Chan, 2006; Coladarci, 1992).

Teacher Labour Supply and the Labour Market

The labour supply behavior of teachers involves a series of decisions which are moderated by the labour market. Santiago (2004) states that the decision whether or not to provide services to the teaching profession depends on the relative wages or salaries of teachers, expected wage growth (future earnings), working conditions and alternative career opportunities. Studies from United Kingdom, United States of America, Indonesia and South Africa offer a more detailed analysis of how relative wages/salaries of teachers affect teacher labour supply (Armstrong, 2009; Chen, 2009; Dolton, 1990; Stinebrickner, 2009). These studies show that relative earnings in teaching and non-teaching occupations and the corresponding growth in earnings in the two choices have a marked effect on graduate choice. Specifically, the lower are relative wages or wage growth in teaching, the less likely is a university graduate to enter the teaching profession. However, researchers further show that the power of relative wages/salaries to affect teacher labour supply depends upon the market situation at the time (Chevalier & Dolton, 2004; Chung, et. al. 2004). Particularly, if teaching is one of the few occupations available to individuals with high level of education, no effective market alternatives exist to the extent that even low levels of compensation attract qualified applicants.

Edet (2008) examined the influence of non-monetary compensation on teachers' attitude to work in Cross River State Secondary Schools in Nigeria. The study used questionnaires to collect data from teachers (sample N=500) and students (sample N=2000) selected using stratified random sampling from thirty (30) secondary schools in the three (3) educational zones of Cross River State. The major findings of the study revealed that non-monetary compensation particularly staff development and training, esteem, recognition and instructional materials related significantly with teachers attitude to work in Cross River State. Murnane and Steele (2007) found that working conditions such as class size, contract hours, quality and adequacy of facilities, parent support, school leadership quality, collegiality within the schools and curricula autonomy influence graduates' decision whether or not to enter the teaching profession or teach in a particular school district in United States of America. The study indicates that graduates in USA are less likely to accept job offers in school districts with poor working conditions even in the event where

compensating wage differentials are offered. Kadzamira (2006) shows that the working conditions of teachers in Malawi are daunting and deplorable especially in rural areas and CDSSs. Majority of schools lack teacher houses, have dilapidated school structures, lack facilities such as staffrooms, science laboratories, classrooms and have insufficient teaching and learning materials.

When working conditions are dreadful for teachers, it is likely that the teaching profession would suffer a dwindling status in the society. A study that investigated the status of teachers and the teaching profession in England found that the rating of status held by graduate secondary teachers placed them in the lower ranking of the list but only above nurses, primary teachers, social workers and librarians (Hargreaves, et al. 2006). Overall, the study shows teachers felt greater voids existed between the teaching profession and high status profession with teachers being the poorer recipients in terms of being respected and valued authorities. Similarly, studies in Malawi, Nigeria, Ghana, Lesotho and Tanzania divulge an incident where the teaching profession no longer commands the high status it used to enjoy during the colonial and early post-independence era and that teachers are generally underrated by society (Adelabu, 2005; Bennell & Mukyanuzi, 2005; Hedges, 2002; Kadzamira, 2005; Urwick, et al. 2005). The negative images about the status of the teaching profession could likely dissuade education graduates' willing to supply labour.

Few studies have documented the impact of availability of alternative opportunities on the teacher labour supply. Court, et al (1995), using the labour force survey in UK, showed that aggregate labour market conditions particularly in terms of unemployment levels were specifically important in the supply of teachers. Dolton, et al (2003) support these findings with time series data. Notably, they found that the supply of graduates to teaching is counter-cyclical with most graduates' perceptions of teaching and willingness to enter the profession improving when graduate prospects are poor in alternative occupation and when graduate unemployment is high. Thus the availability of alternative employment could also predict the decision of graduates not to enter the teaching profession.

Teacher Deployment Systems and Practices

Generally, two systems of teacher deployment exist: 'market system' and 'centralized deployment system'. Most African countries including Malawi use the centralized deployment system (Mulkeen, et al; 2007). This system usually incorporate a greater element of compulsion in posting, as this offers the only way authorities faced with an overall teacher shortage can provide graduate teachers to all schools including the least desirable from the teachers point of view (Ankrah-Dove, 1982). When compulsory posting is the rule, the question must be whether graduate teachers are prepared to be posted to undesirable locations/schools or decline to enter the profession altogether. Studies in Malawi and other Sub-Sahara African countries show that graduate teachers are reluctant to accept posting in remote areas or certain schools (Gottelmann-Duret & Hogan, 1998; Hedges, 2002; Shibeshi, 2009). These studies reveal that female teachers may be even less willing to accept a rural posting than their male counterparts. Hedges (2002) shows that while in Ghana female teachers are not in general to be posted to rural areas as a matter of policy, specifically, there is profound fear among parents that their daughters may lose their 'marriage market'. Kadzamira (2006) indicates that in Malawi, relatively well educated single women from urban background feel that moving to rural areas could restrict their opportunity to find a husband of similar or higher level of education. Mulkeen (2010) found

that in some cases rural communities may not accept the arrival of an unmarried female teacher due to religious and cultural factors. This shows that Sub-Sahara African countries face numerous teacher deployment challenges which can also predict the graduates' decision to decline to enter the teaching profession.

RESEARCH DESIGN

This study followed the quantitative approach, and adopted the cross-sectional design. Teacher wastage was investigated among different cohorts of education graduates from Chancellor College from 2005 to 2009 but data were collected at a single point in time although the actual time took approximately six months to complete data collection. Data were collected from the entire population of education graduates from 2005 to 2009, a saturation inquiry or census (Muijs, 2004). A total of 760 education graduates from Chancellor College from 2005 to 2009 formed the units of analysis. The rationale for the saturation inquiry was that it could have been meaningless to investigate the wastage rate of a sample and utmost impossible to use it to make projections for educational planning purposes. The five years education graduate cohort was used since projections in educational planning require base data of not less than four years (Chang, 2003).

DATA COLLECTION TECHNIQUES

The study employed the document analysis, structured interviews and structured questionnaire. Official administrative documents from University of Malawi central offices, Chancellor College and Ministry of Education, were analyzed to obtain secondary data relevant to the study. A preliminary analysis of the documents was conducted to cross-check the data from the different sources. The actual analysis of documents took the form of categorical analysis (Sarantakos, 2005) where two sets of pre-determined categories guided the analysis: (1) Graduates that entered teaching profession after graduation and (2) Graduates that declined to enter teaching profession after graduation. The University of Malawi entrance examination results books (of 2000, 2002 to 2004) and education graduates lists of 2005 to 2009 were analyzed to collect data for education graduates. The Ministry of Education staff returns were analyzed using a validated list of education graduates from 2005 to 2009 to collect data on the first research question. The pre-determined variables which were supposed to relate on both documents were the First name, Surname, Academic qualification (Bachelor of Education- *abbreviated as BEd*), College where trained (Chancellor College-*abbreviated as Chanco*) and Sex. In addition, Year of first appointment was supposed to be in exactitude with year of graduation. Using the technique, 367 education graduates (48.3% of the total respondents) appeared on the staff returns indicating that they entered the teaching profession after graduation.

Structured interviews were conducted with education graduates who could not be traced using secondary data. The interviews were administered through internet and telephone. Using the internet, data were collected from 333 education graduates (43.8% of the total respondents) while telephone interviews were conducted with 60 respondents (7.9% of the total respondents).

A structured questionnaire was used to collect data from graduates who declined to enter the teaching profession. 8.8% of the questionnaires were physically delivered to respondents, 74.7% were e-mailed while telephone administered questionnaires were used to collect data from respondents who could not be reached by mail and constituted 16.5% of the total

administered questionnaires. A total of 87 education graduates from 2005 to 2009 who declined to enter the teaching profession were eligible to complete questionnaires, but only 79 respondents consented and 72 respondents completed the questionnaires resulting in an overall response rate of 82.8%.

DATA ANALYSIS TECHNIQUES

The data were entered and analyzed through the Statistical Package for Social Sciences (SPSS 16.0). Two statistical techniques were used: the Chi-square (χ^2) Test of Homogeneity, and Standardized Residual (R). Descriptive statistics (i.e. frequency, percentages, mode, means and standard deviation) were also generated to analyze data for the last two research questions. As a test of homogeneity, the χ^2 was computed to test whether there was a difference in the proportions of education graduates that declined to enter the teaching profession among the five independent cohorts from 2005 to 2009. The technique was used to analyze data for the first research question. The analysis tested the null hypothesis (H_o): There was no difference in the wastage rates among the cohorts. The degrees of freedom (df) associated with this test statistic was (R-1) (C-1) = (2-1) (5-1) = 4 and the critical value for the test statistic ($\chi^2_{.05}$) was 9.488. Similarly, the study computed the χ^2 test of homogeneity to analyze data for the second research question. The analysis tested the null hypothesis (H_o): There was no difference in the wastage rates in terms of gender. The 2x2 contingency table of entrance into the profession (Declined/Entered) and sex of graduates was used and the critical value associated with this test was $\chi^2_{0.05}$ (1df) =3.84. In the event where the χ^2 test was significant, the study further calculated the standardized residuals (R) to specify which cells were major contributors to the significant χ^2 value.

VALIDITY AND RELIABILITY

The study guaranteed the independence of the researcher through the use of structured data collection instruments. The design of the study was appropriate as it enabled the collection of five years base data to yield the wastage rate of education graduates from 2005 to 2009. Basically, the ideal wastage rate to be used for making projections in educational planning requires base data on not less than four years (Chang, 2003). The variables or constructs used in the study were delineated from carefully examined pre-existing theories and research findings to enhance the quality of the measures. The content of the secondary data were comprehensive and thoroughly covered the intended variables without which, all dubious secondary data were discarded. Since the study used the total population of education graduates from 2005 to 2009, the results can be generalized to all education graduates from Chancellor College. With regard to issues of reliability, the secondary and primary data collected by the study to answer the first two research questions were factual, (i.e. either an education graduate was 'male' or 'female'; 'entered the profession' or 'declined') denoting that the results of the study were amenable to replication.

RESULTS OF THE STUDY
Wastage Rates of Education Graduates

The results show that 15.2% of the 2005 graduates, 15.3% of the 2006 graduates and 7.5% of the 2007 education graduates declined to posting and never entered the teaching profession. Similarly, 11.8% and 11.4% of the education graduates of 2008 and

2009 respectively did not enter the teaching profession. This culminated into a 12.0% wastage rate of education graduates from Chancellor College from 2005 to 2009. The figure below displays the wastage rates of education graduates in each cohort.

Figure 1: Wastage rates of Chancellor College education graduates from 2005 to 2009
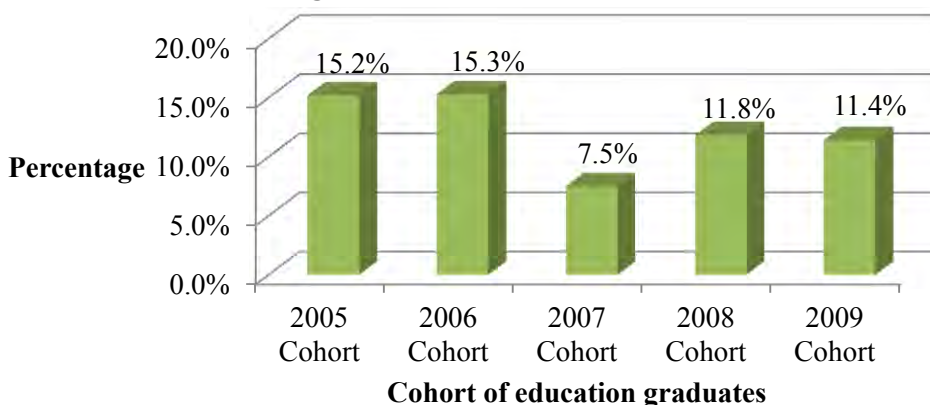
Table 1 below shows the observed and expected frequencies used by the study to calculate the χ^2 test of homogeneity. The calculated χ^2 (4df) = 8.681, p = 0.226 and did not exceed the critical value $\chi^2_{0.05}$ (4df) = 9.488. Therefore, the study failed to reject the null hypothesis and concluded that the wastage rates among the different cohort of education graduates from 2005 to 2009 were homogeneous.

Table 1: (2x5) Contingency tables for Calculating the χ^2 Test of Homogeneity for Wastage Rates.

		Cohort of the graduates					
		2005	2006	2007	2008	2009	**Total**
Entrance into teaching after graduation	Declined	**15 (11.8)**	**23 (17.9)**	**12 (19.1)**	**18 (18.2)**	**19 (20.0)**	87
	Entered	**84 (87.2)**	**127 (132.1)**	**148 (140.9)**	**134 (133.8)**	**148(147.0)**	641
Marginal Total		99	150	160	152	167	728

*In brackets are expected frequencies while the values not in brackets are observed frequencies.

Wastage Rate of Education Graduates and Gender

The 2x2 contingency table of entrance into the profession and sex of graduates shown below was used to calculate the χ^2 test of homogeneity. The analysis tested the null hypothesis (H_o): There was no difference in the wastage rates in terms of gender.

Table 2: (2x2) Contingency table of Entrance into Teaching and Sex of Graduates

		Sex of Graduates		
		Male	Female	Total
Entrance into the teaching profession after graduation	Declined	**59 (67.2)**	**28 (19.8)**	**87**
	Entered	**503 (494.8)**	**138 (146.2)**	**641**
Marginal Total		**562**	**166**	**728**

*In brackets are expected frequencies while the values not in brackets are observed frequencies.

The calculated value of χ^2 (1df) = 4.992, p = 0.03 exceeded the critical value of $\chi^2_{0.05}$ (1df) = 3.84. Thus the null hypothesis was rejected denoting that the wastage rates were different between male and female education graduates from 2005 to 2009. The study further calculated the standardized residuals (R) for each category and the residuals are found in Table 3 below.

Table 3: Standardized Residuals (R) For Declining Posting by Gender

		Sex of Graduates	
		Male	Female
Entrance into the teaching profession after graduation	Declined	-1.000	**1.842**
	Entered	0.368	-0.678

Findings from Table 3 show that R=1.842 is the only value that approximated 2.00 while the rest of the values were very negligible. This suggests, in comparing the observed and expected frequencies, there were more females and less males than expected who declined to enter the teaching profession.

Most cited Reasons why Education Graduates from Chancellor College declined to enter the Teaching Profession

Education graduates who declined to enter the teaching profession indicated on the multiple response categories the main reasons why they did not join teaching after graduating. Figure 2 below shows a summary of results.

Figure 2: Reasons for not joining the Teaching Profession after graduation

Reason	Percentage
Low Pay	73.6
Few Opportunities for Professional…	69.4
Posting to Rural Area	62.5
Found Alternative Employment…	61.1
Few Promotion Opportunities	61.1
Poor benefits	52.8
Never Chose Education during UEE	44.4
Lack of Social Respect & Recognition	43.1
Posting to Unfamiliar Community	38.9
No allowances	37.5
Delays in Posting	27.8
Poor Housing	26.4
Lack of Housing	19.4
Insufficient Teaching & Learning…	13.9
Poor School Infrustructure	12.5
Posting to CDSS	12.5
Went for Further Studies	6.9
Heavy Teacher Workload	5.6
Unruly Students	4.2

Percentages

The mode computed by the study generated a multimodal where low pay 76.6%, few opportunities for professional development 69.4%, posting to rural area 62.5%, found alternative employment opportunity 61.1%, few opportunities for promotion 61.1% and poor/lack of benefits (scholarships, loans and medical scheme) 52.8% emerged as the most cited reasons for declining to enter the teaching profession.

Importance Of The Cited Factors To The Decision Of Education Graduates To Decline To Enter The Teaching Profession

Education graduates also indicated on a four point Likert scale ranging from 1 (Not at all Important) to 4 (Very Important) the most important factors that influenced the decision not to join teaching. Data were summarized into means and standard deviations. The four point Likert scales were further collapsed into two categories of "important" and "not important" and the analysis revealed that the most cited factors (i.e. with high mean scores) varied in their importance to influence the graduate's decision to decline to enter the teaching profession. Table 4 shows the frequencies and percentages of the most cited factors in relation to their importance.

Table 4: Frequencies and percentages of most cited factors in relation to their Importance

IMPORTANT		
Most cited Factor for declining Teaching	Frequency	Percentage
1. Opportunities for Professional Development	62	86.1
2. Level of Teacher Salary	59	81.9
3. Availability of Alternative Employment	57	79.2
4. Availability of Other Benefits	56	77.8
5. Posting to a School in Rural Area	55	76.4
6. Teacher Posting Process	54	75
7. Opportunities for Promotion	53	73.6

NB: The total Frequency for each factor was 72

Table 4 shows that, availability of opportunities for professional development was the most important factor, rated by the highest percentage of graduates (86.1%). The second most important factor was teacher salary (81.9%) while availability of alternative employment (79.2%) was the third most important factor. The availability of other benefits rated by 77.8% of the graduates as "important" was fourth, while the fifth factor in order of importance was posting to a school in rural area (76.4%). The sixth and seventh important factors consecutively were teacher posting process (75%) and opportunities for promotion (73.6%).

DISCUSSION OF RESULTS

Wastage of Education Graduates

The 12.0% wastage rate of education graduates implies that from every cohort of 100 education students from Chancellor College, 12 are likely to decline to enter the teaching profession after graduation. Generally, in educational planning wastage and attrition rates exceeding the ranges of 3% to 5 % are regarded detrimental to the education system. However, studies show that teacher wastage continues to be a challenge in many countries across the globe. Smithers and Robinson (2000) show that well over 40% of those who train as teacher do not enter the teaching profession in England and Wales. About 25% of credentialed teachers never joined teaching in California (Bullard, 1998) while Henke, Chen and Geis (2000) show that overall, about 28% of college graduate teachers declined to enter the teaching profession in United States of America. In the larger context of teacher shortage currently facing countries including Malawi, such wastage rates when combined with teacher attrition emanating from teacher resignation, retirement, death and transfer to non-teaching posts further complicates the problem of qualified teacher shortages. Teacher wastage also signifies a huge opportunity cost to the education system. The financial resources developing countries invest in training education graduates who do not join teaching represent a big loss to the education sector. For instance, it costs the government of Malawi about US$ 30,000 to train an education student at the University of Malawi, meaning that for every 12 education graduates from the cohort of 100 who decline

to join teaching, the government spends about US$360,000, an amount which can be used to train about 412 primary school teachers.

The study further revealed some gender differences in the decision not to join the teaching profession. Proportionally, more female education graduates declined to teach than their male counterparts. Comparatively, this was contrary to findings of studies from other countries particularly Middle East, United States of America and European countries which portrayed the teaching profession as a feminine career due to the high proportion of female compared to male teachers who join teaching in such countries (Al Kaabi, 2005; Allison, 1982; Ilaiyan & Zidan, 2005; Kizilaslan, 2010; Purcell, et al., 2005). It is possible that while gender differences in the decision not to teach have been observed by many studies, the question of which gender was more likely to decline to enter teaching varies among countries. However, with lower female student enrollment in many universities in Sub-Saharan Africa (World Bank, 2010), the higher proportion of female education graduates that declined to enter the teaching profession poses a peculiar challenge where both the primary and secondary education systems grapple with the problem of very low participation and retention rates of girls compared to boys. Certainly, participation of female graduate teachers is supposed to be an encouragement to girls to stay in school hence a paramount factor in creating gender role models.

Factors Influencing Teacher Wastage

The study established that there were six most cited factors which varied in their importance in influencing education graduates to decline to enter the teaching profession. Opportunity for professional development was rated as the most important factor. It is not surprising that education graduates cited the existence of few opportunities for professional development in the teaching profession as a deterrent. The problem seems to be more pronounced as graduates who joined other departments of the civil service get more chances for professional development while teachers were under-privileged. These findings suggest that teacher professional development cannot be underestimated in attempts to reduce the problem of teacher wastage. Generally, further training on a job facilitates the fulfillment of the need for personal and professional advancement as well as the creation of good chances of promotion. Therefore, considering professional development structures for graduate teachers that offer differentiated roles and commensurate pay is necessary. Carefully structured career ladders coupled with the provision of opportunities for professional development would be attractive to education graduates as they would offer promises of advancement and role differentiation. Similarly, the professional development programmes spearheaded by donors who only occur in project forms on ad hoc basis in most developing countries including Malawi should be institutionally established within the Ministry of education and designed not only to improve the quality of education, but also to upgrade secondary teachers to take posts of responsibilities.

Level of teacher salary was the second most important factor. Education graduates cited low pay in the teaching profession as another reason contributing to teacher wastage. This corresponds to findings of various studies that investigated the teacher labour market (Armstrong, 2009; Chen, 2009; Chung, et al., 2004) and confirms Zabalza's (1979) theory that lower relative wages in teaching have a major influence on dissuading education graduates from choosing the teaching career. Policy makers and education planners need

to take seriously the challenge of increasing teachers' salaries. There is no doubt that the teaching profession is up against other more rewarding occupational opportunities open to graduates yet it needs a large number of recruits annually to cover for the acute shortage of qualified teachers. Consequently, the logic of wanting lots of qualified graduate teachers is that salaries should be pitched far above average. Teachers should also be explicitly rewarded financially for carrying managerial responsibilities and other duties and for performing specific tasks such as working not only in rural but also other disadvantaged areas.

The third most important factor influencing teacher wastage was availability of alternative employment. The impact of alternative employment seems to defy boundaries as studies reported from United Kingdom and other OECD countries also found that the supply of graduates to teaching was counter-cyclical with most graduates' perceptions of teaching improving when prospects were poor in alternative occupations and when graduate unemployment was high (Corcoran, et al., 2002; OECD, 2005). Unfortunately, this may be a paradox as education planners can hardly control alternative employment opportunities at the disposal of education graduates if conditions of service in the teaching profession are not competitive. However, making the teaching profession more attractive by addressing the fundamentals that draw people to an occupation would ensure that a sufficient supply of education graduates enter teaching.

Poor or lack of other benefits like scholarships, loans and medical scheme in the teaching profession was the fourth most important factor in deterring education graduates from joining teaching. These according to the human capital theory of occupational choice (Grissmer & Kirby, 1987, 1993) constitute other important monetary benefits whose presence has a marked influence on the decision to join a particular occupation. Apparently the absence or inadequacy of such benefits in Malawi greatly influenced respondents in the study to decline to enter teaching. Therefore policy makers and planners should consider introducing benefits like soft loans, medical schemes and others for teachers. There are so many benefits educational planners can explore to make teaching attractive such that the limits are set by the imaginations of those responsible for formulating the salary and benefits policies.

Posting to a school in rural area and the nature of the posting process were rated fifth and sixth in the importance to influence teacher wastage respectively. The education graduates showed that they were unwillingness to work in schools in the rural area. This defeats the whole purpose of government's centralized deployment system employed by countries in Sub-Saharan Africa where teachers are deployed depending on the prevalent vacancies. Even with compulsion the study shows that graduate teachers were not prepared to accept posting to 'undesirable locations' regardless of policy, but rather opted to decline to join teaching. However, it would be necessary to continue the rational teacher deployment system practiced in Malawi and many other Sub-Sahara Africa countries to prevent teacher disparities but responsible personnel for posting graduate teachers should refrain from using compulsion and alternatively incorporate negotiation with the respective education

graduates in the posting process. The ministry of education can also offer compensation wage differentials such as hardship allowances to education graduates who would opt to teach in schools in rural areas.

Lack of opportunity for promotion was cited as another factor influencing teacher wastage, although in terms of the degree of importance, it was the least. The data collected in the study revealed that education graduates who had worked for five years were still on the initial grade for graduates with a Bachelor's Degree in the Malawi Civil Service. This indicates that there is a less likelihood that education graduates got promotional opportunities. Urwick, et al. (2005) also found that despite that graduate teachers were treated as civil servants equivalent with other graduates in different occupations within the civil service in most Sub-Sahara African countries, individuals in other occupation could be promoted more rapidly while teachers were hardly promoted when they were due for promotion. However, promotion has an instrumentality role in helping one to obtain outcomes such as more money and a higher status which would certainly influence education graduates to join teaching. Therefore, the Ministry of Education should establish posts and do away with unhealthy style of appointments on administrative arrangements in order to offer promotional opportunities for such created posts. The traditional practice of conducting interviews as a promotional procedure should be coupled with performance appraisals to ensure that only deserving teachers are promoted. Incorporating performance appraisals, in the promotion procedures would likely instill the hard working spirit in teachers, which would contribute to improved performance of students and the quality of education.

CONCLUSION

The key contribution of the study is the quantification of the wastage rate of education graduates from Chancellor College 12.0%. This finding is a significant contribution to literature on educational planning as it confirms that besides recruitment problems to teacher education and the high secondary teacher attrition rates, teacher wastage is another significant contributor to the shortage of qualified secondary teachers which should not be overlooked in all attempts to reduce teacher shortages. When planning for teacher supply, it should be a prerequisite to incorporate the wastage rate, without which all teacher planning models would likely underestimate the national teacher requirements. The other key contribution of the study is the gender difference in the decision to decline teaching. Contrary to popular belief that teaching is a feminine career, the findings of this study suggest that the question of which gender is more likely to decline to enter the teaching profession varies among countries. However, the higher wastage of female education graduates is retrogressive in efforts aimed at improving girl's participation and retention in the education system. Certainly, participation of female graduate teachers is supposed to be an encouragement to girls to stay in school hence a paramount factor in creating gender role models. The study further revealed seven most important factors that influenced education graduates to decline to enter the teaching profession after graduation. Availability of opportunities for professional development was rated highly as the most important factor, followed by level of teacher salary then availability of alternative employment opportunities. The other factors in their order of importance were: availability of other benefits, posting to a school in a rural area, the nature of the teacher posting

process and availability of opportunities for promotion. Therefore, it was apparent that most factors that influenced graduate teachers to decline to enter the teaching profession related to teacher attrition factors revealed by studies that investigated why teachers leave the teaching profession after teaching for a short period of time. But, interestingly not all teacher attrition related factors investigated in this present study could also explain the decision of newly education graduates to decline to enter the teaching profession after graduation. Consequently, caution should be made against wholesomely generalizing the teacher attrition factors to teacher wastage.

REFERENCES

Adelabu, M. A. (2005). *Teacher motivation and incentives in Nigeria.* Paper prepared for an international research project on teacher motivation and incentives in Sub-Saharan Africa and South Asia. Logos: UK Department for International Development.

Al Kaabi, A. S. (2005). *Factors influencing teacher attrition in the United Arab Emirates.* Unpublished doctoral thesis, University of Pittsburgh, Pittsburgh, PA.

Ankrah-Dove, L. (1982). The deployment and training of teachers for remote rural schools in less-developed countries. *International Review of Education. 28*, 3-27.

Armstrong, P. (2009). *Teacher pay in South Africa: How attractive is the teaching profession?* A working paper of the Department of Economics and the Bureau for economic research at the University of Stellen Bosch. Capetown, Maticland, South Africa.

Bennell, P., & Mukyanuzu, F. (2005). *Is there a teacher motivation crisis in Tanzania?* Paper prepared for an international research project on teacher motivation and incentives in Sub-Saharan Africa and South Asia. United Kingdom: Department for International Development (DFID).

Bullard, C. (1998). *Qualified teachers for all California students: Current issues in recruitment, retention, preparation and professional development.* Prepared at the request of Senator Dede Alpert. California: California Research Bureau.

Centre for Educational Research and Training (CERT) (2005). *Issues in the education system in Malawi.* Paper submitted to Ministry of Education for the March 2005 education conference. Zomba: University of Malawi.

Chan, K. W. (2006, November). *In-service teachers' perceptions of teaching as a career-motive and commitment in teaching*. Paper presented at the AARE International Education Research Conference at the University of Western Sydney, Parramatta Campus, Sydney, Australia.

Chang, G. C. (2003). *Designing a policy simulation model: Background Material.* International Technical Workshop on EFA Policy Simulation. Paris: UNESCO Division of Educational Policies and Strategies.

Chapman, D. W., & Green, M. S. (1986). Teacher retention: A further examination. *The Journal of Educational Research*, *79* (5), 273-279. Accessed on 03/11/2010 from http://www.jstor.org/stable/27540211

Chen, D. (2009). *The economics of teacher supply in Indonesia.* East Asia and Pacific Region Human Development Sector Department Policy Research working paper 4975: The World Bank.

Chevalier, A., Dolton, P., & McIntosh, S. (2001). *Recruiting and retaining teachers in the UK: An analysis of graduate occupation choice from the 1960s to 1990s*. London: London School of Economics, Centre for Economic performance.

Chevalier, A., & Dolton, P. (2004). *The labour market for teachers*. Belfield Dublin 4: Centre for Economic Research Working Paper Series.

Cockburn, A. D., & Haydn, T. (2004). *Recruiting and retaining teachers: Understanding why teachers teach*. London: Routledge Falmer Publishing.

Court, G., Morris, S., Reilly, B., & Williams, M. (1995). *Teachers: Recruitment and the labour market*. (Institute for Employment studies report 292). Sussex: University of Sussex

Corcoran, S. P., William, N. E., & Schwabs, R. S. (2002). *Changing labour market opportunities for women and the quality of teachers 1957-1992*. Working Paper No. 9180. Cambridge, MA: National Bureau of Economic Research.

Coladarci, T. (1992). Teacher's sense of efficacy and commitment to teaching. *The Journal of experimental education*, *60*, (4) 323-337. Accessed on 11/03/2010 from http://www.jstor.org/stable/20152340

Dolton, P. (1990). The economics of UK teacher supply: The graduate decisions. *Economic Journal*, *100*(400), 91-104.

Edet, A. O. (2008). Non-monetary compensation and teachers' attitude to work in Cross River State: Implication for quality education. *Global Journal of Education Research, 7* (1 & 2), 37-42.

Fraenkel, J. R., & Wallen, N. E. (2000). *How to design and evaluate research in education (4th ed)*. Boston: Mc Graw Hill Inc.

Fwu, B. J., & Wang, H. H. (2002). The social status of teachers in Taiwan. *Comparative Education*, *38*(2), 211-224. Accessed on 06/12/2010 from http://www.jstor.org/stable/3099785

Gottelmann-Duret, G., & Hogan, J. (1998). *The utilization, deployment and management of teachers in Botswana, Malawi, South Africa and Uganda*. Paris: IEP/UNESCO.

Grissmer, D. W., & Kirby, S. N. (1987). *Teacher attrition: The uphill climb to staff the nation's schools*. (ERIC Document Reproduction Service No. ED 291 735). Santa Monica: The RAND Corporation.

Grissmer, D. W., & Kirby, S. N. (1993). *Teacher attrition: Theory, evidence and suggested policy options*. Santa Monica, CA: The RAND Corporation.

Guarino, C. M., Santibanez, L., & Daley, G.A. (2006). Teacher recruitment and retention: A review of the recent empirical literature. *Review of Educational Research, 76*(2), 173-208.

Hargreaves, L. et al., (2006). *The status of teachers and the teaching profession in England: Interim findings from the teacher status project*. Cambridge: The Chancellor, Masters and Scholars of the Department for Education and Skills, University of Cambridge.

Hedges, J. (2002).The importance of posting and interaction with the education bureaucracy in becoming a teacher in Ghana. *International Journal of Educational Development, 22*(2), 353-366.

Henke, R. R., Chen, X., and Geis, S. (2000). *Progress through the teacher pipeline: 1992-93 college graduates and elementary/secondary school teaching as of 1997*. Washington, DC: US Department of Education & National Centre for Education Statistics.

Hirsch, E., Rodriquez, E. M., Curran, B. K., & Laine, S. W. M. (2001). *Recruitment: Staffing classrooms with quality teachers.* Report of the SHEEO project, Enhancing the Teaching Profession: The importance of mobility to recruitment and retention. Denver, USA: State Higher Education Executive Officers (SHEEO).

Ilaiyan, S., & Zidan, R. (2005). *Motives for selecting the teaching profession among teaching trainees in the Arab sector in Israel.* Haifa: The Arab Academic College of Education.

Kadzamira, E. C. (2006). *Teacher motivation and incentives in Malawi.* Paper prepared for an international research project on teacher motivation and incentives in Sub-Saharan Africa and South Asia. Zomba: University of Malawi, Centre for Education Research and Training.

Kayuni, H., & Tambulasi, R. (2007). Teacher turnover in Malawi's Ministry of Education: Realities and challenges. *International Educational Journal*, *8* (1), 89-99. Accessed from http://www.iej.com.au

Kizilaslan, I. (2010, November). *Student teachers' motives for choosing the ELT profession: A quantitative description.* Paper presented at an international conference on New Trends in Education and Their Implications, Antalya-Turkey.

Macdonald, D. (1999). Teacher attrition: A review of literature. *Teaching and Teacher Education 15*, 835-848

Ministry of Education Science and Technology (2007). *National strategy for teacher education and development (NSTED): Primary and secondary education.* Capital Hill, Lilongwe: MoEST.

Ministry of Education Statistics (2007). *Education Management Information System (EMIS).* Capital Hill, Lilongwe: MoEST.

Mtika, P., & Gates, P. (2010). What do secondary trainee teachers say about teaching as a profession of their choice in Malawi. *Teaching and Teacher Education*, *30*, 1-10.

Muijs, D. (2004). *Doing quantitative research in education with SPSS.* London: Sage Publication.

Mulkeen, A., Chapman, D. W., DeJaeghere, J. G., & Leu, E. (2007). *Recruiting, retaining and retraining secondary school teachers and principals in Sub-Saharan Africa.* Washington, DC: The World Bank.

Mulkeen, A. (2010). *Teachers in Anglophone Africa: Issues in teacher supply, training and management.* Washington, DC: The World Bank.

Murnane, R. J., & Steele, J. L. (2007). What is the problem? The challenge of providing effective teachers for all children. *The Future of Children Excellence in the Classroom, 17*(1), 15-43. Accessed on 24/01/2011 from http://www.jstor.org/stable/4150018

Organization for Economic Cooperation and Development. (2005). *Teacher matter: Attracting, developing and retaining effective teachers.* Paris: OECD publishing.

Purcell, K., Wilton, N., Davies, R., & Elias, P. (2005). *Education as a graduate career: Entry and exit from the teaching profession.* Accessed from http://www.dfes.gov.uk/rsgateway/DB/RRP/u014666/index.shtml

Rots, I., & Aelterman, A. (2008). Teacher training for secondary education and graduates entrance into the teaching profession. *Education Studies, 34*, 399-417.

Santiago, P. (2004). The labour market for teachers. In G. Johnes, & J. Johnes (Eds.) *International handbook on the economics of education.* Cheltenham, UK & Northampton USA: Edward Elgar Publishing Ltd.

Shibeshi, A. (2009) Secondary school teacher deployment in Ethiopia: Challenges and policy options for redressing imbalances. In S. Ege, et al., (Eds.) *Proceedings of the 16th International Conference of Ethiopian Studies.* Trondheim, Norway: NTNU Publication.

Smithers, A., & Robinson, P. (2000). *Attracting teachers: Past patterns, present policies, future prospects.* Liverpool: Carmichael press.

Stinebrickner, T. R. (2001). A dynamic model of teacher labour supply. *Journal of labour Economics*, *19* (1). Accessed on 04/01/2011 from http://www.jstor.org/stable/10.1086/209984

Thornton, M., Bricheno, P., & Reid, I. (2002). Student's reasons for wanting to teach in Primary school. *Research in education*, *67*, 33-43.

Urwick, J., Mapuru, P., & Nkhomboti, M. (2005). *Teacher motivation and incentives in Lesotho*. Maseru: Lesotho College of Education.

Wang, H. H., & Fwu, B. J. (2001). Why teach? The motivation and commitment of graduate students of a teacher education programme in a research university. *Practical National Service Council*, *ROC., 11*(4) 390-400.

Wilson, A., & Pearson, R. (1993). The problem of teacher shortages. *Education Economics*, *1* (1), 69-75.

World Bank (2010). *The education system in Malawi*. Washington, DC: Author.

Zabalza, A. (1979). The determinants of teacher supply. *The Review of Economic Studies, 46*(1), 131-147. Accessed on 16/12/2010 fro http://www.jstor.org/stable/2297177

An Assessment of Human Resources and Educational Facilities in Private Pre-Primary Schools in Ogun State of Nigeria

Oyetunde Awoyele
Mushay A. Ogundipe

ABSTRACT

Eighty (80) private nursery schools were randomly selected in Ogun State, Nigeria, out of 196 available in the state government's education handbook. Two questionnaires, namely Student Teachers Questionnaire on Nursery School Facilities (STQNSF), and Nursery School Resources Questionnaire for Head teachers (NSRQH) were used to gather data concerning human resources and facilities available in the nursery schools. Based on the federal government's Guidelines on Minimum Standards in Schools nationwide, the adequacy or otherwise of the human resources and facilities were determined using simple percentages. The three research questions designed for the study are: How suitably located are private pre-primary schools in Ogun State Nigeria? How adequate are the teaching staff and head teachers of private pre-primary schools in Ogun State Nigeria? How adequate are the facilities provided in pre-primary schools in Ogun State Nigeria? It was found that most of the private nursery schools were located in conducive environment, but most were accommodated in substandard buildings. Pupil-teacher ratio in the schools was adequate, head teachers' qualifications were adequate but teaching staff qualifications were generally inadequate. Most of the schools had inadequate facilities. Over-all, only 44.37% of the schools' facilities were included in the study. It is recommended that an independent Pre-primary School Commission, separate from the State Ministry of Education, be put in place by each state in Nigeria, to solely see to the actualization of national standards in all private pre-primary schools. This is to ensure adequate provision of teaching staff and facilities and educational standards therein.

BACKGROUND OF THE STUDY

Public schools at all levels in Nigeria's education system are generally believed to have inadequate/poor resources for teaching and learning than their private counterpart. By extension, they are believed to offer less quality education than private institutions. The belief is supported by some investigation that had been made into the assessment of the status of the public schools. Iginla (2008) observed that, in Nigeria's public educational institutions at all levels, there was gross inadequacy of resources, and as such, teaching was conducted more in theory rather than practical. According to him, equipment available in such schools was largely obsolete. Fafunwa (1994) reported a study on Nigerian public primary schools which reflected that:

- A substantial number had no building.
- There was a shortfall of furniture for teachers and pupils by 62.4% and 62.5% respectively.
- Only 68.9% had access to potable water, 59.2% obtained water from wells whilst 2.1% obtained water from ponds.
- Less than 6% had access to health facilities.
- Only 68% had toilet facilities. Out of that, 41.9% had pit latrines and 12.1% used bush, dunghill, open spaces or stagnant water as toilet.

- 77% of the pupils had no textbook at all while 36% had no writing materials.
- The most common instructional materials in the schools were chalkboard and chalk, and even up to 3% had no chalk. In many schools, chalks were provided by teachers.
- Equipment for science, agricultural science, home Economics, and arts and crafts were lacking.

Awoyele (1988) assessed the resources allocated to public junior secondary schools in Ogun State. He found in the study that only 23.79% of all resources required in the state were allocated, thus generating acute shortage of physical, material and human resources. The current situation of public schools is not better either. Soyinka (2007) cited sources from the Federal Ministry of Education that just 50.95% of public primary schools in Nigeria had rooms in good condition while only 50.25% of public secondary schools had. The situation was accentuated by the multitudinous enrollment in the schools where, contrary to statutory standard of teacher-pupil ratio from 1:30 to 1:40, public schools now have a ratio of 1:70 at primary and secondary school levels. Even in the northern states, perceived to be more educationally trepid than the south, over-population in classes is now palpable. Affe (2008) observed that, though only 60% of primary school students transit to junior secondary school class, in Kano, student enrolment per class is now up to 150 instead of between 30 and 40. On the other hand, school attendance is poor nationwide. According to Weltz (2008), pupils who attended schools with large population were prone to failure and because of their behavioral and education difficulties, crime rate correspondingly increased.

Private Schools Status and Parents' Preference
The general public rates private institutions high on resource allocation and education quality (CAPE, 2014). In recent times, dwindling enrolment in public primary and secondary schools have been noticed. At the same time there is ascending patronage of private schools (*PM News*, 2011). Awoyele (2005) cited Lassa that private schools were receiving stupendous patronage from the society in spite of exorbitant fees they charge. This is also happening in other places. Toolkey, Olaniyan and Adedeji (2006) discovered that even the poor and the down-trodden in Hyderabad, India, and in Ghana and Lagos in Nigeria, prefer private schools. They found in their research that, in the three low income areas in Lagos, only 34.3% of the schools were government-owned while 65.7% were privately owned. In addition, they found that the proportion of pupils in government and private registered schools in Lagos State in 2002–2003 were 38% and 62% respectively.
Okwilagwe (2007) in a comparative study of public and private schools in Ibadan found teacher-student ratio from 1:30 to 1:43 in public schools while a ratio from 1:4 to 1:20 in private schools and that private schools were better funded than public schools. His study also showed that public school enrolment was generally large, (between 2,000 and 3,000 students) while private school enrolment was much smaller (between 30 and 250 students). Average class size in private schools is between 3 and 25 as against 30 and 38 in public schools. Success rate in public examinations is higher in private schools than in public schools. Contrarily, Taiwo (2005) observed that

private primary schools generally had poor resources. Many uncompleted or dilapidated buildings, makeshift sheds or verandas were converted to nurseries or primary schools by brisk businessmen who took advantage of the citizens' desire for an alternative to the public primary school. He stressed further that, except for a few, most of the private schools were substandard and grossly inferior to public primary schools in several respects. Most of the school compounds are choked up with little or no space for recreational facilities. Classrooms are poorly ventilated. Teachers are largely untrained, and teachers' salaries fall below the minimum wage.

Illustrative of the above-stated assertion, the Lagos State Government identified over 300 substandard private nurseries and primary schools in the state and started outright closure of such schools (Olanrewaju, 2008). The State Commissioner for Education claimed that the proprietors of schools failed to abide by the rules and guidelines for setting up schools, failed to seek approval and operated in unhygienic environment. They also employed unqualified teachers.

Resource Standard for Private Nursery and Primary Schools

Pre-primary education is fast becoming the foundation of formal education, judging by its profuse patronage by Nigerians. It is a very important level of education that requires the best of teachers and facilities for its operation. Hence the federal government has packaged guidelines on minimum standards for private nurseries and primary schools nationwide. The guidelines are put in place to:

a) Provide guidelines on general and specific principles of inspection and monitoring of schools;
b) Provide tools for the efficiency of school management;
c) Guide proprietors in providing funds for the schools;
d) Use the guide for accrediting schools
    (FGN, 2002)

PURPOSE OF THE STUDY

Resources allocated to education, in quality and quantity, go a long way in improving the quality of the output of educational programs in Nigeria. This perhaps explains why regulatory bodies set the minimum requirements for the establishment of educational institutions. Enforcement of the guidelines prescribed through monitoring and evaluation of the institutions is important if standard is to be maintained and sustained. (Akinsotu, 2011, Alani, 2005). This study was designed to examine the level of adequacy of the human and material resources available for nursery education in private nursery schools in Ogun State, Nigeria.

RESEARCH QUESTIONS

i)   How suitably located are private pre-primary schools in Ogun State, Nigeria?
ii)   How adequate are the qualifications of teaching staff and head teachers of private pre-primary schools in Ogun State, Nigeria?

iii)   How adequate are the facilities provided in private pre-primary schools in Ogun State, Nigeria?

RESEARCH METHODOLOGY

The population of the study is all pre-primary private schools in Ogun State of Nigeria. Eighty (80) of the schools in that category were randomly sampled from the 196 available on the State Government's Education Handbook. The number constitutes 40.82% of all the existing private pre-primary schools in the Ogun State of Nigeria. Only the pre-primary segment of schools that operate nursery and primary schools were included in the study. The variables of the study are school location, pupil-teacher ratio, pupil-class ratio, teachers' qualifications and staff rooms, head teachers' qualifications and office allocation and facilities.

Two instruments were used for the study, namely:
a) Student-Teachers' Questionnaire on Nursery School Facilities (STQNSF) and
b) Nursery School Resources Questionnaire for Head teachers (NSRQH).

Both were designed by the researchers from the document *Guidelines on Minimum Standard in Schools Nationwide*, released by the federal government. STQNSF required information on location of each school selected for study and the facilities therein. NSRQH demanded information about the adequacy of number and qualifications of the teaching staff and the head teacher of each school, and the number of staff rooms and head teachers' offices allocated respectively. The STQNSF was administered to students of Tai Solarin University of Education, Ijebu-Ode. It was posted to nursery schools in Ogun State for six weeks. NSRQH was administered to the head teachers of the nurseries and primary schools to which the same students were posted, through the students, for the head teachers to respond.

DATA ANALYSIS

The resources available in each school were determined. The percentage of available data was then worked out based on federal government's prescribed standards. This revealed the level of adequacy of the resources. The over-all level of resource adequacy was finally determined by calculating the mean of all mean percentages (weighted means) of resources available in all the schools. Percentage score of 70 and above was taken to represent adequacy while below 70% was deemed inadequate.

Findings

As indicated in Table 1a below, it can be seen that 87.5% of the nursery schools are adequately located – either in quiet environment within township (62.5%) or totally outside the town (25%). Only 10 out of the schools (12.5%) are located in noisy environment. The schools are thus generally suitably

located. Only 62.5% of the schools are however operating in standard school buildings as indicated in Table 1b. This is inadequate.

Table 1a: Private Nursery Schools by Location in Ogun State, Nigeria.

Location	Number	%	Remark
Quiet Environment Within Town	50	62.5	Adequate
Outside Town	20	25	Adequate
Noisy Location	10		Inadequate
	12.5		
% Adequate		*87.5*	

Table 1b: Private Nursery Schools by Type of Building in Ogun State, Nigeria.

Type of Building	Number	%	Remark
Residential	10	12.5	Inadequate
Make-Shift	20	25	Inadequate
Standard	50	62.5	Adequate
% Adequate		*62.5*	

Table 2a displays the Guidelines on Minimum Standards in Schools nationwide. Table 2b reveals that 75% of the schools had pupil-teacher ratio within the national mandatory optimum standard of 20:1; 65.18% of the teachers had standard qualifications required to teach at that level. This is inadequate. Over-all, the percentage of teachers with standard qualifications was below 70%. However, 77.5% of the head teachers had standard qualifications for the position they held.

Table 2a: Staff Supply Minimum Standard set by the Regulatory Body.

	Mandatory	Ideal	Optimum
Pupil-Teacher Ratio (PTR)	20:1	10:1	20:1
Pupil-Class Ratio (PCR)	20:1	10:1	20:1
Teachers' Qualification (TQ)	NCE	B.Ed.	B.Ed.
Head teachers' Qualification (HTQ)	NCE + 5 Years Teaching	B.Ed + 5 Teaching Years	B.Ed + 5 Years Teaching

Source: FGN (2002). *Guidelines on Minimum Standards in Schools Nationwide.*

Table 2b: Level of Compliance to Staff Supply Minimum Standard in Ogun State, Nigeria.

	Up to Standard %	Below Standard %
Pupil-Teacher Ratio (PTR)	75	25
Pupil-Class Ratio (PCR)	50	50
Teachers' Qualification (TQ)	65.18	34.2
Head teachers' Qualification (HTQ)	77.5	22.5

Table 3: Facilities Availability in Selected Private Pre-primary Schools in Ogun State of Nigeria.

	Item	Mandatory	Ideal	Optimum	Mandatory/ Ideal/ Optimum	Below Standard	% Standard	% Below Standard
		RESOURCE STANDARD			**RESOURCE AVAILABLE**			
1	**Water Supply**	Borehole	Portable water		40	40	50	50
2	**Clinic**	equipped	equipped	Equipped	05	75	6.25	93.75
3	**Sick Bay**	Availability	Availability	Availability	05	75	6.25	93.75
4	**First Aid Box**	Availability	Availability	Availability	53	27	66.25	33.75
5	**Resident Nurse**	Availability	Availability	Availability	4	76	5	95
6	**Toilets**							
a	1:40 Pupils	1:40 Pupils	1:40 Pupils	1:40 Pupils	4	76	5	95
b	Separate for Boys & Girls				60	20	75	25
c	Separate for Male & Female Teachers				80	-	100	0
d	Separate for Head teachers				72	8	90	10
7	**Playgrounds**							
a	Availability				60	20 (N/A)	75	25
b	Fenced				45	35(N/A)	56.25	43.75
c	Grassed				60	20(N/A)	75	25
d	Hard-Surface track				3	77	3.75	76.25
8	**Playground Facilities**							
a	Climbing				80	-	100	0
b	Jumping				30	50	37.5	62.50
c	Pulling				30	50	37.5	62.50
d	Swinging				80	-	100	0
e	Balancing				57	23	72.25	27.75
f	Rocking				20	60	25	75
9	**Electricity**	Generator	Generator & Public Supply	Public Supply	50	30	62.5	37.50
10	**Bus Service**	Availability	Availability	Availability	25	55(N/A)	31.25	48.75
11	**Electronic Gadgets**							
a	Radio	Availability	Availability	Availability	30	50(N/A)	37.5	62.50
b	TV	Availability	Availability	Availability	10	70(N/A)	12.5	87.50
c	PAS	Availability	Availability	Availability	14	66	17.5	82.50
d	Telephone	Availability	Availability	Availability	72(GSM)	8	90	10
e	Computer	Availability	Availability	Availability	54	26	67.5	32.5
f	Computer Lab	Availability	Availability	Availability	5	75	6.25	93.75
g	Video	Availability	Availability	Availability	5	75	6.25	93.75
	OVERALL						47.04	51.52

Table 3 above reveals that the provision of facilities in the nursery schools was generally poor. Except in the provision of toilet facilities, telephone, playground and playground facilities (climbing, swinging and balancing facilities), most of the schools had amenities

below required standard. Only 50% of the schools had acceptable source of water; 6.25% had clinic and sick bay respectively; 66.25% had First Aid Box; 5% had resident nurse; 5% had 1 toilet for 40 pupils. But on a positive note, 75% had separate toilet for boys and girls; 100% had separate toilet for male and female teachers; and 90% had separate toilet for head teachers. Seventy-five percent of the schools had playgrounds but only 56.25% of them had fenced playgrounds. Seventy-five percent of them fenced their playgrounds generally as part of their school premise. Only 3.75% used hard surface track on which the pupils run, and only 62.50% had a source of electricity. Only 31.25% had bus service. Only 67.5% of them had computers; a mere 37.5% had radio. Only 12.50% had television; 17.50% had public address system, and 6.25% had computer laboratories and video set respectively. On the whole, the acceptable level of amenities available in the private pre-primary schools in Ogun State of Nigeria was 44.37%. This is grossly inadequate.

Thus, in answer to the research questions in this study,

1. Most private pre-primary schools in Ogun State, Nigeria, are suitably located, but they are mostly operated in substandard buildings.
2. The qualifications of teachers in Ogun State private nursery schools are not adequate, but they are adequate in number. Head teachers' qualifications are adequate.
3. Toilet facilities in Ogun State private nursery schools are adequate except in the ratio of pupils' population to a toilet. Telephone is generally available. Only climbing, swinging and balancing facilities are generally available. Though each of the schools has playground in its own way, it is generally not fenced as required and hard surface track is far-fetched. Electricity is not up to acceptable standard. Bus service is also not common, so are computers. Computer laboratory and video set are hardly available in the schools.
4. Resource provision in private nursery schools is inadequate in Ogun State.

CONCLUSION

The scenario of inadequacy, especially in the area of head teachers' and teachers' qualifications, types of school building as well as facilities, is reflective of the general lethargy at all levels of Nigerian education system concerning resource allocation. Pre-primary school proprietors in particular are believed to establish these services because of profit rather than service. This was corroborated by Mrs. Sosan, the Lagos State Commissioner for Education (cited by Olanrewaju, 2008), who viewed that many proprietors of private schools had no business in the education project as the standard of their schools are so poor that they cannot be called educational institutions. A probable reason for the existing decay is ineffective supervision or even non-supervision of such schools by the relevant educational authorities. The specific guidelines on resource provision in private pre-primary schools and private secondary schools are that the mandatory structures and materials should be put in place at the inception of any such

school or within the first 5 years of its establishment. The ideal and the optimal levels should thereafter be reached (FNG 2002). Pre-primary institutions are particularly not supposed to open without the approval of the State Ministry of Education which must give approval for its site, buildings and facilities, to ensure attainment of required standards before giving approval.

REFERENCES

Affe, M. (2008, January 18). Classroom shortage threatens primary education. *The Punch*, p. 46.

Akinsolu, A. O. (2011). Resource utilization and internal efficiency in Nigerian secondary schools: Implication for socio-economic problems in education. *International Journal of Sociology and Anthropology*, *4*(1), 23–30.

Alani, R. (2005). Deregulation of the ownership and management of primary schools in Nigeria: Issues and policy options from a planner's perspective. In G. O. Akpa, S. U. Udoh & E. O. Fagbamiye (Eds), *Deregulating the provision and management of education in Nigeria*, NAEAP, pp. 40–47.

Awoyele, O. (1988). *An analysis of resources allocated to junior secondary schools in Ogun State*. Unpublished doctoral thesis, University of Benin, Benin-City.

Awoyele, O. (2005). Teachers' morale and productivity in public primary schools. In A. O Adenuga. (ed.). *Reversing dwindling enrolment trend in public primary schools in Ogun State,* Lagos, Nigeria: Elegant Publishing Company Ltd.

Council for American Private Education (CAPE). (2014). *Private education: Good for students, good for families, good for America.* Retrieved April 29, 2011 from http://www.capenet.org/benefits.html.

Fafunwa, A. B. (1994). Primary education. In O. O. Akinkugbe (ed.). *Nigeria and education: The challenges ahead.* Ibadan, Nigeria: Spectrum Books Ltd.

FGN (2002). *Guidelines on minimum standards in schools nationwide.* Abuja, Nigeria: Federal Ministry of Education.

Iginla, J. (2008, January 13). Any reform without adequate financial backing for institutions will fail. In S. Olugbile, S. (Ed.). *Education Sunday Punch*, p. 47.

Okwilagwe, E. A. (2007, February 9). Evaluating private and public Schools. *Nigeria Tribune*, p. 35.

Olanrewaju, O. (2008, January, 24). Illegal Schools: Don Proffers Solution. *The Nation,* p. 18. PM News (2011, February 2). Enrolment drops in Lagos public schools. Retrieved April, 29, 2014 from http://www.pmnewsnigeria.com/2011/02/02/.

Soyinka, O. (2007, February, 20). One in every two Nigerian classrooms is bad. *The Punch,* p. 3.

Taiwo, E. (2005). Towards improving the standard of primary education in Nigeria. In A. O. Adenuga (ed.). *Reversing the dwindling enrolment trend in public primary schools in Ogun State,* Lagos, Nigeria: Elegant Publishing Company.

Toolkey J., Olaniyan, L., & Adedeji, S. (2006, April 14). Children from poor homes more in private schools. *The Punch*, p. 34.

Weltz, J. (2008, February 14). Pupils who attend large schools are doomed to failure. *The Nation,* p. 20.

Planning to Meet the Expanding Volume of Online Learners:
An Examination of Faculty Motivation to Teach Online

James M. Wright

ABSTRACT

To maintain a competitive advantage, many universities have expanded their online programs and course offerings (Allen & Seaman, 2007). The growing population of online students requires a highly qualified pool of teachers (Allen & Seaman, 2013). This is a challenge for strategic planners in higher education; more importantly, it necessitates faculty to use different skills and techniques to teach online. This article sheds light on the adoption process and confirms conditions identified in the literature, with the hopes of assisting educational planners who want to build the capacity of their faculty. A mixed-method study was used to investigate the factors that motivate and impede faculty to teach online. At a large suburban university in the Southeastern United States, 363 faculty members were surveyed and 14 faculty members were interviewed using the frameworks of Innovation Diffusion Theory (Rogers, 2003) and the theory of self-efficacy (Bandura, 1986). The findings showed flexibility and convenience were the primary motivators for teaching online, as well as, the ability to reach a wide range of diverse learners. However, the large amount of time and effort needed to teach online proved to be the major obstacles for adopting online instruction. Additionally, the participants had concerns about academic integrity and expressed a negative opinion about the quality of online instruction. These findings are beneficial to guide colleges, universities, and other organizations who want to adopt online instruction or other technology initiatives.

INTRODUCTION

More and more institutions of higher education have adopted online learning as a vital part of their course offerings. The increase in enrollment is due to innovations like the massive open online course (MOOC). The ever expanding populations of online students require a highly qualified pool of online instructors (Allen & Seaman, 2013). It takes strategic planning to meet the needs of these new students. The skills needed to teach online are different than the skills of a traditional college instructor. Therefore, understanding the motivations and apprehensions of online instruction is fundamental in recruiting and retaining high quality online instructors. If a university wants to maintain a competitive advantage and change the status quo (Mitchell & Geva-May, 2009), educational planners must work as change agents. This study provides evidence of the factors that influence a faculty member's decision to teach online.

The volume of online course offerings has exploded on college campuses (Allen & Seaman, 2007; Ngai, Poon, & Chan, 2007; Seaman, 2009). The Sloan Consortium (Sloan-C) reported that in the fall of 2006, approximately 20% of all college students in the United States had taken at least one online course. Moreover, 32% of college students have taken one online course in 2012 which is an all time high (Allen & Seaman, 2013). During that time period the online course enrollment in the United States grew at a rate of 9.7%, while the higher education population grew only at a rate of 1.5% (Allen & Seaman, 2007). This dramatic increase in online learning is a disruptive change that is altering the

landscape of higher education and directly impacts the role and function of the faculty members.

Many universities view online learning as an essential part of their viability (Allen & Seaman, 2007; Seaman, 2009). Careful planning is required as more students are added to the online environment; more importantly, it requires faculty to adopt a new tool set and transition to a different instructional medium. Therefore, this study sheds light on the adoption process and established conditions identified in the literature, with the hopes of aiding other institutions who want to build capacity.

PROBLEM STATEMENT AND RATIONALE

Not all faculty members have embraced online education (Jones, Lindner, Murphy & Dooley, 2002; Mitchell & Geve-May, 2009). For example, Zemsky and Massy (2004) reported discrepancies between faculty and administrators' responses on the same items regarding expectations and attitudes about online learning. Faculty and administration often have different perspectives regarding online instruction. Nonetheless, Shea, Pickett, and Li (2005) conclude, "if the benefits associated with online teaching are to be realized – especially those most clearly revered, such as increasing access to higher education – faculty participation and engagement is critical" (p. 2).

However, faculty members are the key to the successful design, development, and delivery of online instruction. Consequently, understanding the factors that promote and impede faculty involvement in online instruction is the rationale. The goal of this study was to examine the reasons why some faculty members adopt online teaching, while others do not. The ultimate purpose of this study is to provide help to educational planners and further the faculty participation in online learning for any university struggling to staff online courses.

If college faculty are vital to propel online teaching (Allen & Seaman, 2013; Maquire, 2005; Seaman, 2009), it is reasonable to examine the reasons why some faculty choose to participate in online instruction, while others do not. Ultimately, this problem is a classic adoption problem (Rogers, 2003). The identification of motivating factors and the barriers to adoption will better inform future planning. Moreover, the rationale for this study is to increase competiveness and manage the flow of students that can be taught effectively in the online environment. The knowledge presented in this study will impact future institutional planning to meet the needs of the increased online student enrollment.

Furthermore, an exploration of factors that encourage faculty members to teach online shed light on the rate of the adoption of this new technology. Mitchell and Geva-May conclude that, "one key variable leading to implementation problems that is acknowledged in the literature is the resistance of actors in organizational systems to take up new initiatives and change the status quo" (2009, p. 72). This study responds to Mitchell and Geva-May's call to change the status quo by the examination of adoption and resistance patterns.

Finally, the examination of resistant factors is crucial in the removal of roadblocks and other obstructions. As universities began using online instruction, Berge (1998) articulated the need to examine faculty resistance to distance learning and the reasons for non-participation. He concluded that the changes in universities often are small and measured, and these changes may not keep pace with the needs of students in a competitive marketplace (Berge, 1998). Online instruction exposes universities to a new level of competition that is not bound by geographic regions. Therefore, a major rationale for

conducting this research study was to understand faculty adoption patterns in the hopes of creating a competitive advantage for strategic planners in universities and other institutions (Dooley & Murphrey, 2000).

RESEARCH QUESTIONS

The following research questions guided this study.

RQ1. What factors motivate faculty adoption of online instruction?

RQ2. What barriers inhibit faculty adoption of online instruction?

RQ3. How do faculty members perceive the quality of online instruction?

CONCEPTUAL FRAMEWORK

Social Cognitive Theory and *Self-efficacy*

The conceptual framework for this study is grounded in two seminal theories that are used as foci to examine faculty adoption of online instruction. The first is Bandura's construct of *self-efficacy* that described a person's capacity to organize and implement a plan of action for adopting a new idea (1997). The second major theory used is the Innovation Diffusion Theory (IDT) (Rogers, 1962/2003).

Self-efficacy is a central component of Social Cognitive Theory (SCT) that attributes changes in human behavior based on observation (Bandura, 1986). Social Cognitive Theory explains learning through observation, or modeling, of other people's behaviors in conjunction with a person's own belief in their ability to perform a particular action. According to Bandura (1986), the concept of self-efficacy is a major prerequisite before change can occur. Fundamental to the adoption of online instruction, faculty must believe they will be successful before adoption can take place.

Essentially, one's attitude influences behaviors, and people engage in behaviors where they perceive they will be successful (Ormrod, 2007). Self-efficacy is an important aspect of technology adoption because it illuminates perceived capabilities that link to attitudes regarding adopting technology (Elgort, 2005; Straub, 2009). In general terms, the instructor must believe they will be successful teaching online before adopting a new instructional method. "In the last twenty years, self-efficacy has been shown to have a significant impact on student performance, meaning that when confidence levels increase, performance levels increase as well" (DeTure, 2004, p. 23). Conversely, people avoid activities and situations where they perceive failure (Bembenutty, 2009). For example, Schunk (1996) found people sustain learning efforts based on self-efficacy or the belief in one's ability to perform a task. Therefore, Bandura's Social Cognitive Theory, with a primary emphasis on self-efficacy, is a logical and appropriate conceptual lens for this study.

Innovation Diffusion Theory

The second major conceptual foundation for this study is the Innovation Diffusion Theory (IDT) (Rogers, 1962/2003). Rogers' work is the bedrock of multiple theories of technology adoption (Straub, 2009). Diffusion of Innovation examined the micro level adoption process, as well as macro level diffusion across organizations, systems, or processes. Online learning presents many positive advantages, and has been adopted by many institutions of higher education (Allen & Seaman, 2007; Seaman, 2009).

To explain the process of adoption, Rogers (2003) outlines characteristics of

innovations observed by the users. These characteristics include: (1) relative advantage, (2) compatibility, (3) complexity, (4) trial ability, and (5) observability. These characteristics are perceived differently by individuals, and this difference in perception explains the degree of participation or rate of adoption of the innovation (Rogers, 2003). Using these characteristics is a valuable way to examine and explain why faculty adopts online learning.

Furthermore, Rogers (2003) describes the adoption and diffusion process in unique stages. As faculty develop their skills as online instructors, they traverse through various stages of adoption. These stages provide distinctive ways to classify and categorize the different levels of experience of the individual faculty members. To spur the adoption to the online medium, it is important to know where the faculty members are in relationship to Rogers' Diffusion of Innovation model. Thus, Innovation Diffusion Theory was the ideal conceptual framework to examine faculty adoption of online teaching.

In summary, this study was grounded in two prominent academic theories: Social Cognitive Theory and Innovation Diffusion Theory. Self-efficacy and Social Cognitive Theory provided the psychological foundation to explain internal motivation and human behavior. Innovation Diffusion Theory provided a formal model to explain how and why people adopt or resist online instruction. These dual lenses serve as the conceptual foundation to frame the discussion of technology adoption and diffusion.

SUPPORT FROM THE LITERATURE

Online learning threatens some core values and assumptions held in higher education (Maguire, 2005; Mitchell & Geva-May, 2009; Schifter, 2000). The literature is rich with studies of effective practices of online instruction (Clay, 1999; Means et al., 2009). Reviewing the literature dealing with faculty attitudes and perceptions towards online learning established the foundation for this study.

Zhen, Garthwait, and Pratt (2008) in a study of 400 college faculty members found that the role of self-efficacy and faculty educational philosophy impacted the rate of adoption to teach online. They concluded, "The innovation rate of adoption whether relatively slow or rapid is determined by many factors such as the individuals' perceptions of and experiences with the advantages of the innovations, the difficulties and limitations for potential uses, and the need for social understanding" (p. 3). Six themes described by Zhen, Garthwait, and Pratt (2008) provide the foundation for this study. For example, the authors discuss experience, time, peer-pressure, and self-efficacy as factors that influence the decision to teach online. Additionally, they discuss the importance of philosophy and pedagogical style as a predictor of use.

Shea, Pickett, and Li (2005) examined 913 professors across 40 campuses in the New York State University. Rogers' (2003) IDT was used as a theoretical lens to examine the adoption of online learning and to identify the barriers to adoption. They found that the level of technical support, a positive experience in teaching and developing the course, the level of interaction in the course, and the content discipline affected faculty attitudes to teach online.

Mitchell and Geva-May (2009) also explored faculty attitudes about online learning with 363 faculty members at five university-colleges in British Columbia. The study triangulated an attitude questionnaire, follow-up interviews, and a content analysis of institutional documentation regarding the use of online learning. The study found four major themes and variables that manifest changes in faculty behavior. The authors contend

that faculty attitudes associated with intellectual reluctance, technical and instructional support, willingness to change, and ultimately the cost-benefit influenced the adoption or rejection of online learning.

Tabata and Johnsrud (2008), at the University of Hawaii, presented a conceptual model for faculty participation with distance learning. Tabata and Johnsrud's model asserts that four major factors influence faculty participation in online learning: (1) demographics, (2) experience with online learning, (3) attitudes towards online learning, and (4) the adoption and use of technology. These four major elements served the founding model for this study.

Finally, time and complexity are listed as major reasons for not participating with online learning. For example, Rockwell, Schauer, Fritz, and Marx (1999) cited that faculty members felt online instruction displaced the time dedicated to research and other scholarly activities. Additionally, the issues of tech support and technical complexity are cited repeatedly as impediments. One of the primary factors of resistance to teach online is frustration with technology (Zhen, Garthwait, & Pratt, 2008). The complexities of the technology along with a lack of tech support are cited barriers in the literature (Berge, 1998; Bonk, 2001; Jones, Lindner, Murphy, & Dooley, 2002; Seaman, 2009).

Resistance to Change

Resistance to an innovation is often common within an organization or social system (Maguire, 2005; Rogers, 2003). Parisot (1997) and Berge (1998) found resistance to change was the primary reason faculty do not want to teach online. This dramatic shift to online instruction is radically changing the nature of college education. Regardless of the reasons for the proliferation, it is important for college faculty to adopt and ultimately master this new medium of instruction (Mitchell & Geva-May, 2009). Still, many college faculty members are resistant to teach online (Fullan, 2007; Rogers, 2003).

Natriello (2005) argued that online learning threatens the core value of faculty control by forcing traditional programs and traditional delivery methods to be re-examined. Nevertheless, this delivery method presents new challenges for the college professor. The traditional professional development focuses on acquiring technical skills (Mishra & Koehler, 2006). However, little attention is paid to how the teacher will teach with the technology in their courses. There is an assumption that teachers will naturally know how to integrate and teach with technology. But this is not always the case. Mishra and Koehler concluded, "...merely knowing how to use technology is not the same as knowing how to teach with it" (2008, p. 1033). Wang, MacArthur, and Crosby (2003) concluded that despite all the opportunities offered by the World Wide Web many faculty members have not converted to online instruction. Therefore, it is important to understand why some faculty members have converted and others maintain the traditional instructional methods.

Concerns Regarding Quality

Finally, another major issue expressed in the literature is the concern that online classes are not as good or effective as traditional classes. This is one of the research questions. For example, "critics of online education have questioned the value, effectiveness, and quality of online education" (Bolliger & Wasilik, 2009, p. 104). Bolliger and Wasilik (2009) found the student's academic performance impacted the faculty's satisfaction teaching online and factored faculty burnout. Likewise, college faculty have

voiced the same concern about instructional effectiveness of online courses (Romiszowski, 2004; Seaman, 2009; Wilson, 2001). Whether this concern is real or perceived, it is a major obstacle to teaching online.

Although the research evidence is not complete or definitive, the literature presents a strong validation of the effectiveness of the quality with online instruction. The field has matured in the last two decades, and the question of quality still lingers. Both sides of this debate use the *no significant difference phenomenon* to perpetuate their perspective that online learning is no better or no worse than traditional face-to-face instruction (Russell, 1999). The U.S. Department of Education advises against more studies that directly compare online courses to face-to-face because the pedagogy, approach, and delivery are different for each format (Means et al., 2009). Nevertheless, the debate continues suggesting that the quality of learning outcomes can be the same or better than face-to-face instruction.

METHODOLOGY

Research Design

At a large suburban university in the Southeastern United States, a mixed-method approach was used to investigate faculty's perceptions about teaching online. Three hundred, sixty three faculty members were surveyed and 14 faculty members were interviewed using the conceptual framework. The primary quantitative methodology was descriptive survey design (Creswell, 2008; Lunenburg & Irby, 2008), and the qualitative interviews followed a structured protocol (Marshall & Rossman, 2006). All faculty members were invited to participate in the study, and the survey had a return rate of 42% of full-time faculty members.

A major advantage of the mixed-method approach was the deeper level of understanding gained from the interviews that was not possible from the survey instrument. Overall, the design and structure of the research methodology produced a strong data set that explained many motivating factors, obstructing barriers, perceptions of quality, and the process that faculty members obtain information relating to online instruction. The following research model (Figure 1) was used to explore variations and themes within the sample.

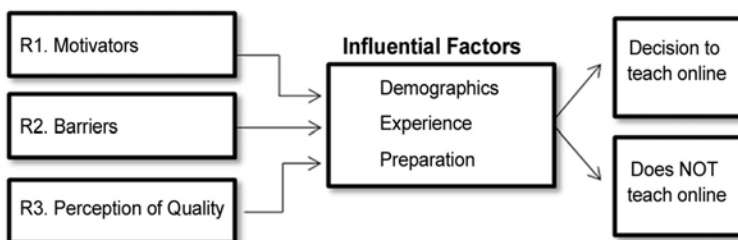*Figure 1*. Conceptual Research Model

Setting and Participants

The university had a population of 23,000 students, with 738 full-time teaching faculty and 557 part-time faculty members. Of the 363 participants, 39% (143) had taught online while 61% (220) of the sample had not taught online. The sample had a gender breakdown of 52% females and 48% males. Yet females (60%) taught online at a slightly

higher rate than males (40%). The racial breakdown of the sample was 76% white, 11% African-American, 9% is Asian, and 2% Hispanic. The largest majority of faculty members who taught online were tenured (51%). The academic ranks of those with online experience were fairly evenly distributed between Assistant Professors (23%), Associate Professors (25%), and full Professors (24%). The largest population that taught online ranged in age from 55 to 64 years of age. All participants gave informed consent. Table 1 presents the breakdown of faculty characteristics with online teaching experience.

Table 1

Breakdown of Participants (N=363)

Faculty Taught Online	39%	Emeriti Taught Online	2%
Faculty Taught Hybrid	46%	Professors Taught Online	24%
Females Taught Online	60%	Assoc. Profs. Online	25%
Males Taught Online	40%	Assist. Profs. Taught Online	23%
Tenured Taught Online	51%	Instructors Taught Online	7%
Tenure Track Taught Online	23%	Lecturers Taught Online	14%
Non-ten. Track Online	26%	Other Faculty Taught Online	5%

Instrumentation and Data Collection Procedures

A self-developed survey instrument was constructed based on the work of Seaman (2009) and Tabata and Johnsrud (2008). A five-point continuum where number one was designated as *Strongly Disagree* and five was designated as *Strongly Agree* was used. Three was the midpoint of the continuum and signified a neutral position; therefore, any mean score above three showed a positive association with a particular question, idea, or construct. Several questions were negatively worded and needed reverse coding. The instrument had blocks of items to address each research question, the level of experience, and the demographic characteristics.

Content validity was established using a panel of eight distance learning experts from across the campus (Creswell, 2008). The same panel screened the interview participants to determine their skill level of novice, intermediate, and experience online instructors. The reliability for the self-developed survey was established by using Cronbach's alpha coefficient. The instrument had an extremely high alpha value of 0.91 for internal consistency for all items (Creswell, 2008).

The qualitative instrument was a self-developed interview protocol (Marshall & Rossman, 2006). The interview protocol was based on the same themes as the survey and broken into sections to triangulate the research questions. Open-ended questions shed light on various aspects of the study and the methods participants use to prepare to teach online.

The survey data was collected over a four-week period, and the interviews occurred during a six-week period. The participants anonymously submitted their academic college and their skill level with online learning. The screened interview participants were randomly selected from the categories of novice, intermediate, and experienced (Wiersma, & Jurs, 2005) to provide a sample of all skill levels across the campus. The interviews were done by the same person to eliminate interviewer-induced bias (Marshall & Rossman, 2006).

FINDINGS

Motivators - Flexibility for Teacher and Student

The most prevalent motivator for teaching online was flexibility and convenience (*M*=4.07, *SD*=1.02) as well as the faculty's own decision to teach online (*M*=4.03, *SD* = 1.22). Flexibility with time and location surfaced as the most prevalent theme in the interviews. For example, 13 of the 14 interviewees cited flexibility with time and location as a key motivating factor. The ability to shift time and place had the strongest appeal to both the student and the faculty. One professor stated, "Student convenience, they can access their course when they want, or work at their own pace." Moreover, the ability to meet the needs of diverse learners was a primary motivating factors mentioned by the faculty members.

Another professor concluded, "[the students] liked the flexibility that comes from and an asynchronous delivery format. They like the time flexibility. They like the flexibility in the week to work on whatever deliverable is due that week. They also like the flexibility to work ahead." The ability to arrange one's schedule to maximize time to devote to a particular project or assignment was a major advantage of online instruction. They enjoy the convenience of working at their own pace, and deciding what activities they would do at their own schedule.

Time shifting and flexibility are also a major advantage for the professor. One of the professors stated, "The biggest benefit is it gives me a large block of time to do research or grade papers. It frees up a blocks of time to work on other things."

Overwhelmingly, the quantitative and qualitative data suggest the flexibility and convenience to learn anywhere and anytime was the predominant motivator for adopting online instruction. Flexibility and convenience proved to be a significant finding of this study.

Personal Decision to Teach Online

The personal decision to teach online was recognized to be one of the strongest motivators. The faculty rated the importance of personal choice to teach online (*M*=4.03, *SD*=1.22) the second highest motivating factor behind flexibility and convenience.

The faculty members had a high affirmation for their own personal decision to teach online; paradoxically, they felt marginal about deriving personal satisfaction from teaching online (*M*=3.03, *SD*=1.43). The level of personal satisfaction teaching online is a positive aspect but not an important motivator. One professor concluded, "I wanted to do it because I thought it would be an interesting experience." Another complimented, "I like technology. I like to interact with students that way. I like to grow and challenge myself and learn more how to teach students in this way."

Extra Financial Compensation

This university implemented a financial incentive system to compensate professors for the increased workload to teach online. According to the quantitative data, extra pay for teaching online (*M*=3.77, *SD*=1.14) proved to be a major motivating factor. However, some of the interviews contradicted the quantitative findings. Only four of 14 interview participants stated that the extra pay was very important. One professor said, "If the extra financial compensation was taken away, watch out. You would have a rebellion on your

hands." Another professor concluded that the extra pay was extremely beneficial, especially for adjunct instructors who were trying to piece together an income from multiple sources. Finally, one interviewee stated, "It helps. As you know, most of us are dealing with the same financial salaries we have had for the last several years, so a financial incentive to do the additional work [is nice]."

External Pressure to Teach Online

Allen and Seaman (2007) cited the explosion of online universities like Phoenix as a source of competition and external pressure on the traditional university. One participant stated, "We are getting the stuffing knocked out of us by the private, online universities." The pressure maybe overt or covert and may occur from external sources or from internal pressure from the university administration, deans, or chairs.

Almost all faculty members acknowledged the existence of external pressures. One professor stated, "I would not say it is like an overt pressure, there is a sense that this is where the university is heading." The colleges provide encouragement and resources to increase participation in distance learning.

Survey items examined the source and impact of the external pressures. The aggregate mean score of the variables that measured pressure was $M=2.07$ ($SD=0.92$). For example, the outside pressure from competitors ($M=2.52$, $SD=1.41$), the internal pressure from the campus administration ($M=2.23$, $SD=1.34$), peer pressure from colleagues ($M=1.78$, $SD=1.04$), and pressure from the students ($M=1.76$, $SD=1.01$) did not impact the decision to teach online. The participants recognized external and internal pressures to teach online; however, these pressures did not impact the decision to adopt online instruction.

Barriers to Adoption - More Work and More Time

Of all the obstacles examined, the amount of work ($M=2.20$, $SD=1.14$) and extra time ($M=2.25$, $SD=1.17$) it takes to teach online was cited as the strongest barrier. The participants slightly disagreed with the premise that the time spent on online instruction would be better spent on other aspects of their work ($M=2.96$, $SD=1.31$). One professor commented, "The workload is roughly equal during the semester. But that does not include the large amount of time on the front-end and the back-end. So when you look at it over the course of the semester, these classes are significantly more work than a traditional course."

The most distinctive theme to emerge from the interviews was the issue of the amount of work and the time it takes to teach an online class. Many faculty members stated the process was extremely labor intensive and time consuming. All 14 interview participants cited that online instruction takes as much time or more time than a face-to-face course.

Philosophical Opposition

Philosophical opposition to online learning was *not* a major barrier to adoption. The survey data showed that most faculty members do not possess a philosophical opposition to online instruction ($M=3.67$, $SD=1.39$). This perspective was supported in the interviews. For example, of the 14 participants, only one professor had a strong philosophical opposition to online instruction.

Problems Teaching Online

The survey data suggests that teaching an online course was *more frustrating* than teaching a traditional face-to-face course (*M*=2.85, *SD*=1.24). However, the participants were not concerned about the loss of control over the teaching and learning process (*M*=3.19, *SD*=1.39). Another barrier that was expressed in the interviews was the fear of being electronically bound to the classroom 24 hours a day, seven days a week. A professor stated that one advantage of the face-to-face class is the ability to leave problems or issues until the next class. The level of frustration teaching an online class and being electronically bound to the classroom were identified barriers.

Academic Integrity

Another major barrier to adoption of online instruction was academic integrity. Cheating and academic dishonesty were serious issues of concern and cited as barriers. A professor said, "It is easier it does seem easier to cheat online. I don't see how you can know that the person on the other hand is who they say they are." Another professor stated, "Yes, I think it's easier for them to cheat in an online environment. . . . This is one of the reasons it takes so long to develop an online course. For every assessment, I have to make multiple versions of the questions." Lastly, another teacher concluded, "My students are good at it [cheating] no matter what. . . . We have to rethink assessment. I would never say quizzes are bad and tests are bad because I use them both, but using activities they have to complete which is hard to cheat."

Technical Skills and Technical Support

Technical support was not found to be a barrier to adoption. The survey items addressed the availability and quality of technical support. The aggregate mean score showed a positive association with technical support (*M*=3.65, *SD*=0.97). Overall, the survey participants did not view technical support as a major barrier.

The faculty reported a positive association with their ability to learn the technical skills to teach online and had a high level of confidence in the ability to obtain technical support. The descriptive statistics concluded that faculty members were not anxious about their ability to teach online (*M*=3.77, *SD*=1.24) possessing a high level of self-efficacy. The participants felt confident in their ability to learn the technology needed to teach online (*M*=3.65, *SD*=1.18). Technical support was not a barrier to adopting online instruction which contradicts the literature.

Perceived Quality of Online Learning

Faculty had a mediocre opinion about the quality of learning outcomes in an online environment. For example, was the outcomes at least as good as a traditional face-to-face course (*M*=2.99, *SD*=1.35). The quality of student work in an online course is at least as good as a traditional face-to-face course (*M*=2.99, *SD*=1.33), or when asked if the quality of the course content is at least as good as a traditional face-to-face course (*M*=2.93, *SD*=1.38).

Perhaps the most telling element regarding quality of online instruction was the feeling that an online course is at least as good as a traditional face-to-face course (*M*=2.83, *SD*=1.34). The interviews produced more negativity towards online instruction. One professor made this very poignant comment. "If you can prove to me that this is a

better method of teaching, I would do it. But right now, is not better than what I'm doing in the classroom." This is a major finding of the study.

The faculty expressed the lowest confidence in the ability to create deeper comprehension and understanding of the content online ($M=2.44$, $SD=1.16$). In other words, the faculty struggle with creating critical thinking skills in the online environment.

Overall, the sample felt the same learning objectives could be accomplished in an online environment; however, they had a negative feeling toward the quality of instruction in an online environment which may impact the adoption process.

DISCUSSION AND CONCLUSIONS

A little less than half of the sample had experience teaching online, and more women than men teach online. The breakdown among the tenure status is relatively equal as with the breakdown of faculty ranks. Those who teach online were older and have more experience teaching in higher education. This is an interesting finding of this study. Many would conclude that younger faculty members would adopt technology faster than older professionals. Therefore, educational planners may focus their efforts on more seasoned faculty members.

The major selling point of online education is the ability to learn anytime and anywhere (Allen & Seaman, 2007; Maguire, 2005). Overwhelmingly, the primary motivating factor is flexibility and convenience for both the teacher and the student. Clearly, online instruction provides many relative advantages to face-to-face instruction, including anytime instruction and the elimination of geographic constraints.

More importantly and perhaps the most significant finding of this study is the ability of online instruction to meet the needs of a wide range of diverse learners. As an example, one professor commented, "My key motivation is to meet the needs of the learners." Another professor stated, "You can make a large class small when you teach online." Additionally, providing equity for all learners has been a long-standing goal in education (Dewey, 1915; Freire, 2000). For example, the unprecedented Salamanca Statement (UNESCO, 1994) called for the countries of the world to include all children in the educational process. If the learner is confined by a physical disability, geographical barriers, or other external commitments, then online learning provides a unique way for diverse learners to obtain an education. From the traditional student who is working, to the business professional that is traveling, or a single mother, online learning is a way to reach their educational objectives. The ability to meet a wide range of underserved or even marginalized learners is a prevailing motivating factor for the adoption of this technology. This is one of the most powerful findings of this study, and an important understanding for educational planners if they want to reach a wider audience of students.

The extra time and a large amount of effort were cited as the primary obstacles to adopting online learning. This is logical and understandable given the heavy teaching loads and demands of scholarship and service. The findings of this study showed faculty members are very busy with multiple priorities. Therefore, if online learning is to be successful, the faculty members must make it a priority, and this is an important consideration for the educational planner.

A more surprising and confounding conclusion is that faculty had very little philosophical opposition to online instruction; yet, the faculty had a fairly negative opinion regarding the quality. The majority of faculty viewed online instruction as less rigorous

than a face-to-face class. Some faculty felt the quality of student work was inferior to that of a face-to-face course, and expressed serious concerns about cheating. One faculty member had a rather clear explanation. "Online classes are no better or worse than a face-to-face class. Just as you have good face-to-face classes and teachers, you have good online classes and online teachers." Regardless, there is a stigma attached to online instruction.

To combat this stigma, educational planners should facilitate situations where faculty get to experience high-quality, online instruction. Allowing the faculty member to be the student and see what other faculty are doing in their online classes will spur creative and produce change. Ultimately, this may be uncomfortable and challenge the existing paradigms of traditional instruction for the faculty member. The focus must be on higher-order thinking skills. Nonetheless, engaging in instruction from the students' perspective should propel the development process, and hopefully dispelling the notion that online instruction is inferior.

Finally, the question of academic dishonesty was cited as a substantial barrier. Perhaps this is the most significant finding and contribution of this study. Many answers are just a mouse click away for this copy and paste generation (Watson, & Sottile, 2010). If traditional tests are employed, using a proctored testing center will ensure academic integrity. Another method to increase security is the use of plagiarism software. Other techniques to secure integrity of the assessment process included the time limits on tests, the use of multiple versions, and more subjective open-ended questions. However, this begs a larger question regarding the nature and quality of the assessment process.

This is a complicated issue that requires coordinated and systematic planning. It is important for faculty members to rethink the assessment strategies used in the online, as well as for the face-to-face environments. Multiple-choice tests should give way to more creative activities that foster deeper and more critical thinking. For example, a multi-step project with milestones creates deeper understanding and is much harder to plagiarize. This places an extra burden on the instructor, but this recommendation should improve quality.

In conclusion, this study is significant because it adds to the collective body of knowledge regarding faculty motivations to teach online. The findings directly support the conclusions reported by Seaman (2009), Tabata and Johnsrud (2008), and Zhen, Garthwait, and Pratt (2008). A clearer picture of the motivators and barriers in the adoption process can help educational planners meet the needs of the expanding volume of online learners.

REFERENCES

Allen, I. E., & Seaman, J. (2007). *Online nation: Five years of growth in online learning.* Needham, MA: Sloan Consortium. Retrieved from http://www.sloanc.org/publications/survey/pdf/online_nation.pdf

Allen, I. E., & Seaman, J. (2013). *Changing course: Ten years of tracking online education in the United States.* Wellesley MA: Babson College/ Quahog Research Group. Retrieved from http://www.tonybates.ca/2013/01/13/measuring-the-growth-of-online-learning-the-babson-college2012survey/#sthash.Fux1VuF6.dpuf

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bembenutty, H. (2009). Academic delay of gratification, self-regulation of learning, gender differences, and expectancy-value. *Personality and Individual Differences, 46*, 347-352. Retrieved from http://www.heferbembenutty.com/files/adog.pdf

Berge, Z. L. (1998). Barriers to online teaching in post-secondary institutions: Can policy changes fix it? *Journal of Distance Learning Administration, 1*(2). Retrieved from http://www.westga.edu/~distance/Berge12.html

Bolliger, D. U., & Wasilik, O. (2009). Factors influencing faculty satisfaction with online teaching and learning in higher education. *Distance Education, 30*(1), 103-116.

Bonk, C. J. (2001). *Online teaching in an online world*. Retrieved from http://www.publicationshare.com/docs/corp_survey.pdf

Clay, M. (1999). Faculty attitudes toward distance education at the State University of West Georgia. *University of West Georgia Distance Learning Report*. Retrieved from http://www.westga.edu/~distance/attitudes.html

Creswell, J. W. (2008). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks: Sage Publications.

DeTure, M. (2004). Cognitive style and self-efficacy: Predicting student success in online distance education. *American Journal of Distance Education, 18*(1), 21-23.

Dewey, J. (1915). *The school and society* (Rev. ed.). Chicago: The University of Chicago press.

Dooley, K. E., & Murphrey, T. P. (2000). How the perspectives of administrators, faculty and support units impact the rate of distance education adoption. *Online Journal of Distance Learning Administration, 3*(4). Retrieved from http://www.westga.edu/~distance/ojdla/winter34/dooley34.html

Freire, P. (2000). *Pedagogy of the oppressed* (30th anniversary ed.). New York: Continuum.

Fullan, M. (2007). *The new meaning of educational change* (4th ed.). New York: Teachers College Press, Columbia University.

Lunenburg, F. C., & Irby, B. J. (2008). *Writing a successful thesis or dissertation*. Thousand Oaks, CA: Corwin Press.

Maguire, L. (2005). Literature review – Faculty participation in online distance education: Barriers and motivators. *Online Journal of Distance Learning Administration, 8*(1), Retrieved from http://www.westga.edu/~distance/ojdla/spring81/maguire81.htm

Marshall, C., & Rossman, G. (2006). *Designing qualitative research*. Thousand Oaks, CA: Sage Publications, Inc.

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). *Evaluation of evidence based practices in online learning: A meta analysis and review of online learning studies*. Retrieved from http://www2.ed.gov/rschstat/eval/tech/evidence-based practices/finalreport.pdf

Mishra, P., & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A new framework for teacher knowledge. *Teachers College Record, 108*(6). 1017-1054.

Mitchell, B., & Geva-May, I. (2009). Attitudes affecting online learning implementation in higher education institutions. *Journal of Distance Education, 23*(1), 71–88.

Natriello, G. (2005). Modest changes, revolutionary possibilities: Distance learning and the future of education. *Teachers College Record, 107*(8), 1885–1904. Retrieved from http://www.csupomona.edu/~dolce/pdf/natriello.pdf

Ngai, E. W. T., Poon, L. K. J., & Chan, Y. H. C. (2007). Empirical examination of the Adoption of WebCT using TAM. *Computers & Education, 48*, 250-267.

Ormrod, J. (2007). *Human learning* (5th ed.). Glenview IL: Prentice Hall.

Parisot, A. H. (1997). Distance education as a catalyst for engaging teaching in the community college: Implications for institutional policy. *New Directions for Community Colleges, 99,* 5-13.

Rockwell, S.K., Schauer, J., Fritz, S.M., & Marx, D.B. (1999). Incentives and obstacles influencing higher education faculty and administrators to teach via distance. *Online Journal of Distance Learning Administration, 2*(4). Retrieved from http://www.westga.edu/~distance/rockwell24.html

Rogers, E. (2003). *Diffusion of Innovations* (5th ed.). New York: Free Press.

Romiszowski, A. (2004). How's the e-learning baby? Factors leading to success or failure of an educational technology innovation. *Educational Technology, 44* (1), 5–27.

Russell, T. L. (1999). *The no significant difference phenomenon: as reported in 355 research reports, summaries and papers.* North Carolina: North Carolina State University. Retrieved from http://www.aplu.org/document.doc?id=1879

Schifter, C. C. (2000). *Compensation models in distance education*. Retrieved from http://www.westga.edu/~distance/ojdla/spring31/schifter31.html

Schunk, D. H. (1996). *Self-efficacy for learning and performance*. Retrieved from http://eric.ed.gov/ERICWebPortal/detail?accno=ED394663

Seaman, A. (2009). *Online learning as a strategic asset Volume II: The paradox of faculty voices: Views and experiences with online learning*. Association of Public and Land Grant Universities.

Shea, P., Pickett, A., & Li, C. S. (2005). Increasing access to higher education: A study of the diffusion online teaching among 913 college faculty. *The International Review of Research in Open and Distance Learning, 6*(2). Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/238/493

Straub, E. (2009). Understanding technology adoption: Theory and future directions for informal learning. *Review of Educational Research, 79*, 625–649.

Tabata, L., & Johnrud, L., (2008). The Impact of Faculty Attitudes Towards Technology, Distance Learning. *Research Higher Education, (49)*625-646.

UNESCO (1994). *The Salamance Statement and Framework on special needs education*. Retrieved from http://www.unesco.org/education/pdf/salama_e.pdf

Wang, M., MacArthur, D. A., & Crosby, B. (2003). A descriptive study of community college teachers' attitudes toward online learning. *TechTrends, 47*(5), 28-31. doi: 10.1007/BF02763202

Watson, G., & Sottile, J. (2010) Cheating in the digital age: Do students cheat in online courses? *Online Journal of Distance Learning Administration, 13*(1). Retrieved from http://www.westga.edu/~distance/ojdla/spring131/watson131.html

Wiersma, W., & Jurs, S. (2005). *Research methods in education: An introduction*. Boston, MA: Pearson.

Wilson, C. (2001). Faculty attitudes about distance learning. *Educause Quarterly, 24*(2), 70-71. Retrieved from http://net.educause.edu/ir/library/pdf/eqm0128.pdf

Zemsky, R., & Massy, W. (2004). Thwarted innovation: What happened to e-learning and why. *The Learning Alliance at the University of Pennsylvania*. Retrieved from http://www.irhe.upenn.edu/WeatherStation.html

Zhen, Y., Garthwait, A., & Pratt, P. (2008). Factors affecting faculty members' decision to teach or not to teach online in higher education. *Online Journal of Distance Learning Administration, 11*(3). Retrieved from http://www.westga.edu/~distance/ojdla/fall113/zhen113.html

Planning to Effectively Motivate Digital-Age Learners by Addressing Their "High-Tech" Interests and Their "High-Touch" Needs

Walter S. Polka
Jerald I. Wolfgang
Rosina E. Mete
Father Augustine Ayaga
Attique J. Khokhar

ABSTRACT

The authors of this thematic article present contemporary information about the "high-tech" usage and interests of digital-age students at all levels of the instructional spectrum as well as information about their "high-touch" learning needs in various cultural contexts. The purpose of this article is to guide educators in planning and implementing programs, projects, and learning assignments that captivate contemporary student interests and address their historical learning needs so as to improve motivation and academic achievement. Contemporary technological usage information including: hardware, software, personal communication devices, and instructional applications collected from various sources is identified to provide insight about the exponential growth of technology as well as its educational potential to capture the interests and motivate digital-age learners. This information will be synthesized with social psychology and education change research of the past half century that has demonstrated the significance of the organizational, social, professional, and personal needs of individuals associated with the successful acquisition of knowledge and skills as well as the implementation innovations. Thus, the focus of this article is to facilitate comprehension of the contemporary "high-tech" interests and usage rates of digital-age students as well as to encourage professional reflections about educational planning that combines those interests with their respective "high-touch" learning needs. Thus, the intended outcome of this article is to provide useful information in order to promote effective curriculum and instruction planning to increase student achievement in both developed and developing countries in the second decade of the Twenty-first Century.

INTRODUCTION

Educators have historically, but often reticently, employed "high-touch" approaches with their respective contemporary "high-tech" tools to effectively motivate learners. However, educators have also historically questioned the applications of innovative technologies in learning settings. Some have even found it very difficult to use new learning tools and replace their previously successful approaches. Consider the following historical commentaries identified by Rinaldo (2013) from educators concerned about their students' use of "innovative" technologies in their respective learning settings (as cited by Williams, 2008, p.213):

- "…Students can no longer prepare bark to calculate problems. They depend instead on expensive slates. What will they do when the slate is dropped and

breaks?" as questioned by an educator in the American colonies in 1703.
- " …Students depend on paper too much. They no longer know how to write on a slate without getting dust all over themselves. What will happen when they run out of paper?" queried an educational leader at a professional meeting in 1805.
- "…Students depend too much upon ink. They no longer know how to use a knife or sharpen a pencil…", as exclaimed by a teacher at a National Association of Teachers conference in 1907.

The above educators' commentaries about technological usage by students amplify that technological changes in the educational process are often feared and misunderstood. However, our contemporary world is "flat" and is getting "flatter" every day due to the technological revolution that has occurred since World War II (Friedman, 2008; Friedman & Mandelbaum, 2011). Technology has become pervasive in our everyday life and most people are using more technology at an earlier age in order to complete several of their daily living functions (Healy, 1999; Jukes, McCain, & Crockette, 2010). Figure 1 illustrates the pervasiveness of technology in our contemporary world.

Figure 1. Technological uses in our contemporary world

The top 10 in demand jobs in 2010 did not exist in 2004.
We are currently preparing students for jobs that do not yet exist and for using technologies that have not been invented.
The United States Department of Labor estimates that today's learner will have 10-14 jobs by the age of 38.
The amount of new technical information is doubling every two years. For students starting a four-year degree that means that half of what they learn in their first year of study will be outdated by their third year of study.
There are 845 million of active users of Facebook.
There are 31 billion searches on Google every month. In 2006, this number was 2.7 billion.
The first commercial text message was sent in December 1992. Today the number of text messages sent and received everyday exceeds the total population of the planet
The number of internet devices in 1984 was 1000. In 1992 it was one million and in 2008 it exceeded one billion.
There are 540 thousand words in English language which is about 5 times as many as during Shakespeare's time.
One out of eight couples married in the U.S. last year met online.
Revenue from the iPhone and iPad now account for 72% of Apple's total revenue. Neither item could be purchased five years ago.

Note. Information retrieved and modified from Youtube, 2012.

Individuals are now classified in our contemporary society as belonging to one of the following three technology-oriented groups of people based on their technological usage: a) digital natives; b) digital immigrants; or c) digital visitors (Jukes et al., 2010). Accordingly, digital natives are those people (especially Generation X and later) who have grown up using technology from their earliest communicative experiences and, thus, technology is something they readily do and gravitate towards naturally without really thinking about it. Whereas, digital immigrants are those people (especially employed 'baby

boomers') who have recognized the need to utilize technology; such as cell phones, iPads, Facebook, Twitter, and blogs, in their work, leisure, and home life experiences in order to maximize both their productivity and communications abilities, as well as to improve their marketing proficiencies. Digital visitors are those people (especially retired senior citizens) who occasionally use technology to assist in their daily life experiences and to communicate with family and friends.

Thus, technology surrounds and abounds daily and frequently but each of us employs it differently to accomplish our various life goals, communicative needs, occupational orientations, and learning requirements. Reflecting about the current and future usage of technology and its veritable preponderance in our contemporary existence is a valid approach to understanding our current real world but to specifically and proactively think about using technology in teaching and learning situations is an absolute necessity for educational planners in this second decade of the Twenty-First Century.

The organizational needs of all learners include: cooperation or teamwork, sense of continuousness or connectivity, comprehensive perspectives or gestalt visions, and concrete or "hands-on/thumbs-down" applications (Freire, 1973; Fullan, 1999; Harnack, 1968; Miller, 1981; Yuhasz, 1974). The social needs for behavior changes such as cognitive learning include: communication, empowerment, assistance, leadership, opportunity for personal growth, and time for schema development, reflection, and practice (Brandt, 2000; Hall & Hord, 2006). The personal needs of all learners include: personal commitment, sense of challenge, feeling of control, propensity for creativity, and a experiencing a caring attitude (Collins, 2001; Csikszentmihalyi, 1990; DePree, 1989; Glasser, 1990; Kobasa, Maddi & Kahn, 1982). These learning needs have been referenced as "high-touch" needs and collectively have been articulated as "effective change zone" components that facilitate individual and group cognitive learning, reinforce resiliency, and promote change coping strategies (Polka, 2007).

When educators employ modern technologies that appeal to the "high-tech" interests of their contemporary "digital native" students and, also, address those "high-touch" learning needs then the educational outcomes are more successful due to the personally motivating and rewarding nature of the resultant programs, projects, and activities (Polka, 2010b).

CONTEMPORARY "HIGH-TECH" INTERESTS OF STUDENTS

The tables included in this section provide illustrations of the rapid growth, expansion, and usage of technology especially in the last decade of the twentieth century and the first decade of the twenty-first century.

Table 1

Evolution and usage of selected "high-tech" hardware systems in the United States

Hardware Type	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2012
Home Computer	8.2 million	15 million	22.9 million	51 million	62 million	*	
Cell Phones	340 thousands	5.2 million	33.7 million	109 million	208 million	300 million	337 million
iPod	N/A	N/A	N/A	N/A	30 million	275 million	350 million
X-Box	N/A	N/A	N/A	N/A	6 million	17 million	70 million

Note. *Since 2007, no data was collected on home computer usage

The data identified in Table 1 were collected from the following sources: About. com (n.d.), Askville (n.d.), FreshlyMobile (2013), Infoplease.com (n.d.), Yin-Poole (2012), Wikia (n.d.) and Wikipedia (2013). Table 1 specifically identifies the rapid growth in the usage of home computers, cell phones, iPods and X-Boxes. Obviously, these technological tools were much more common-place and readily visible and available to students born during the last twenty-five years. These are communication and information devices that they have grown-up using and for which they have developed unique interaction styles. The home computer, cell phone, iPods and X-Boxes are as familiar to them and as useful to them in their world as the transistor radio, cassette player, and portable television was to their parents and grandparents. The question is…do educators employ these contemporary tools effectively in their teaching and learning situations or do they attempt to have them checked at the classroom door? Educational leaders need to remember that the tools of your culture that you "grow-up with"…you take for granted, and you expect that they will be used in your daily life experiences whether at home, at leisure, at work, or at school. But, education has always "lagged behind" contemporary culture and that may be one of the key reasons that it has often been termed by students as being either "irrelevant", "boring", or "out of touch" with reality (Jukes et al., 2010).

And, this rapid exponential growth in the availability and use of technology is not limited to the contemporary world's most advanced countries as evidenced by a recent United Nations report (Stanley, 2013) that provided the following global statistics regarding technology and quality of living:

- Out of seven billion people, six billion have a mobile phone.
- Out of seven billion people, 4.5 billion have a modern toilet.
- In India, there are 900 million cell phone users, however only 70% of the population has access to proper sanitation.
- Globally, people living in abject poverty have cell phones.

Table 2
Evolution and usage of common "high-tech" software systems

Software Type	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2012
Internet Usage %	N/A	N/A	N/A	18%	41%	69%	79%
Google #s	N/A	N/A	N/A	N/A	22 billion searches	953 billion searches	1.2 trillion searches

Note. Internet usage is measured per US household
Information retrieved from Malik, 2009; OwenGreaves.com, 2012 and Statistic Brain, n.d.

Table 2 illustrates the rapid increase in usage of common "high-tech" software systems such as the Internet and specifically one well-known online server, Google. Both of these systems did not "exist" for public consumption 20 years ago but note that almost 80% of U.S. homes have internet access at present time and, also note, the incredible usage of the Internet, specifically the Google server as a source of information for people who want to learn! The meteoric increase in usage of Google alone in the past ten years emphasizes its value as a ready resource for all kinds of learners and their various interests.

Table 3

"High-tech" Social media usage by age group

Ages (in years)	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2012
18-29	N/A	N/A	N/A	N/A	8%	86%	92%
30-49	N/A	N/A	N/A	N/A	7%	68%	77%
50-64	N/A	N/A	N/A	N/A	6%	47%	57%
65+	N/A	N/A	N/A	N/A	0%	26%	38%

Information retrieved from Pew Internet, 2013.

Table 3 identifies the social media (i.e.: wikis, Twitter, Facebook, blogs) usage by age group during the past dozen years. It should be noted that these contemporary forms of interpersonal communications didn't exist prior to 2000 so the usage data certainly is skewed in favor of those who were born during its existence. But, the discrepancies between the age groups and their usage reinforce the "familiarity" of growing up with these "high-tech" tools and the previously identified concept that when individuals grow-up with technology they take it for granted and it becomes part of their real world as "digital natives." Whereas, older generations continue as either "digital immigrants" trying to assimilate these new tools as fast and as best as they can or as "digital visitors" observing the phenomena and occasionally using it.

Table 4

Evolution of "High-Tech" social media usage by device and software

Methods of Social Media Usage	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2012
Wi-Fi Devices	N/A	N/A	N/A	N/A		55 million	135 million
Facebook	N/A	N/A	N/A	N/A	5.5 million	608 million	1.01 billion
Twitter	N/A	N/A	N/A	N/A	N/A	26 million	500 million

Information retrieved from About.com, 2011; Associated Press, 2012 and Lunden, 2012.

Table 4 provides additional data related to the incredible expansion in usage of social media in our contemporary world. It should be noted that, as the data illustrates, if "Facebook" were a nation it would be the third largest in population in the world behind only China and India! But, that probably will also change rapidly to the point where "Facebook" will have more users than any nation has people! Again, the key questions to be raised to educational planners are; in what manner and how frequently are we employing these tools in our contemporary instructional activities given the attractiveness of these "high-tech" tools to our students?

However, there are numerous educators who have recognized the instructional value in using the students' "high-tech" interests to improve their academic achievement levels. A contemporary trend that has blended this student "high-tech" interest with learning is known as "Flipping the Classroom." Accordingly, experts who are experimenting with this approach have stated, "…it works because the students love using the technology for learning at their own pace and in their own place" (Maynard, 2013). The flipped classroom

concept is where the teacher's lessons, lectures, and discussions about a topic are provided to the students via social media and the time in the classroom is spent reviewing the material and practicing the applications; in other words, the lessons are delivered to the students via social media during non-traditional times such as at home or after school, actually whenever, the student has the time and the urge to learn the key material of the subject. Subsequently, classroom time is spent with the teacher working individually or with groups of students assisting them with what may have been the "homework" of the past or the applications of the content to reinforce the learning but under the guidance of the teacher.

Table 5

Frequency of Flipped Classroom lesson delivery statistics

Web site	Date Created	Total # of Lessons Delivered
Bozeman	2010	8 million
Khan Academy	2006	244 million
TED Ed	2012	126,000

Information retrieved from TED Ed, n.d.

Table 5 provides evidence of the popularity of flipped classroom lessons that are available online for teachers in all subject areas and at all grade levels. So, there are some indicators that educators are using the "high-tech" interests of their students to facilitate their academic achievement. Of course, this is a relatively new approach to learning so that data is limited but, the technological tools to assist in this approach have been used by most students most of their lives!

HIGH-TOUCH ORGANIZATIONAL NEEDS OF STUDENTS

In order to improve teaching and learning, educators have applied various planning principles, instructional strategies, and organizational schemas (Brandt, 2000; Brooks & Brooks, 1993; Cook, 1995; Darling-Hammond, 1997; Dewey, 1938/1996; Doll, 1972; Eisner & Vallance, 1974; Freire, 1973; Fullan, 1999; Hyman, 1973; Kaufman, Herman & Watters, 2002; Lieberman, 1986; Norton, 2005; Ornstein & Hunkins, 1988). Accordingly, several useful planning approaches and paradigms have emerged, however, common denominators of most of those paradigms incorporate four key organizational change needs as initially enumerated by Krug (1957). These four "high-touch" organizational needs of students at any age are necessary to facilitate the maximization of their learning and have been cogently enumerated as: cooperativeness, comprehensiveness, continuous, and concreteness. These four organizational needs are consistent with those initially expressed by Maslow (1968) and recently investigated by Prentice, Halusic, & Sheldon (2014) in their "needs-as-requirement approach" that stresses the significance of fulfilling the personal sense of belonging, competence, and autonomy for individual growth that leads to positive outcomes (p. 74). Tay and Diener (2011) also found that mastery, support and love, direction, and autonomy each contributed to individual and organizational well-being in 123 different countries which attests to the universality of these needs. Table 6 provides

operational definitions each of these "high-touch" organizational needs as articulated by Polka (2010b).

Table 6

The Four High-Touch Organizational Needs of Learners

Organizational Needs	Operational Definition
Cooperativeness	The human need for gregariousness and collegiality in learning as evidenced by the attractiveness achievement success of group work and learning teams in various educational experiences.
Comprehensive	The individual need to consider a variety of real and potential intervening variables (people, things, and ideas) that impact an individual's learning.
Continuousness	The need to constantly monitor and adjust the applications of new knowledge by either adapting or adopting that knowledge into existing mental images or schemas.
Concreteness	The human need for specific instructional examples and/or artifacts related to applying and further reinforcing the acquisition of new knowledge and skills.

High-touch Social Needs of Students

The six specialized "high-touch" social needs or key collaborative expectations of individuals engaged in learning new knowledge and skills were specifically articulated in educational research as: communication, empowerment, assistance in decision-making, leadership, opportunity for personal growth and time (Harnack, 1968). These six specialized "high-touch" social needs were further reinforced as keys in effectively planning meaningful and successful educational activities in subsequent research studies (Beane, Toepfer & Alessi, 1986; Brandt, 2000; Hall & Hord, 2006; Miller, 1981; Polka, 1977; Yuhasz, 1974). These six specialized social needs have also been identified as critical to successful short-term behavioral changes as well as to the long-term sustainability of those personal changes (Fullan, 2005; Hall & Hord, 2006; Kotter & Cohen, 2002).

In addition, Deci and Ryan (2002) reinforced the importance of these social needs as they postulated that 'relatedness' is characterized by feelings of a meaningful connection or belonging with important. Ozad and Uygarer (2014) found that social networks play an important role in meeting the attachment or relatedness needs of individuals engaged in learning new skills and knowledge. Deci and Ryan (2011) also hypothesized that psychological need satisfaction predicts behavioral engagement because individual satisfaction provides energy and direction to continue engaging in specific learning behaviors others (as cited in Gunnell, Crocker, Mack, Wilson & Zumbo, 2014). Truscott et al. (2012) presented additional evidence from various contexts that an individual's involvement in social situations that promote proactive commitment enhances their respective psychological development, motivation, and subjective well-being. Table 7 provides operational definitions of each of these "high-touch" specialized social needs as articulated by various contemporary researchers concerned with this dimension (Griesmer, Lonneville, Scully, Haseley, & Polka, 2013; Lewis & Polka, 2014; Polka, 2010b; Polka & Kardash, 2012):

Table 7

The Six Specialized High-Touch Social Needs of Learners

Specialized Social Needs	Operational Definition
Communication	The need to interact with others about diverse thinking and feelings relating to learning new knowledge and skills.
Empowerment	The need to have significant input relating to the learning and applications of new knowledge and skills.
Assistance	The need to know that various resource personnel, in addition to the teacher, are available to help scaffold the learner as they acquire new knowledge and skills.
Leadership	The learner is acutely aware that others will provide guidance and lead him or her to successfully acquire new knowledge and/or skills.
Opportunity	The learner is acutely aware of both the short-term and long-term benefits associated with gaining new knowledge and skills.
Time	The learner is given ample time to practice and apply their new knowledge and skills in a variety of diverse ways for reinforcement and enhancement.

High-touch Personal Needs of Students

The five personal "high-touch" needs or learning dispositions: challenge, commitment, control, creativity, and caring have been identified as key factors contributing to individual and organizational successes in coping with cognitive and emotional changes (Csikszentmihalyi, 1990; DePree, 1989; Glasser, 1990; Kobasa et al., 1982; Polka, 2007; Polka, 2009; Polka, Mattai, & Perry, 2000; Stossel, 1992). These five personal "high-touch" needs have also been identified as critical to the successful short-term acquisition of knowledge and skills as well as to the long-term sustainability of those newly-learned knowledge, skills, and or behavioral changes (Fullan, 2005; Kotter & Cohen, 2002; Hall & Hord, 2006). Citing Masten and Cicchetti, Vansteenkiste and Ryan (2013) stated that when these personal needs are met there is a feeling of wellness, appreciation, sense of identify and enhanced mental functioning. As a result of their research they concluded that,

> when individuals experience supports for autonomy, relatedness, and competence,
> they are prone to fuller internalization and, thus, greater autonomy in acting
> because personal need satisfaction not only serves as the necessary fuel for
> the internalization of behavioral change, but also greater internalization
> in turn contributes to elevated need satisfaction. (Vansteenkiste & Ryan, 2013,
> p. 267)

Thus, addressing these personal needs contributes to implementation successes as documented in the behavior change literature and research (Polka, 2010b). The five personal "high-touch" needs are concisely explained in Table 8.

Table 8

Personal Needs

Personal Needs	Operational Definitions
Challenge	The need to see the value in learning new knowledge and skills as an opportunity not a laborious task or crisis.
Commitment	The need to personally experience and "see and feel" in others associated with the specific teaching and learning process a strong belief in the value of knowledge and skill acquisition and improvement.
Control	The learner's need to influence their learning of new knowledge and skills according to their interests, aptitudes, and dispositions
Creativity	The learner's need to envision diverse applications of concepts and strategies associated with the newly acquired knowledge and skills.
Caring	The learner's human need to experience a nurturing family atmosphere and attitude in their learning places.

High-Touch Summary

Educational leaders who address these personal needs are congruent with the concepts articulated by behavior change researchers and cognitive learning specialists who identify that, "Both thinking and feeling are essential, and both are found in successful organizations, but the heart of change is in the emotions. The flow of see-feel-change is more powerful than that of the analysis-think-change." (Kotter & Cohen, 2002, p. 2).

The significance of addressing the above organizational, social, and personal needs in facilitating knowledge acquisition and promoting behavioral changes associated with learning has been researched for more than twenty years (Polka, 2010a). A New York sample of 279 educators, specifically identified the significance of a needs-based approach for changing the cognitive perceptions and skill usage associated with technological changes in education (Polka, 1994). Additional studies replicated that research including a study of 312 educators from two different samples at the end of the 20th century that reconfirmed the significance of these "high-touch" needs as key factors to be addressed when promoting individual and collective group or organization educational changes (Polka et al., 2000). Those research findings were corroborated by the study of more than 1200 K-12 teachers that identified the importance of the "high-touch" interpersonal relationships displayed by educational leaders who facilitated effective school innovations (Blasé & Kirby, 2000). In addition, a study of 229 Georgia educators in 2007 reconfirmed the significance of these needs to educators implementing major curriculum changes such as the large scale Georgia Performance Standards (Polka, 2009). Also, a qualitative case study related to the implementation of a "1 to 1 computer laptop" project identified the significance of these "high-touch" needs for educational planners and policy-makers (Polka & Kardash, 2012). In addition, a retrospective case study analysis of a successful implementation of a student behavior modification program illustrated the significance of addressing the "high-touch" needs of teachers in order to implement educational innovations to change student behaviors (Lewis & Polka, 2014).

The results of those studies also reinforce the importance of addressing the above needs in a customized manner based on the realities of the people, things, and ideas within the specific educational contexts. Consequently, education planners must not only recognize the imperativeness of focusing on these organizational, social, and personal needs but, also, must acknowledge that there may be diverse hierarchies of these "high-touch" needs

based the dispositions of their students as well the specifics of their respective educational settings. Educators must be prepared to address these needs but must also provide for them in appropriate ways given the uniqueness of the respective context where their students learn. And, educators must constantly be aware that these needs change over time as the people, things, and ideas of education are in a state of constant flux within specific contexts (Polka & Guy, 2001).
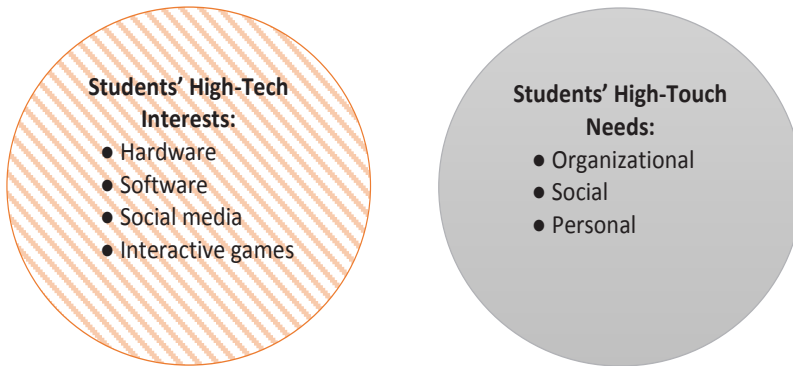
EFFECTIVE CHANGE ZONE AND EFFECTIVE PLANNING ZONE

Focusing on the nexus of those "high-touch" needs of contemporary learners with their previously identified "high-tech" interests has been comprehensively investigated by the authors of this manuscript and subsequently resulted in the development of the "Effective Planning Zone" paradigm. This "Effective Planning Zone" is based on the theoretical framework associated with the "Effective Change Zone" initially developed by Polka (2007) and subsequently researched in various contexts (Griesmer et.al., 2013; Polka, 2009; Lewis & Polka, 2014; Polka & Kardash, 2012) associated with implementing innovations. Accordingly, effective leaders engage and support others in their learning and behavioral change process by using both their unique interpersonal teaching artistry and their comprehensive knowledge about behavior science (Norton, 2005; Polka, 2010b; Senge, 1990; Von Bertalanffy, 1950). They focus on the organizational, social or professional, and personal needs of individuals involved in learning as they interact with people, things, and ideas in the "Effective Change Zone" (ECZ) to make and sustain significant personal and group cognitive and skill changes (Polka, 2007; Polka, 2009; Polka, 2010b). This change zone is associated with effective practical applications of the Vygotsky concept known as the "Zone of Proximal Development" (ZPD). This is the critical behavior and/or cognitive change area for individuals where learning and behavioral change is optimum: "…the point of readiness for a given concept" (Slavin, 2006, p.44).

The "Effective Planning Zone" is a viable educational planning model predicated on the implementation principles, cognitive and emotional change behaviors, and outcomes associated with operating in the "Effective Change Zone" to promote innovations. The "Effective Planning Zone" emerged as this research team reviewed and analyzed the "actions" related to "Effective Change Zone" experiences in various settings and reviewed education references related to employing student interests and needs for effective teaching and learning (Beane et al., 1986; Brooks & Brooks, 1993; Danielson, 1996; Darling-Hammond, 1997; Dewey, 1938/1996; Doll, 1972; Harnack, 1968; Jukes et al., 2010; Marzano, 2003; Voltz, Sims, & Nelson, 2010). They considered the value of developing a planning paradigm and stages for educational planners to consider in designing programs that capture the "high-tech" interests of students as well as providing for their "high-touch" learning needs. The imperativeness for educators to address both the "high-tech" interests as well as the organizational, social, and personal "high-touch" needs of contemporary learners has been previously identified in this article. But, the Figure 2 "Effective Planning Zone Stages" provides a representation of the planning process stages that educational planners may use as references to assess the current status of their planning with the goal of incorporating both student high-tech interests with their high-touch needs in educational programs, curriculum objectives, and instructional techniques.

Figure 2. Effective Planning Zone Stages

Stage 1. Ineffective Planning Approach for Digital Age Students

Students' High-Tech Interests:
- Hardware
- Software
- Social media
- Interactive games

Students' High-Touch Needs:
- Organizational
- Social
- Personal

In the above Stage 1, student high-tech interests and high-touch learning needs are separated or generally isolated from each other by educational planning perspectives and/ or policies that specifically prohibit student engagement with contemporary technology in learning. This is similar to the previous references in this paper regarding how some educators in the past felt about the use of slate boards, pencils, ink pens, and other "innovative" technological tools. Some school administrators prohibit students from bringing their technologies with them to school. They must be "checked at the door" or locked in a storage cabinet. This is not a technology for learning user-friendly environment.

Stage 2. Moderately Effective Planning Approach for Digital Age Students
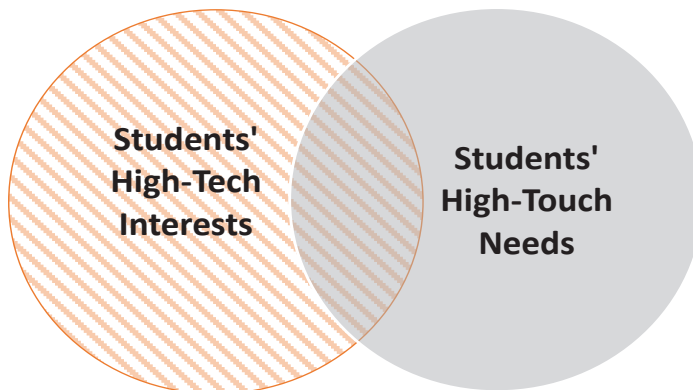
In the above Stage 2, student high-tech interests and high-touch learning needs are integrated to some extent. Educational planning perspectives and/or policies restrict but do not prohibit student engagement with contemporary technology in learning. Student access to technology for learning is encouraged but limited to prescribed programs and activities designed for them by their teachers and administrators. Students may bring their technologies into their learning environments but the usage is restricted in time, place, and subject matter. This is a more technology for learning user-friendly environment.

Stage 3. More Effective Planning Approach for Digital Age Students
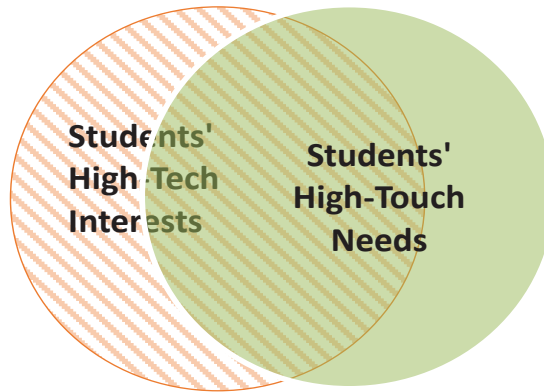
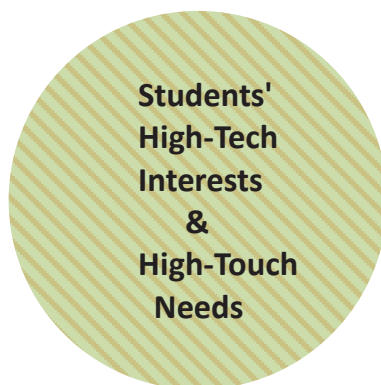In the above Stage 3, student high-tech interests and high-touch learning needs are more generally integrated into the teaching and learning process. Educational planning perspectives and/or policies are more technology user-friendly as most of the teachers and administrators view technology as a valuable tool for learning and teaching as well as view student high-tech interests as a key asset to academic achievement. Student access to technology for learning is widely encouraged including online experiences, but usage is still somewhat limited to assure fidelity with school technology usage policies. Students may bring their technologies into their learning environments and use them with little restrictions in terms of time, place, and subject matter. There is expanded regular use of high tech software to augment lessons and "Flipped Classrooms" are appearing more frequently as the role of the teacher is definitely transitioned from the "Sage on the Stage" to the "Guide on the Side."

Stage 4. Most Effective Planning Approach for Digital Age Students

In the above Stage 4, student high-tech interests and high-touch learning needs are congruent and fully integrated into the teaching and learning process. Educational planning perspectives and/or policies are technology user-friendly as teachers and

administrators view technology as a key tool for learning and teaching effectively in the digital age. Student access to technology for learning is promoted and encouraged with numerous online learning experiences and opportunities for students to "Bring Their Own Devices" (BYOD) including "Digital Backpacks" loaded with multiple and varied digital communication devices into their learning environments that are not limited in terms of time, place, and subject matter but there are still subject to policy considerations to guard against abuses.

SUMMARY

Effective learning zone focused educational planners are definitely proactive, raise the awareness levels of learners about collective interests, and help learners achieve unusually high performance outcomes (Hoy & Miskel, 2005). They plan and manage instruction in a systematic manner scaffolding complex cognitive and behavioral changes using simple, but sound constructivist teaching principles and strategies associated with individual student interests that can be appreciated, articulated, and internalized by all involved (Hall & Hord, 2006). They address the various personal components included in each of the above three key "high-touch" need areas in order to make and sustain learning growth and development for all students. They appropriately blend the "high-tech" interests and the "high-touch" needs of students to effectively motivate them to succeed in learning new knowledge and skills.

However, educators need to keep in mind that every generation views contemporary students in a somewhat pejorative sense; often identifying that they are not as focused as previous generations in their learning and interpersonal relations or their "high-touch" dispositions. The following reference emphasizes this perspective and provides a reminder to educators to keep an open mind towards contemporary students and their enthusiasm to be different and use novel approaches in living and learning in their world:

> The children now love luxury; they have bad manners, contempt
> for authority; they show disrespect for elders and love chatter
> in place of exercise. Children are now tyrants, not the
> servants of their households. They no longer rise when elders
> enter the room. They contradict their parents, chatter before
> company, gobble up dainties at the table, cross their legs, and
> tyrannize their teachers. (Attributed to Socrates, 469–399 B.C.
> by Plato, as cited in Patty & Johnson, 1953, p.277)

Therefore, the more several things change in our "high-tech" world and we are attracted to them to make our lives more robust in a variety of ways; the more some "high-touch" attitudes remain the same as they did in ancient times when technology was limited but human interactions between generations were still as challenging as they are today! However, civilization has advanced continuously as human beings learned to adapt and adjust to the ever-changing developments in technology and learned to apply them in daily living experiences including at home, at school, at work and at leisure.

REFERENCES

About.com. (n.d.) *Total Number of iPods Sold All-Time.* Retrieved April 19, 2013 from
        http://ipod.about.com/od/glossary/qt/number-of-ipods-sold.htm

About.com. (2011). *Twitter Statistics - 2008, 2009, 2010, 2011: How Many People Use
        Twitter?* Retrieved April 20, 2013 from http://womeninbusiness.about.com/od/
        twittertips/a/twitter-statistics.htm

Askville.com (n.d.). *What is the percentage of Americans owning an iPod?* Retrieved
        April 19, 2013 from http://askville.amazon.com/percentage-americans-owning-
        iPod/AnswerViewer.do?requestId=30135642

Associated Press. (2012, Oct 13). Number of active users at Facebook over the years.
        YahooFinance!.com. Retrieved April 19, 2013 from http://finance.yahoo.com/
        news/number-active-users-facebook-over-years-214600186--   finance.html

Beane, J., Toepfer, C., & Alessi, S. (1986). *Curriculum planning and development.*
        Newton, MA: Allyn and Bacon.

Blasé, J., & Kirby, P. (2000). *Bringing out the best in teachers: What successful
        principals do.* (2nd ed.). Thousand Oaks, CA: Corwin Press.

Brandt, R. (2000). *Education in a new era.* Alexandria, VA: Association for Supervision
        and Curriculum Development.

Brooks, J., & Brooks, M. (1993). *In search of understanding: The case for constructivist
        classrooms.* Alexandria, VA: Association for Supervision and Curriculum
        Development.

Collins, J. (2001). *Good to great: Why some companies make the leap…and others don't.*
        New York: Harper Business.

Cook, W. (1995). *Strategic planning for America's schools.* Arlington, VA: American
        Association of School Administrators.

Csikszentmihalyi, M. (1990). *Flow.* New York: Harper & Row.

Danielson, C. (1996). *Enhancing professional practice: A framework for teaching.*
        Alexandria, VA: Association for Supervision and Curriculum Development.

Darling-Hammond, L. (1997). *The right to learn: A blueprint for creating schools that
        work.* San Francisco, CA: Jossey-Bass Publishers.

Deci, E. L., & Ryan, R. M. (2002). *Handbook of self-determination research.* New York:
        University of Rochester Press.

DePree, M. (1989). *Leadership is an art.* New York: Dell.

Dewey, J. (1996). *Experience in education.* New York: MacMillan. (Original work
        published 1938).

Doll, R. (1972). *Leadership to improve schools.* Worthington, Ohio: CA Jones
        Publishing.

Eisner, E., & Vallance, E. (Eds.). (1974).*Conflicting conceptions of curriculum.*
        Richmond, CA: McCutchan Publishers.

Freshly Mobile. (2013). *UW Mobile Stats.* Retrieved on April 19 2013 from http://www.
        freshlymobile.com/uw-mobile-usage-statistics/

Friedman, T. (2008). *The world is flat. .* New York: Farrara, Straus, & Giroux.

Friedman, T., & Mandelbaum, M. (2011). *That used to be us: How America fell behind in
        the world it invented and how can we come back.* New York: Farrara, Straus, &
        Giroux.

Freire, P. (1973). *Pedagogy of the Oppressed.* Rev.ed. New York: Continuum.

Fullan, M. (1999). *Change forces – the sequel.* Philadelphia, PA: Falmer Press.

Fullan, M. (2005). *Leadership and sustainability: System thinkers in action.* Thousand Oaks, CA: Corwin Press.

Glasser, W. (1990). *The quality school.* New York: Harper.

Griesmer, J., Lonneville, J., Scully, E., Haseley, D. & Polka, W. (2013). Applying the effective change zone paradigm to develop recommendations for improved student achievement in mathematics: A case study by prospective school leaders. *Journal for the Practical Application of Constructivist Theory in Education. 7*(1), 1-21.

Gunnell, K., Crocker, P., Mack, D., Wilson, P. & Zumbo, B. (2014). Goal contents, motivation, psychological need satisfaction, well-being and physical activity: A test of self-determination theory over 6 months. *Psychology of sports and exercise, 15*, 19-29.

Hall, G., & Hord, S. (2006). *Implementing change: Patterns, principles and potholes* (2nd ed.). Boston: Allyn & Bacon.

Harnack, R. (1968). *The teacher: Decision maker and curriculum planner.* Scranton. PA: International Textbook Co.

Healy, J. (1999). *Failure to connect: How computers affect our children's minds: And what we can do about it.* New York: Simon & Schuster.

Hoy, W., & Miskel, C. (2005). *Educational administration: Theory, research, and practice* (7th ed.). New York: McGraw.

Hyman, R. (1973). Approaches in curriculum. Englewood Cliffs, NJ: Prentice-Hall.

Infoplease.com (n.d.) *Cell Phone Subscribers in the U.S., 1985–2010.*
Retrieved on April 18 2013 from http://www.infoplease.com/ipa/A0933563. html#ixzz2QfPBql00

Jukes, I., McCain, T., & Crockette, L. (2010). *Understanding the digital generation: Teaching and learning in the new digital landscape.* Vancouver, B.C.: Corwin Books.

Kaufman, R., Herman, J., & Watters, K. (2002). *Educational planning: Strategic, tactical and operational.* Lanham, Maryland: The Scarecrow Press.

Kobasa, S., Maddi, T. & Kahn, S. (1982). Hardiness and health: A prospective study. *Journal of Personality and Social Psychology, 43*, 76-89.

Kotter, J., & Cohen, D. (2002). *The heart of change: Real life stories of how people change their organizations.* Boston, Mass: Harvard Business School Press.

Krug, E. (1957). *Curriculum planning.* New York: Harper.

Lieberman, A. (1986). (ed.). *Rethinking school improvement: Research, craft, and concept.* New York : Teachers College Press.

Lewis, M., & Polka, W. (2014). Planning to change student behaviors in a small city school district: A Case Study of Managing in the Effective Change Zone. *Educational Planning. 21*(2). 4-18.

Lunden, I. (2012, July 30). Analyst: Twitter Passed 500M Users In June 2012, 140M Of Them In US; Jakarta 'Biggest Tweeting' City. *TechCrunch.com.* Retrieved April 20 2013 from http://techcrunch.com/2012/07/30/analyst-twitter-passed-500m-users-in-june-2012-140m-of-them-in-us-jakarta-biggest-tweeting-city/

Malik, O. (2009). *US census data shows what we know.* [Gigacom blog post]. Retrieved
April 19, 2013 from http://gigaom.com/2009/06/03/u-s-census-data-shows-
what-we-know-internet- growth/

Marzano, R. (2003). *What works in schools: Translating research into action.* Alexandria,
VA: Association for Supervision and Curriculum Development.

Maslow, A. (1968). *Toward a psychology of being.* New York: John Wiley & Sons, Inc.

Maynard, P. (2013, April). *Flipping the Classroom Presentation* given at a Phi Delta
Kappa meeting in Buffalo, N.Y.

Miller, R. (1981). *A study of the cooperative curriculum planning approaches to
individualized instruction.* Doctoral Dissertation. Faculty of Educational Studies,
State University of New York at Buffalo. (UMI 9840304).

Norton, M. (2005). *Executive leadership for effective administration.* Boston: Pearson.

Ornstein, A., & Hunkins, S. (1988). *Curriculum: Foundation, principles and issues.*
Englewood Cliffs, NJ: Prentice-Hall.

OwenGreaves.com. (2012). *Ever wonder how many people use the Internet?* [Blog post].
Retrieved April 20 2013 from http://owengreaves.com/ever-wonder-how-many-
people-use-internet/

Ozad, B., & Uygarer, G. (2014). Attachment needs and social networking sites. *Social
Behavior Personality, 42* (Suppl.), 43-52.

Patty, W., & Johnson, L. (1953). *Personality and adjustment.* New York: McGraw-Hill

Pew Internet. (2013). *Pew Internet: Social Networking (full detail).* Retrieved on April
19, 2013 from http://pewinternet.org/Commentary/2012/March/Pew-Internet-
Social-Networking-full-detail.aspx

Polka, W. (1977). *Curriculum planning for the individualization of instruction.* Doctoral
Dissertation. Faculty of Educational Studies, State University of New York at
Buffalo. (UMI 7813988).

Polka, W. (1994). Balancing high-tech needs and high-touch needs for the effective
implementation of technology. *The eleventh international conference on
technology and education* (250-252). Austin, Texas: The University of Texas,
College of Education Press.

Polka, W. (2007). Managing people, things and ideas in the 'effective change zone: A
high-touch approach to educational leadership at the dawn of the twenty-first
century. *Educational Planning*; *16*(1), 12-17.

Polka, W. (2009). Leadership in the effective change zone: A case study of the high-
touch needs of educators implementing the Georgia Performance Standards.
In C. Achilles, et. al. (Eds.), *Remembering our mission: Making education
and schools better for students.* The 2009 Yearbook of the National Council of
Professors of Educational Administration (pp.187-199). Lancaster, PA: DEStech
Publications.

Polka, W. (2010a). Facilitating instructional differentiation via teacher reflections about
desired constructivist practices and current realities: A pragmatic research model
(Chapter 8). In E. Pultorak (Ed.), *The purposes, practices, and professionalism
of teacher reflectivity: Insights for 21st century teachers and students.* New York:
Rowman & Littlefield Publications. 163-188.

Polka, W. (2010b). The art and science of constructivist supervision: Transforming schools by applying needs-based research. *Journal for the Practical Application of Constructivist Theory in Education, 5*(1), 1-28.

Polka, W., & Guy, A. (2001). Developing a systematic approach to educational planning for the new millennium: An analysis of the North American school as a complex of heterogeneous systems. *Educational Planning*; *12(*1), 27-33.

Polka, W., & Kardash, J. (2012). Managing in the effective change zone to implement a "1 to 1 laptop" program in a rural school district: A case study of the Colton-Pierrepont experience. In B. Ran (Ed.), *The dark side of technological innovation* (pp. 323-346). Charlotte, NC: Information Age Publishing.

Polka, W., Mattai, R., & Perry, R. (2000). 'High tech, high touch: Balancing the district's technology needs with the reality of human fears and frustrations of your professional staff.' *The School Administrator*; *57*(4), 32-36.

Prentice, M., Halusic, M., & Sheldon, K. (2014). Integrating theories of psychological needs-as-requirements and psychological needs-as-motives: A two process model. *Social and Personality Psychology Compass, 8*(2), 73-85.

Rinaldo, V. (2013, October). *Smart phones in the classroom: The beginning of an architectural redesign*. Paper presented at the meeting of the International Society for Educational Planning, Niagara Falls, N.Y.

Senge, P. (1990). *The fifth discipline: The art and practice of the learning organization.* New York: Currency Doubleday.

Slavin, R. (2006). *Educational psychology: Theory and practice.* Upper Saddle River, NJ: Pearson Education, Inc.

Stanley, S. (2013). *Cell Phones, Microfinance, and Poverty*. Retrieved on Oct. 1, 2013 from http://blog.acton.org/archives/52721-cell-phones-microfinance-and-poverty.html

Statistic Brain. (n.d.) *Google Searches.* Retrieved April 19 2013 from
http://www.statisticbrain.com/google-searches

Stossell, J. (1992). ABC 20/20 report on the mystery of happiness: Who has it…and how to get it. New York: American Broadcasting Company.

Tay, L., & Diener, E. (2011). Needs and subjective well-being around the world. *Journal of Personality and Social Psychology*, *101*(2), 354-365.

TED Ed. (n.d.) *Lessons worth sharing.* Retrieved April 18 2013 from: http://ed.ted.com/lessons/introducing-ted-ed-lessons-worth-sharing

Truscott, S., Kreskey, D., Bolling, M., Psimas, L., Graybill, E., Abritton, K., & Schwartz, A. (2012). Creating consultee change: A theory-based approach to learning and behavioral change process in school-based consultation. *Consulting Psychology Journal, 64*(1), 63-82.

Voltz, D., Sims, M., & Nelson, B. (2010). *Connecting teachers, students, and standards: Strategies for success in diverse and inclusive classrooms.* Alexandria, VA: Association for Supervision and Curriculum Development.

Vansteenkiste, M., & Ryan, R. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy and Integration, 23*(3), 263-280.

Von Bertalanffy, L. (1950). The theory of open systems in physics and biology. *Science, 111*, 23-29.

Wikia. (n.d.). *Video Game Sales Wiki.* Retrieved April 19 2013 from http://vgsales.wikia.com/wiki/Xbox_360

Wikipedia. (2013). *List of countries by number of mobile phones in use.*
Retrieved April 20 2013 from http://en.wikipedia.org/wiki/List_of_countries_by_number_of_mobile_phones_in_use

Williams, P. (2008). Leading schools in the digital age: A clash of cultures. *School Leadership & Management, 28*(3), 213-228. doi:10.1080/13632430802145779

Yin-Poole, W. (2012). Microsoft has sold 70 million Xbox 360.
Eurogamer.net. Retrieved April 19 2013 from http://www.eurogamer.net/articles/2012-10-19-microsoft-has-sold-70-million-xbox-360s

Youtube. (2012, February 28). *Did You Know 3.0.* Retrieved April 20, 2013 from http://www.youtube.com/watch?v=YmwwrGV_aiE

Yuhasz, L. (1974). *Curriculum planning needs of teachers within a differentiated staffing organization.* Doctoral Dissertation. Faculty of Educational Studies, State University of New York at Buffalo. (UMI 742924).

INVITATION TO SUBMIT MANUSCRIPTS

The editor of *Educational Planning*, a refereed journal of educational planning issues, invites the submission of original manuscripts for publication consideration. *Educational Planning* is the official journal of the International Society for Educational Planning. The audience of the journal includes national and provincial/state planners, university faculty, school district administrators and planners, and other practitioners associated with educational planning.

The purpose of the publication is to serve as a meeting place for scholar-researcher and the practitioner-educator through the presentation of articles that have practical relevance to current issues and that broaden the knowledge base of the discipline. *Educational Planning* disseminates the results of pertinent educational research, presents contemporary ideas for consideration, and provides general information to assist subscribers with their professional responsibilities.

Manuscripts preferred for inclusion are those from practitioners, reports of empirical research, expository writings including analyses of topical problems, or case studies. Unsolicited manuscripts are welcomed.

The following criteria have been established for the submission of manuscripts.

STYLE: All formatting should adhere strictly to the current guidelines set in the Publication Manual of the American Psychological Association.

LENGTH: The manuscript, including all references, figures or illustrations, charts, and/or graphs, should not exceed 20 pages. In addition, an Abstract (between 150-500 words on a separate sheet of paper) describing the focus of the manuscript should be included at the beginning of the manuscript.

WORD PROCESSING: SINGLE-SPACE all text using TIMES NEW ROMAN with a 10 point type. Headings and sub-headings should be in ARIEL with a 10 point type. Provide 1.0 inch margins top and bottom, and 1.5 inch left and right, with 1.0 inch header and 1.0 inch footer. The body of the manuscript must be no wider than 5 ½ inches to fit the paper. Lengthily tables, drawings, and charts or graphs should be scaled to the dimensions given and should preferably be camera-ready.

FORM of SUBMISSION: Send the manuscript to the Editor electronically in Microsoft Word as an attachment to an email. The email address is: tchan@kennesaw.edu

The manuscript should include the following:

Title Page
> Title of the manuscript
> Date of Submission
> Author(s) name, mailing address, telephone number, email address, and fax number
> Biographical sketch not to exceed 75 words

Abstract
> An abstract not to exceed 500 words on a separate page

Body of the Manuscript
> Text of the manuscript not to exceed 20 pages, including references, tables, etc.

If the manuscript does not meet the guidelines exactly, it will NOT be reviewed and will be returned to the author.

Author(s) name or any other identifying information should not be included on the abstract or the manuscript. Authors are responsible for copyright clearance and accuracy of information presented and submission implies that the same manuscript has not been submitted t other publications.

Editorial reviewers and editors will review all manuscripts. Points of view are those of the individual authors and not necessarily of ISEP.

Please send manuscripts to: Dr. Tack Chan – tchan@kennesaw.edu
For more information about ISEP go to: www.isep.info

**Forty-Fifth Annual Conference
International Society for Educational Planning**

Baltimore Maryland
October 14-17, 2015

Conference Registration Includes:
Registration & Membership
Breakfasts, Luncheons
Journal Subscriptions

To Register Visit:
www.isep.info

For further information contact:

Peter Litchka
plitchka@loyola.edu
Walt Polka
wpolka@niagara.edu

Conference Hotel
Embassy Suites – Inner Harbor
222 St. Paul Place
Reservations:
1-800-873-6668

Mention ISEP

FUTURE CONFERENCES
2016-New Orleans, LA –Ken Ducote – KenDucote@msn.com

ISEP
MEMBERSHIP SUBSCRIPTION FORM
(Please Print)

Name: _____

          Last   First   Middle

Organization/Department _____

Mailing Address: _____

_____

        City   Province/State

_____

    Postal Code   Country

Email _____

Fees: Professional Membership and Subscription to Educational Planning = $125.00 USD

Payment by check, money order, or Purchase Order required with application.

NOTE: Annual Membership is based upon the calendar year – January to December.

MAKE CHECK PAYABLE TO: <u>ISEP</u>

RETURN MEMBERSHIP APPLICATION AND PAYMENT TO:

Dr. Glen I. Earthman

Secretary/Treasurer, ISEP

<u>ISEP.Treasurer@gmail.com</u>

2903 Ashlawn Drive

Blacksburg, VA 24060-8101

USA

ORGANIZATION

The Society was founded December 10, 1970 in Washington, DC.
Over 50 local, state, national, and international planners attended
the first organizational meeting.

Since then its continued growth demonstrates the need for a
professions organization with educational planning as its exclusive
concern.

PURPOSE

The International Society for Educational Planning was established
to foster the professional knowledge sand interests of educational
planners. Through conferences and publications, the society
promotes the interchange of ideas within the planning community.
The membership includes persons from the ranks of governmental
agencies, school-based practitioners, and higher education.

MEMBERSHIP IN THE SOCIETY

Membership in the society is open to any person active or
interested in educational planning and the purposes of the Society.
To join the Society or renew a membership please complete and
submit the enclosed form.
Please forward check/money order/PO to:
<div align="center">

ISEP

Dr. Glen I. Earthman, Secretary/Treasurer

2903 Ashlawn Drive

Blacksburg, VA 24060-8101

USA

</div>