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From the Editors

One of the most important functions of educational planning is to strategically plan for and manage expected and unexpected changes in the institutional arena and the community at large. In dealing with planning for change, four distinct articles are selected in this issue to explore the different situations under which change happens.

First, Angelo Letizia's article on "Strategic Blunder? Strategic Planning for Changing Demographics in Higher Education" emphasizes on examining the changing demographics in higher education as the basis of modifying the foci of institutional strategic planning. The strategic plan only works for a higher education institution when it is targeted at the right population it serves.

Second, in support of Letizia's strategic planning initiative, B. M. Agboola and J. Kola Adeyemi have derived unique equations to accurately project student enrollment changes in universities. Details of projecting methodologies are fully explained in their article entitled, "Projecting Enrollment for Effective Academic Staff Planning in Nigerian Universities".

Third, in exploring the impact of environmental changes on the performance and behavior of students, Charles Kenneth Tanner focused the environmental change issues on schoolhouse aesthetics that impacts student performance and behaviors. He discusses the background of the schoolhouse aesthetics factors in details in his article, "A Case for Schoolhouse Aesthetics".

Fourth, in his article entitled, "Schools in a Crisis: Where to Put the Students?", Glen I. Earthman examined the case of a real disaster that happened to a school building. To this sudden unexpected change, Earthman discusses "What happened?" "What was done?" "What should be done?" "What lessons do we learn?" and "What can we do in planning?"

What we can learn from these four articles is that changes can be forecast or assumed that we have enough data to construct a rough picture of what could possibly happen when these changes occur. Any strategic

planning effort needs to emphasize on addressing prediction (before), reaction (happening moment), and resurrection (after). These four articles provide much insight as to how changes can be managed through planning.

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B. M. Agboola is a Ph.D. student of Educational Planning in the Department of Educational Management and Studies, Faculty of Education, University of Benin, Benin City, Nigeria. She has been involved in K-5 education for years and is currently serving as a tutor in a secondary school in Edo State. She has worked on her scholarship with a good start of six published paper articles and two accepted for publication.

Glen I. Earthman is Emeritus Professor in Educational Administration at Virginia Polytechnic Institute and State University. He is a past President of ISEP. He has had over 40 years of experience in teaching in the field at the university level. His research interests are in the relationship between school buildings and student and teacher health and productivity. He has published regularly in the field and has authored six planning texts and numerous articles.

Angelo Letizia is currently pursuing the Doctor of Philosophy Program in the area of educational policy, planning and leadership with a concentration in higher education at the College of William and Mary in Williamsburg, Virginia. Letizia's areas of interests include critical theory and postmodernism in higher education, public higher education and nontraditional students.

Charles Kenneth Tanner, a former President of ISEP, is a Professor at the University of Georgia, where he focuses on research in the area of "How the physical environment influences student outcomes. He is currently conducting research on biophilic design as linked to educational environments and developing materials to evaluate *green schools* with respect to their influence on student achievement. He often serves as a consultant to public and independent schools in the areas educational planning.

Projecting Enrollment for Effective Academic Staff Planning in Nigerian Universities

B. M. Agboola and J. Kola Adeyemi

ABSTRACT

Student enrollment in Nigerian universities has grown tremendously in the past one decade due to the increased demand for university education. The new development could be attributed to the policy of free, universal and compulsory education at the primary to junior secondary, coupled with the high population of Nigeria, with an annual growth rate of 3.2%. This has given rise to the school enrollment in the universities. Nevertheless, there are strong indications that the trend in demand for and supply of university education seems not to match, so also are the resources available in the universities (human, facilities and fund). For this paper, data on the existing student enrollment trend and academic staff on roll were collected through checklist from records of relevant bodies. The data were analyzed through extrapolation equation and staff-student ratio for each discipline. This study examined the pattern of enrollment in the Nigerian universities and made projection for the academic staff and student for the future years.

The results showed that enrollment of 1,417,080 is expected in the universities in 2010, while in the year 2020 the enrollment will be 5,732,878. The corresponding ideal number of academic staff required will be 70,854 and 286,644 for 2010 and 2020 respectively. It was suggested that proactive actions should be taken by the managements and councils of the various universities at meeting the demand-supply staff needs of the university system.

Introduction

Making projection in education has been regarded as the centerpiece of quantitative aspect of educational planning. As such, educational planners are to be grounded in the techniques of making projection. Projection informs the educational planner of a future pattern and trend of education parameters, especially the resource requirements in the educational system. These include enrollment, staffing, facilities, funding, etc. Projection also acquaints the institutional managers with the number of students and staff that would be expected in the system at a future period, assuming no change occurs in the educational system.

Projection in the educational system is therefore, a conditional forecast based on explicit assumptions and it holds true if the assumptions are realized (Nwankwo, 1981). All levels of education require timely projection of resources for an effective operation and sustainable development. According to (Mehta (2004). projections are conditional statements about the future and they refer mostly to the exercises of extrapolation of the past trends into the future, which oftentimes do not take into account changes in the policy parameters, nor take into account changes in the government policies, programs, etc. in projecting the future population growth. Often times the reliability and usefulness of projections depend on the assumptions and their closeness to reality.

In Nigeria, university education has grown into a complex system over the years. The structure, program and management are all affected. The resource inputs have also grown tremendously. The numbers of universities, the enrollment and staff have all gone up in comparison to the situation during the pre-Independence era. The number of the nation's universities have increased from one University College in 1948 to one hundred

and two in 2009, with a total student population of about 1,218,312 (Joint Admission Matriculation Board, JAMB: 2009). Despite this number, it was affirmed that more than double the country's present number of universities will be required to meet the general perception of Nigerians that believed that only university degree could give them a good future. This assertion could be seen in the ever increasing gap between demand and supply of university education in the country (Ehiametalor, 2005).

The Joint Admissions and Matriculation Board (JAMB, 2009) report had revealed that between 1999 and 2009, the universities in Nigeria have not admitted up to twenty percent (20%) of the applicants demanding for university education. The reasons adduced for this trend was that there are limited available space, human and material resources in the nation's universities (Adeyemi, 2001; Aghenta, 2006).

Student enrollment at any level of education is very crucial to the achievement of the nation overall goals through education. There is need to know the actual number of students that are enrolled in the educational system because other school characteristics such as human, facilities, funds depend on it. Population of a country at any given time is also important because enrollment of school age is a function of a nation's demographic characteristics. Enrollment changes every year because of population dynamics. Increase or decrease in population could have direct impact on enrollment. Aghenta (1993) reported that out of the nation's population, enrollment of students from year to year is expected to be in ratios of primary: 15.5-16.5%, secondary: 12% and higher education: 7.5-8%. In the same vein, the International Comparative Higher Education and Accessibility ICHEFA (2004) proposed that 8% of the total population of a country is in the age bracket to undergo a 4-year university program. With a 5% current university enrollment rate in Sub-Saharan Africa, the total number of university attendees can be estimated as (N students = Total population x .08 x .05).

According to the National Universities Commission (2002b) cited in Williams, Theresa and Eric (2004) the enrollment growth rates witnessed in the last decade exceeded government policy guidelines. Enrollments in the federal universities in Nigeria have grown at a rapid rate of 12% annually during the 1990s and the situation appears not to have changed. Okebukola (2004) attributed the trend to the expansion of the system in term of courses, departments, schools and faculties. Holm-Nielson (2001) also attributed the increase to the social demands for university education, because of the benefits accrued from it on one hand, and the completion rates and transition rates from secondary to tertiary education on the other hand.

However, the gap existing between demand and supply of university education in Nigeria showed that not all the supposed school-age group is enrolled (JAMB, 2009). Therefore, in an attempt to boost enrollment in the university system in Nigeria, the National Universities Commission and Joint Admission and Matriculation Board stipulated 20% admission ratio to universities of the number of qualified applicants (Ajayi & Adeniji, 2008).

Experience have shown that enrollment trend does not occur in isolation, increases and decreases in enrollment are correlated with multiple influences such as labor markets trends, social and economic factors. Identifying factors that could influence enrollment in the university system therefore become crucial as this would not only allow governments and institutions to forecast enrollment more effectively, but also permit them to make adjustments to meet current or future labor needs.

Financial constraints was identified as one of the major factor that have influenced enrollment rate and inhibit further expansion of the tertiary education system, while retaining satisfactory levels of quality in the university system (World Bank, 2000; Varghese, 2000).

Gender imbalances of student enrollment and high student-staff ratios across discipline were also observed across the universities in Nigeria, (Adeyemi, 2001; Adeyemi & Akpotu 2004). In contrast, Ajayi and Adeniji (2008) noted that while there is upsurge of enrollment in the public universities, private universities in Nigeria recorded low enrollment.

Presently, student enrollment and the dwindling number of academic staff in the Nigerian university system have been of great concern to all stakeholders in education, because the enormous resources, especially funds expended on university education and the attendant quality of graduates produced by the system seems not to meet their expectations. In the developed countries, educational policy formulation and provision of resources are based on accurate and reliable projections. This appears not to be the situation in Nigeria, as it is often difficult to obtain accurate projected figures, which could be due to the absence of reliable data base. This could have plunged the nation's educational system into needless crises. However, in order to provide information for decision making and budget planning on higher education, enrollment projection is very important.

In the light of this, the objective of this paper is to analyze the past trend and existing situation of academic staff and student enrollment in the nation's universities; and make projections for the future that would guide educational planners to effectively calculate the required school indicators as well as stimulate various scenarios for policy alternatives for effective planning. Furthermore, it would serve as a tool for the government to implement effectively policies on university education that could bring about expansion of access, improve enrollment, staffing and funding in the Nigerian university system.

Academic Staff Requirement of Universities

Academic staff planning is concerned with the knowledge about current manpower resources and capabilities and setting objectives to meet manpower problems as well as specific training needs for maximum productivity. In addition, it involves the projection of manpower demand, supply and the action to bring demand and supply to a desirable state of equilibrium (Aghenta, 2006). The purpose for staff planning is to ensure that adequate staff of right quality and quantity is provided for the university system. To obtain equilibrium in the school system, growth in student enrollment must be accompanied by a proportionate growth in academic staff strength (Osahon, 1997).

Efforts to expand enrollments and improve educational quality are constrained by growing shortages of qualified academic staff. The NUC (2002b) reported that the number of academic staff between 1997 and 1999 declined by 12%, while enrollment expanded by 13%. The trend in the 2000s has not changed considerably. Staff scarcity was attributed to long-term brain drain, insufficient output from national postgraduate program, and cost of procuring higher degree in the face of economic recession. In addition, many universities in Nigeria have not yet developed the Ph. D programs, either because of inadequate experienced academics or physical facilities.

Projection Models

Projection serves as the basis for determining the available resources, other school characteristics and how well they could be distributed and utilized (Aghenta, 2001). Furthermore, enrollment projection vis-à-vis the actual academic staff required enables the government to assess the performance of its policy objectives and determine the cost of education program; and consequently make adequate plans for the system. However, projection of education requires accurate aggregate enrollment data for at least five to ten years, which is often difficult to obtain in Nigeria. According to Black (2004), without data, enrollment management plans can only be tactical, not strategic. Even at tactical level, the absence of data will result in plan, which is predicated on intuition and wishful thinking, with a low probability of success. The importance of projection in planning has made researchers to propose many forecasting methods to improve accuracy. However, obtaining accuracy is not an easy task, as many factors have impacts on enrollment numbers.

The general procedure for projection was to express the variable to be projected as a percentage of a "base" variable. These percentages are then projected and applied to projections of the "base" variable. However, the techniques of projecting enrollment could be mathematical, economic and component methods. Shuqin (2002) gave three projection models as linear regression, auto regression and three-component models. In recent times, there are new dynamic and systematic approaches and techniques used to make projections which include: longitudinal observation, statistical and comparative analyses such as exponential smoothing, multiple linear regression and Meta analysis (analytical methods) (Gerald and Hussar 2008). However, without comprehensive educational data projection of education using the above statistics seems difficult.
Projection using either of these models will depend on the type of projection and the available data.

Theoretical Framework

The rational comprehensive (Synoptic) planning and comprehensive system theories propounded by Faludi and Needham (1973) and Immegeart and Pilecki (1973) respectively formed the framework for this paper. The rational comprehensive theory is the most widely used approach because of its fundamental classical elements: (1) goal-setting, (2) identification of policy alternatives, (3) evaluation of means against ends, and (4) implementation of policy that is a point of departure for most other planning approaches. It is the kind of planning process that permits multiple iterations, feedback loops and elaboration of sub-processes. The use of the theory allows for the evaluation that consists of procedures such as benefit-cost analysis, operations research, systems analysis, and forecasting (projection) research. Forecasting in rational planning can further be broken down into deterministic models or can consist of purely descriptive analysis (trend extrapolation, econometric modeling, curve-fitting through multiple regression analysis); or probability envelopes and contingency models to accommodate foreseeable variations in patterns.

Furthermore, the comprehensive planning theory typically looks at problems from a systems viewpoint, using conceptual or mathematical models relating ends (objectives) to means (resources and constraints) with heavy reliance on numbers and quantitative analysis. It is also an *algorithm* which is a set procedure for solving a known class of problems. It generally involves quantitative methods, and by definition it is capable of arriving at an optimal solution. The algorithm is often employed in linear programming and input-output analysis, operations research, and trend projections. This paper therefore adopted rational comprehensive planning theory that seeks to provide a framework of

objective decision rules and analysis. The theory is more robust than others in the scope of problems it addresses and the diversity of operating conditions it can tolerate. Similarly, the theory has an internally consistent, self-reinforcing network of methods and data requirements.

The theory advocates a total view of planning at once without limiting the scope of planning. That is, it allows for planning for the entire educational system of a country for five or more years through the use of trend extrapolation and quantitative analysis and this is applicable in this paper, as the projection plan is for the entire university system and it spans over five years. The comprehensive system theory was also adopted because the nation's population census figure and the component student enrollment are known. Based on this, the paper was explained in sub-headings.

Methodology

One enrollment projection method (linear extrapolation equation) was examined in the study and was applied to all the universities in Nigeria. Five years of enrollment data and the records of stock of academic staff in the Nigeria universities were collected from the data system at the Federal Ministry of Education and the National Bureau of Statistics and National Universities Commission. Population information was used as an impact factor. To derive the student enrollment from school-age distribution, the population data for the country were obtained from the National Population Office through checklist. This paper uses 'Extrapolation of Past Trend' of enrollment approach, which was developed by (Chesswas, 1969) as presented by Mehta (2004) to make total enrollment projection using compound growth rate. The method was selected on the basis that it allows the researcher to do long-period projections; it is manageable in the temporal sense as the enrollment projection is a yearly routine and needs to be done in a specific period of time, and it's theoretically and statistically sound.

In addition, the Sprague's Multipliers based on linear regression model was used to determine the school-age population from the 2006 census population figure. Total enrollment was linearly regressed on the population of ages 16 to 55. The academic staff required for the projected enrollment was determined by using the average teacher-student ratio method (TSR) as recommended by NUC (2004) for the nation's universities. To determine the enrollment and staff growth rate, the enrollment for two consecutive years were analyzed through linear extrapolation using compound growth rate, which was expressed in the following equation.

$$r = \frac{1}{n}((En/Eo)1/n - 1) \times 100;$$

$$r = \text{antilog}\ \frac{(\log En - \log Eo)}{n} - 1 \quad \text{(See Appendix).}$$

The University School-Age Population in Nigeria

The Sprague's Multiplier using linear regression model was applied to the 2006 census to derive the age distribution. From the higher school age population was also derived out which 20 % is expected to enroll in the university (NUC, 2008). The higher education school age population as at 2006 was 11,568,100, (representing 8.2% of the total population), while the expected enrollment in the universities was 2,313,620. Tables 1 and 2 present actual student enrollment, staff and the actual and the ideal academic staff required for the student enrollment.

Table 1: Enrollment and the Academic Staff Growth Rate in Nigerian Universities

Year	Actual Student Enrollment	% Growth rate	Number of Academic Staff	% Growth rate
2000/01	358,758		18,867	
2001/02	444,949	24.03	18,426	-2.37
2002/03	606,104	36.22	22,046	16.85
2003/04	720,393	18.86	23,871	8.28
2004/05	780,001	7.23	23,535	-1.41
2005/06	810,220	3.87	27,482	16.77

Sources: Federal Ministry of Education and National Universities Commission (FME and NUC 2007).

Table 1 shows an increase in enrollment and the number of academic staff. It shows that there was gap between the actual and the expected enrollment and staff. In addition, academic staff grew by about 6.4%, while enrollment growth rate was 15%. Figure 1 shows further illustration.

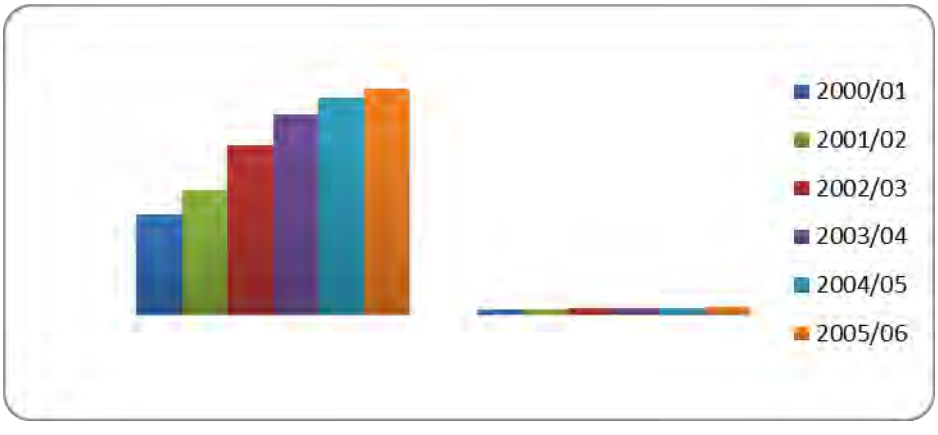

Figure 1: Enrollment and number of Academic Staff

Table 2: Enrollment and Actual-Ideal Academic Staff between 2001 and 2006

Year	Student Enrollment	Actual number Of Academic Staff	Ideal number of staff	Number Difference
2000/01	358,758	18,867	17,938	-929
2001/02	444,949	18,426	22,247	3,821
2002/03	606,104	22,046	30,305	8,259
2003/04	720,393	23,871	36,020	12,149
2004/05	780,001	23,535	39,000	15,465
2005/06	810,220	27,482	40,511	13,029

Source: FME, 2007

In Table 2, average Teacher Student Ratio (TSR) of 1:20 was derived from the NUC recommended TSR for various disciplines in the university and was applied to the student

enrollment and staff on roll for the academic years. There were differences between the ideal and actual academic staff requirements of the universities.

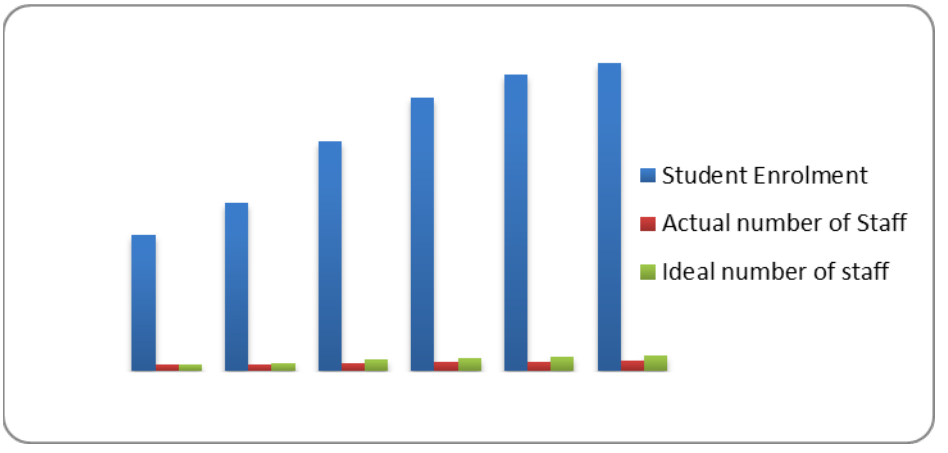

Figure 2: Actual and ideal staff needed for student enrollment

Projected Enrollment for the Nigerian University System between 2010 and 2020

To project student enrollment in the university system in Nigerian, the 2005enrollment was taken as the base year. Making use of the extrapolation equation as provided earlier, the obtained figures are presented in table 3.

Table 3: Projected Student Enrollment in Nigerian Universities.

Year	Enrollment
*2005	810,220*
2010	1,417,080
2011	1,629,641
2012	1,874,088
2013	2,155,201
2014	2,478,482
2015	2,850,254
2016	3,277,792
2017	3,769,461
2018	4,334,880
2019	4,985,112
2020	5,732,878

Key: *2005 = 810,220* = base year.

The above projection showed that in the 2010 school year, about 1.42 million students are expected in the universities, while over 5million students are expected in the year 2020. This further illustrated in figure 3.

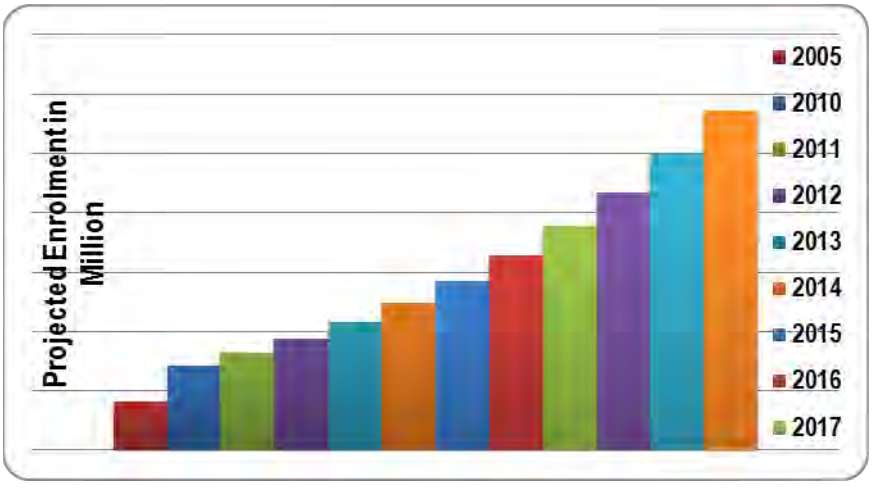

Figure 3: Student Enrollment Projection from 2010-2020

The Academic Staff Requirement for the System for the Periods 2010 - 2020

The academic staff projection for the universities was made based on the past enrollment, stock of staff, and the NUC's average recommended Teacher Student Ratio (TSR). The annual rate of growth was held constant for the study. The result as shown in Table 4 revealed that the university system would require about 70,854 academic staff for a projected student enrollment of 1,417,080 in 2010 and 286,644 staff for 5,732,878 students in 2020. Figure 4 shows a further illustration

Table 4: Projected Academic staff for Nigerian Universities by Year 2020

Year	Projected Student Enrollment	Projected Academic Staff	Yearly additional required Academic Staff
2009	1,232,243	61,612	-
2010	1,417,080	70,854	9,242
2011	1,629,641	81,482	10,628
2012	1,874,088	93,704	12,222
2013	2,155,201	107,760	14,056
2014	2,478,482	123,924	16,164
2015	2,850,254	142,513	18,589
2016	3,277,792	163,890	21,377
2017	3,769,461	188,473	24,583
2018	4,334,880	216,744	28,271
2019	4,985,112	249,256	32,512
2020	5,732,878	286,644	37,388

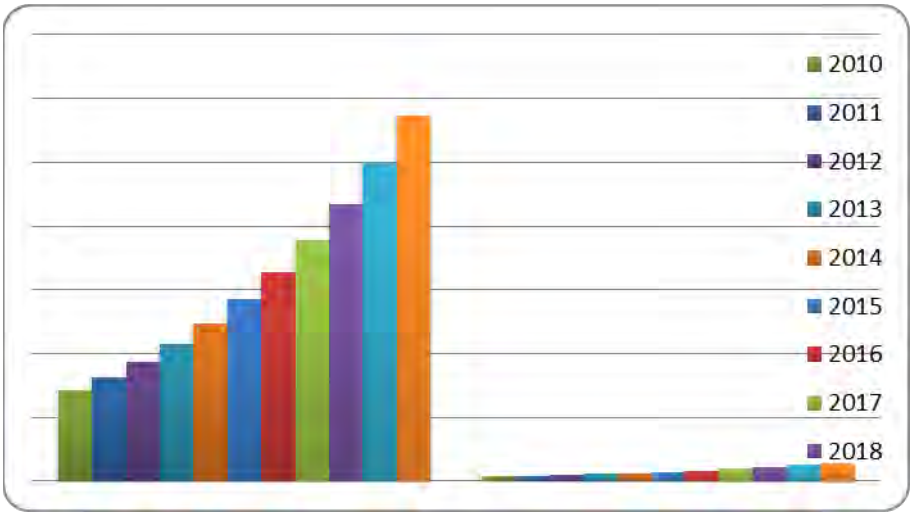

Figure 4: Projected Student Enrollment and Academic Staff

Discussion of Findings

The focus of this paper was to project student enrollment for the Nigerian universities as well as determines the required academic staff needs. From the analysis of the existing trend, there was fluctuation in the growth rate of both students and staff. Based on the existing university admission policy, it was found that there was gap between the actual and expected enrollment and staff on roll in 2005/06 session. This finding was supported by NUC (2002b) and Adeyemi and Uko-Aviomoh (2003). They reported that the universities in Nigeria lack enough academic manpower and the capacity to absorb the qualified candidates. They asserted that the number of academic staff between 1997 and 1999 declined by 12%, while enrollment expanded by 13%. The trend in the 2000's has not changed considerably. Consequently, many universities have high teacher-student ratios.

The projections for the student enrollment and number of academic staff required from 2010 to 2020 showed that in 70,854 academic staff will be the ideal staff requirements for the projected 1,417,080 enrollment in 2010, while 286,644 academic staff will be required for the projected 5,732,878 enrollment in 2020. There exists gap that should be filled between the expected enrollment and the number of staff requirements for the future years. This will cause the university a fortune in terms of funding. Huge sum of money will be required to train and retrain staff, pay their salaries and allowances. This could be burdensome on the government. This is because government is largely responsible for the financing of university education in Nigeria. Tuition is made free in public universities and many families are poor to foot the bill of university education.

Supporting this position, Holm-Nielson (2001) and World Bank (2004) affirmed that financial constraints experienced in recent years in most African countries have lower enrollments in most tertiary institutions. Total annual cost of university education spending in Africa each year is about $7.5-$11 billion of which about $2 billion is borne by students and their families and most of these families fall between low-income groups. Consequently, the poor economic state makes most students to drop out of the universities soon after enrollment.

Implications for Strategic Planning

The findings of this paper revealed that most problems that are related to enrollment and other inputs in the Nigerian universities are the result of the difficulty in obtaining accurate data on the true situation of the system. With the huge projected student enrollment and the required staff between 2010 and 2020, the fear is that the capacity of the existing structure may be inadequate to cope. Effective functioning of the system will require more schools, funding, staff development, infrastructures, facilities etc., which portends serious material and financial implications for all stakeholders. This therefore calls for urgent plan of action that will facilitate adequate supply of education resources and services that will be needed on regular basis and in right mix. The government should increase the funding of the university system. It should ensure proper monitoring of fund released to the school administrators for accountability.

The projection made also has implication for the Information and Communication Technology (ICT) system. The ICT could provide vital data and information required by planners and its knowledge affords the planners to simulate, forecast and project for the future use of resources with precision, thus avoiding the pit-fall of resource wastage. Consequently, the sector needs to be developed properly by all stakeholders to meet future challenges.

Conclusion and Recommendations

Based on the findings of this paper, it can be concluded that the present student enrollment in the universities in Nigeria is still low as asserted by Ajayi and Adeniji (2008). There is also shortage of academic staff. According to Mehta (2004) projection of teaching staff at the higher level of education, subject specialization is important and hence the use of teacher-student ratio may be inappropriate. It can also be concluded that based on the projected enrollment vis-à-vis academic staff that will be required, there is going to be serious upsurge in both enrollment and staff requirement in the Nigerian universities in the nearest future. The paper also conclude that the use of linear regression model in this study could be prone to error as the regression gives the same weight to the data of each year and for the projection of long term enrollment at a time when such factors of new students become unknown, the model may lose its power (Shinquo, 2002).

Therefore the following recommendations are made based on the findings of this paper: To have accurate data that will improve on student enrollment projection and other resources, there is need for new strategies in collection and retrieval of enrollment data, while management strategies such as identifying academic barriers affecting admission and completion rate be developed.

Expand postgraduate programs in the university system through adequate provision of funds and facilities that would enhance the admission capability of the university, and improve the quality of the postgraduate programs. In addition, grants, soft-loans and scholarships awards should be given to both undergraduate and postgraduate indigent students to cushion the effect of high tuition fees. Furthermore, the staff on roll should have access to better training. Induction and mentoring support should be given during the early years of the young academics. There should be improvement in the working conditions of the lecturers to attract brilliant academics across the table.

References

Adeyemi, J.K. (2000, Spring). Academic manpower needs of Nigerian universities, *Higher Education Review. 32* (2) 36-44

Adeyemi J. K. (2001). Equality of access and catchment area factor in university admissions in Nigeria, *Higher Education, 42*, 307-332.

Adeyemi J. K; and Akpotu (2004). Gender analysis of students enrollment in Nigerian Universities. *Higher Education, 48*, 361-378

Adeyemi J. K., & Uko-Aviomoh, E. E. (2003). Teaching manpower requirements for effective technical education delivery in Nigerian polytechnics, *International Studies in Educational Administration, 31*(3), 16-28.

Aghenta, J. A. (2006). *Human resources development and planning in Nigeria*. Second Faculty of Education Distinguished Lecture Series, University of Benin, Benin City. 24-26

Aghenta, J. A. (2001). Determinants of educational costs in Ebele J. Maduewesi (ed) *Financing of Education in Nigeria Ibadan: The Nigerian Academy of Education, Year Book, 3-4*(1) 17-27.

Ajayi, K., & Adeniji, A. (2008, November). *Access to universities in Nigeria*. Paper presented at 23rd Annual Congress of the Nigerian Academy of Education, held at the University of Nigeria, Nsukka.

Black, J. (2004). *Identifying and assisting students at risk: Analyzing the variables*. Austin, TX. National Institute for Staff and Organizational Development (NISOD), University of Texas.

Chesswas, J. D. (1969). *Methodologies of educational planning for developing countries*. Paris: UNESCO-IIEP

Ehiametalor, E.T. (2005). Issues and equity, and private sector participation in the deregulation of education: Deregulating the provision and management of education in Nigeria. Jos: *The Journal of Nigerian Association for Educational Administration and Planning,10,* 25-30.

Faludi, A. & Needham, B. (1973). Planning and the public interest *Journal of the Royal Rown Planning Institute,* 12, 57.

Federal Republic of Nigeria (2004). *National Policy on Education.* 4th Edition, Lagos: (NERDC).

Federal Republic of Nigeria (2007). *Official Gazette.* Lagos: Federal Government Press (94), 12-18.

Gerald, D. E., & Hussar, W. F. (2008). Projections of education statistics to 2008. *National Center for Education Statistics USA (NCES),* p. 45-48.

Hudson, B. M., Galloway, T. D., & Kaufman, J. L. (1979). *Comparison of current planning theories: Counterparts and contradictions*. Retrieved from http://classweb.gmu.edu/erodger1/prls%20531/hudson.pdf

Immegart, G. l. & Pileck, F. J. (1973). *An introduction to system for the educational administrator*. London: Addison-Wesley Publishing Company.

International Comparative Higher Education Finance and Accessibility (2004). *Higher Education in Sub-Saharan Africa.* Retrieved from http://www.us.f301.mail.yahoo.com/ym/Compose?DMid

Joint Admission Matriculation Board (n.d). *Statistics.* Retrieved from http://www.jambng.com:8080/jamb/

Lauritz B., & Holm-Nelson, L. B. (2001). *Lead specialist for higher education, science and technology*. Washington DC: The World Bank.

Mehta, A. C. (2004.) *Projections of population, enrollment and teachers*. Retrieved from http://www.educationforallinindia.com/New%20Modules/module%20on%20enrollment%20and%20population%20projections.pdf

National Universities Commission (2004). *Nigerian Universities News Bulletin:* Retrieved from http://www.nuc.edu.ng/pages/universities.asp

Okebukola, P. (2004, June) Essential feature of Nigerian university system. A paper presented at the workshop for New Governing Councils of Federal Universities. Abuja.

Osahon, U. G. (1997) *Academic staff requirements in Nigerian universities.* A seminar paper presented at Faculty of Education, University of Benin.

Varghese, N. V. (2001). Economic crisis and higher education in East Asia. *UNESCO: International Institute for Educational Planning*, Paris.

Williams, S., Theresa, A. H., & Erich, S. (2004). *Higher education in Nigeria: A status report*. Retrieved from <http//www.wes.org/ewen>

Shuqin G. (2002). T*hree Enrollment Forecasting Models: Issues in Enrollment Projection for Community Colleges.* Retrieved from: http://www.ocair.org/files/presentations/paper2002_03/rp_paper2002final.pdf

World Bank/UNESCO (2000). *Higher Education in Developing Countries: Peril and promise. Report of the independent*. Washington, DC: World Bank/UNESCO Task Force.

World Bank (2004) *Improving Tertiary Education in Sub-Saharan Africa: Things that work*. Report of regional training conference held in Accra, Ghana. September 22-25, 2004. Retrieved from: http://www.worldbank.org/afr/teia

APPENDICES

$En = Eo (1+r)^n$ (Chesswas, 1996) Where:

Eo = the enrollment for base year of the period considered

En = the enrollment in the final year of the period considered.

r = the rate of growth of enrollment during this period.

n= the number of years between the base year and the final year.

$$r = \text{Antilog } \frac{(\log En/Eo)}{n} - 1 = \text{Antilog } \frac{(\log 444949 - \log 358758)}{1} - 1$$

= antilog (5.64831-5.55480)-1
= antilog (0.09351)-1 = 1.24025-1

= 0.24025 i.e. r = 24.02% etc.

Enrollment Projection:

Average growth rate = 15.0%, If base year = 2005/06 session.

$En = Eo (1+r)^n$ Eo = 810220, En =2009, n =4

E2009 = 810220 (1+ .15)4 = 810220 (1.15)4 = 1,417,080

Academic Staff Projection.

The teacher-student ratio formula is given as:

$$T_s^t = \frac{E_s^t}{R_s^t}$$ Where:

T_s^t = Number of teacher at a particular time (t) and for particular stage or school (s);

E_s^t = Enrollment at particular time (t) for particular stage or school (s), and

R_s^t =Teacher-Student Ratio at a particular time (t) for particular stage or school (s).

Average teacher-student ratios by discipline = 1:20, Base year 2005, student enrollment = 810220.

Number of staff required = $\frac{810220}{20}$ = 40511

2008, student enrollment = 1,232,243

Number of staff required = $\frac{1,232,243}{20}$ = 61612

2009, student enrollment = 1,417,080

Number of staff required = $\frac{1,417,080}{20}$ = 70854

Yearly additional required = 70854-61612
= 9242

Sprague Multipliers

fo = fa x f-1 +fb x f-2 + fc x f+1 +fd x f+2 +fe x f+3 Where:

fo is the number of age group being considered;

f-1, f-2 is equal to the number of the two preceding age group;

f+1, f+2, f+3 etc equal to numbers in the three following age group.

fa, fb, fc, fd, fe etc is the number in the first to the fifth single year panel.

Strategic Blunder? Strategic Planning for Changing Demographics in Higher Education

Angelo Letizia

ABSTRACT

A strategic plan is not a simple goal to be reached, rather in many ways it is similar to the brain that guides the collective actions of members of an organization (Bryson, 2004). In the widest sense, a strategic plan can actually manifest a certain vision of reality by structuring the perceptions and actions of those members (Bryson, 2004; Allan, 2007). More importantly, no plan is ever neutral or independent of larger societal influence (Bryson, 2004; Peet, 2009). This point is especially salient in regards to the volatile nature of globalization and neoliberalism, both of which have restructured many organizations' missions from service to profit accumulation (Giroux, 2011). This paper will examine the Federal Department of Student Financial Aid's strategic plan and its treatment of nontraditional students in light of globalization and neoliberalism. Nontraditional students in higher education are students that either attends school on a part-time basis or work over 20 hours a week. The reason for examining this population is because the numbers of nontraditional students are drastically increasing (McSwain, 2008). In order to analyze the strategic plan in the context of the wider social environment, this paper operates from a framework rooted in critical theory and postmodernism. The main purpose of the framework is to identify "simulacra." Simulacra are terms which were assumed by the writers to signify a certain state of affairs, when in actuality, the terms did not represent what the writers assumed they represented. If organizations operate from simulacra, they can unknowingly act in ways counter to their own well-being and contrary to the well-being of the people they serve. The investigation turned up a number of potentially damaging simulacra and attempted to correct them.

The Problem of Truth in the Contemporary Age

The notion of representation has entertained thinkers for centuries. How can anything, any idea, any concept or object truly be represented by a language, institution, idea or image? In the information age the notion of representation is even more pressing. Information is now viral; it proliferates and leaves its referents, or what it is supposed to accurately represent, behind. This is a contention of many thinkers who are considered postmodern. They dispense with the notion that a sign can accurately signify a referent or what it is supposed to represent (Baudrillard, 1994; Bess & Dee, 2008). Twenty-four hour news streams, reality television, professional sports, billboards, radio, in short, the images of our daily life, all merge into a common stream (Debord, 2011). And it is this stream of images that has become our reality, what we take as "true" (Debord, 2011). Debord called it "the spectacle." Truth is the accurate correspondence of a signifier to that which it signifies which is called the referent (Baudrillard, 1993;Baudrillard, 1994). The signifier can be an image, a word or notion. For instance the terms "research" or "nontraditional student" represent or signify certain actions or things which are the referents. In the spectacle however, this notion of truth is increasingly challenged. Globalization that ensues according to the dictates of neoliberalism has altered the relationship of signifier to the signified or the referent. Neoliberals see the acquisition of profit by individuals and private companies as the main determinant of social progress and to impede this is to block social progress (Giroux, 2011; Rhoads & Torres, 2006). This unrestrained pursuit of profits and sanctioned greed has aggravated the sign to

signifier relationship because truth is made to serve profit (Giroux, 2011). If signifiers do not accurately signify or represent their referents, the truth, propaganda and fantasy become increasingly entwined in the spectacle.

In regards to strategic planning for public institutions, this absence of truth and accurate representation is especially challenging. How can an organization plan for the future in this volatile environment? One area in particular where this unstable notion of truth is a particular concern is in regards to postsecondary access and retention. Due to neoliberalism's dismantling of the welfare state and public institutions in order to allow the free market to operate efficiently, college tuition is increasing annually. As a result, the number of nontraditional students is growing and all within the backdrop of an increased lack of state and federal funding of higher education (Rhoads & Torres, 2006). In addition, there are a growing number of occupations that do or will require higher education (McSwain, 2008). Higher education institutions, along with society in general, are facing a grave situation. More college graduates are needed at a time when more students are not able to attend and complete college. In short, we as a society are facing the prospect of the next generation being less educated (McSwain, 2008; Slaughter & Rhodes, 2004). A new, radical vision of strategic planning may be able to mitigate some of the harmful results of neoliberal globalization. Specifically, a vision rooted in postmodernism and critical theory.

Research Objectives for the Study

The Affordable Healthcare Act passed Congress in March of 2010. This act made the federal government the main supplier of federal aid for college loans. The Department of Education's financial division created a new strategic plan to undertake this effort. The strategic plan tried to tackle many of the issues regarding funding and access. In particular, the creators of the plan made a major effort to attract and accommodate nontraditional students. Nontraditional students are defined as students who attend postsecondary education on a part-time basis and/or who work 20 hours a week or more. Unfortunately, as the literature shows, the term nontraditional student is a complex and multi-faceted term that is not easily classifiable. It is my contention that despite the seemingly well-meaning efforts of the DOE, the truth that the plan assumes regarding nontraditional students and funding issues may not be accurate or identical with what is actually occurring. The creators of the strategic plan may unintentionally manifest a vision of reality which actually further impedes access and funding of higher education to the population it is trying to help (Allan, 2007). While the federal strategic plan may not be able to be changed, it is my hope that this analysis can help guide strategic plans of higher education institutions. Writers of other strategic plans must be cognizant of these social forces which affect nontraditional students. This paper will employ postmodern and critical theories to assist institutions in their strategic planning, specifically to grapple with the elusive notion of truth faced by educational institutions in the age of the spectacle.

Using a postmodern and critical theory framework, the aim of this paper is to examine whether the creators of the Federal strategic plan adhere to a truthful notion or referent of nontraditional students. This study will seek to examine a series of assumptions:

1. The term "nontraditional student" as employed by the writers of the strategic plan is too simple to represent the complex nature of nontraditional students and the situations these students face.

2. The misrepresentation may have the potential to promote certain detrimental attitudes and behaviors toward nontraditional students on the part of the federal government and institutions of higher education.

3. These misrepresentations can be "realigned" and made to correspond with a more truthful referent that more accurately represents what a nontraditional student is and the situations these students face.

It is my contention that the notion of the dialectic can be used to correct or realign the simulacra with a more truthful referent. The dialectic can be described as a perpetual negation of outdated and oppressive segments. These outdated elements exist in a present state of affairs and are negated in order to reach a higher, more beneficial state (Adorno & Horkheimer, 1969; Kellner, 1992; Jay, 1996). The more accurate and truthful referent will be created by drawing on the work of scholars, government reports and other policy reports. And most importantly, as a product of a dialectical analysis, the referent will not be static, but rather in the form of questions to engender continual social action.

Literature Review: A Brief Overview of Previous Works

The literature review has been divided into two sections. The first section deals with literature on nontraditional students. The second section deals with postmodernism, critical theory and relevant literature.

Literature on Nontraditional Students

The term nontraditional will evoke certain preconceptions in the minds of faculty, administrators and even students themselves. In 2009, the non-profit organization, Public Agenda, put out a report entitled "With their Whole Lives Ahead of Them" written by Jean Johnson, Jon Rochkind, Amber Ott and Samantha DuPont. The report tried to debunk certain myths regarding nontraditional working students, specifically working students who dropped out of a two or four year school without completing a degree. Some of these myths were that working students were lazy, bored, procrastinators and/or stupid. The authors of the report argued instead that an increasing number of students have to work while finishing their degree (Johnson, Rochkind, Ott & DuPont, 2009). The authors also illustrated how working over 20 hours a week is a major challenge to completion. That is why I chose this classification for nontraditional students. These facts are underscored by a look at the National Center for Education Statistics, as well as the US Census.

According to the National Center for Educational Statistics, in 1970 the amount of students working over 20 hours a week attending college full time stood at 14.4%. In 2003, it stood at 29.5%. Additionally, 45% of all undergraduates attending four year schools worked over 20 hours a week in 2009, and 60% of students at two year schools worked 20 hours or more a week (Johnson, Rochkind, Ott & DuPont, 2009). Students attending part-time have risen as well. In 1967 roughly one sixth of all undergraduate students at both four year and two year schools attended part-time. In contrast, by 2009, part-time students comprised over one third of all undergraduates. Part-time students comprised roughly one sixth of the undergraduate population at public four year institutions and over fifty percent of students at public two year institutions in 2009. The bulk of part-time students attend community colleges, however, the number of part-time students at four year colleges has risen since 1967. Similarly, in the fall of 2009, over 33% of all undergraduate students were over the age of 25 (NCES, 2011). On the whole,

the numbers of part-time students, students who work full time and adult students comprise a sizeable portion of total students.

The growing income disparity in the United States has made full time or near full time employment a necessity for many students, either to support themselves or their families (Fowler, 2009; Johnson, Rochkind, Ott & DuPont, 2009). A majority of the wealth in the United States, in the form of monetary wealth, stocks, real estate and investments is held by a small minority of the population (Fowler, 2009; Peet, 2009). Since the 1980s, income disparity has increased, real wages have remained steady or decreased, inflation has increased and tuition costs have outpaced wages (Fowler, 2009; Slaughter & Rhodes, 2004). Responsible for the growing inequality is the neoliberal dismantling of the welfare state and public institutions in the name of global progress and free trade (Giroux, 2011). According to the US Census, in 2000 the median household income rose by roughly 1,000 dollars for the lowest fifth of the population and 3,000 dollars for the second lowest fifth. By contrast, during the same period, the median household income rose by over 27,000 dollars for highest fifth and by over 35,000 dollars for the richest 5% (US Census, 2011). In tandem with this, college tuition has increased dramatically over the last 20 years as a result of widespread state budget cuts (Fowler, 2009; King, 2000).

Johnson, Rochkind, Ott & DuPont argued that nontraditional students posed a moral question for policymakers and higher education administrators. The higher education system has to learn to contend with the growing population of nontraditional students or it will fail them and the country as a whole (Johnson, Rochkind, Ott & DuPont, 2009). This makes the claims in this study relevant and of pressing concern. What the literature points to is the fact that nontraditional students occupy the lower end of the traditional/nontraditional hierarchy. While this division is implicit, it is evident in funding patterns, such as the fact that traditional students receive a majority of funding. The hierarchy is also embedded in institutional practices. As an example of this, many times office hours are catered to traditional students (McSwain, 2008; Merisotis, 2011; Pusser et. al. 2008). Further, the term nontraditional is taken to represent a definable population. In reality this population is extremely complex and defies simple, binary categorization. In short, the American Higher Education system was built for the traditional, full time, 18-24 year old student (McSwain, 2008; Pusser et. al. 2008). Right now however, as the literature cited above makes clear, there is a growing number of nontraditional students. It is crucial for strategic planners to recognize this. It is my contention that the ideas of postmodernism and critical theory can give strategic planners a tool for better understanding this growing population.

Postmodernism, Critical Theory and other Relevant Literature

Modernism holds that signs and signified accurately correspond (Bess & Dee, 2008). Many thinkers labeled postmodern by contrast, dispense with the notion of representation. This is why I feel postmodernism can aid strategic planners by deepening their understanding of representation of phenomena in an information age. One of the most stringent criticisms of the notion of representation was put forth by the French thinker Jean Baudrillard (1994). Baudrillard argued that while members of modern society believe they experience reality, they actually live in a state of simulacra and hyper reality. A simulacrum is when a signifier no longer signifies what it is supposed to signify or represent, and this new, misrepresented state of affairs is actually taken as truth (Baudrillard, 1994). In hyper reality, images do not correspond to any type of referent or truth. In contemporary society, due to the advance of media technology, such as personal computers, photocopiers and now the internet, Baudrillard posited that simulacra are now

viral. With no need to correspond to any truthful referent, the media, advertisers, government propaganda and political pundits produce signifiers and images at a frenzied pace. The referent, or the truthful idea or statement that an image had to correspond to, has been lost in a sea of images. As a result of the loosening of signifier or image and its corresponding referents, images and signifiers are now produced in viral proportions. The notion of truthful representation, where an image accurately corresponds to something underneath it, is almost impossible to achieve in contemporary society (Baudrillard, 1994).

Of course, Baudrillard stopped here. He, like many other postmodern thinkers are skeptical of reform and societal change because they do not view oppression as a simple relationship between two neatly defined groups, such as oppressor and oppressed. Postmodernism is by no means a coherent school of thought, but it does lack a critical or liberating element. Rather it usually falls back into a self-destructive criticism, relativism and nihilism (Rhoads &Torres, 2006). This lack of liberating potential mainly stems from the fact that postmodernism became popular during the 1970s and 1980s. This was a time that saw the end of the revolutionary and optimistic 1960s, a severe economic recession, pervasive discrimination and a growing gap between the rich and the poor to name a few (Bess & Dee, 2006; Rhoads &Torres, 2006). This present paper however, while drawing on postmodern theories, is ultimately a work of critical theory.

Critical theory not only seeks to identify oppression, it seeks to do something about it. Critical theory can help establish truth in the information age and thus I feel it is imperative for strategic planners to use it. Two famous German critical theorists, Theodor Adorno and Max Horkheimer, argued that modern society was sinking into what they called the "new barbarism." The new barbarism emerged due to the tyranny of efficiency and standardization brought about by the industrialization of Western society during the nineteenth century. At the heart of this new barbarism was the separation of the sign from the referent or signifier (Adorno & Horkheimer, 1969). In the effort to give a formulaic, calculable meaning to the world in order to better manipulate it, modern science rendered the world chaotic by inaugurating this separation. In a later section, Adorno and Horkheimer argued that the use of words was hijacked by science and now constitutes a type of modern magic. Words, without any type of truth to correspond to; can be used to say anything. Adorno and Horkheimer argued that the separation between the sign and the image, between the sign and signified, is inevitable in modern society, but it tends toward a destruction of truth. Naturally this was not a static, objective truth as in the positivistic or modernist tradition; rather it was a dialectal and fluid truth which was always open to change. Horkheimer sought to use philosophy and critical theory to "name things," to try and pin down meaning in the amorphous sea of images (Adorno & Horkheimer, 1969; Jay, 1996; Kellner, 1992). This paper will follow Horkheimer and use philosophy to "name things," and specifically a referent or correspondence of truth, by way of a dialectal movement.

Adorno argued that when one attempts to apprehend reality, there is so much the human mind cannot comprehend. Dialectics only proceeds by this ever elusive attempt to capture what we cannot name (and building on what we do know) but nonetheless by identifying it and trying to understand it, at least in some degree. Adorno stated that when we do try to express the inexpressible, we must not simply equate idea and thing, but rather, see ideas and things or images and referents as part of a much wider constellation of meaning. Different societal phenomena are connected in vastly complex ways, yet many policymakers and others assume simple casual relationships. Adorno and Horkheimer noted that the dialectic does not render neat and easily classifiable information or discreet facts; rather the dialectic helps connect disparate pieces of

information and leads to social action (Adorno, 1973; Horkheimer, 1974; Adorno & Horkheimer, 1969). These abstract ideas can point to new directions of study for higher education especially when combined with the theories of academic capitalism.

Academic capitalism was first elucidated by Leslie and Slaughter in the late 1990s and again by Slaughter and Rhoades in the early 2000s. Academic capitalism argues that higher education has transitioned from a public social good to a private economic good due mainly to the influence of neoliberalism (Slaughter & Rhoades, 2004). Higher education is a public good and as such became the target for neoliberalism. Neoliberals sought to make higher education a private market good by starving it of funds and support and thus forcing it to compete on the global market for students, funds and resources (Rhoads & Torres, 2006). Academic capitalism, along with Adorno and Horkheimer's new barbarism, offers a relevant framework for assessing the growth of non-traditional students.

With regards to strategic planning, Bryson argued that many times strategic planning is seen as a linear process and that it could benefit from new and more dynamic conceptualizations (Bryson, 2004). One such theory is Principal Agent Theory (PAT). PAT holds that principals, in this case federal and state policymakers, many times adhere to different goals then the people who actually write the plans, such as administrators and faculty members (Auld, 2010). Their goals may overlap, but many times are at at odds with educators (Auld, 2010). Thus, strategic planning at the university level must take this disjunction into account and governments and institutions must work more cooperatively, as far as is possible (Auld, 2010). I feel this is too optimistic. The assumption of PAT is that the federal and various state governments are rational entities, which can be made to "see the light." I am too cynical to believe that policy is strictly a rational endeavor. The strategic plans of institutions of higher education, both public and private, must contend with the political or irrational aspect of governmental agencies. Kritsonis argued that postmodern theories can enhance the strategic planning process for educational institutions (Kritsonis, 2007). I would add that ideas from critical theory are just as valuable for strategic planning. I feel that a critical analysis of the DOE's plan, with a postmodern/critical theory framework can yield and positively modify the faulty reality manifested.

Methodology

The analysis of the strategic plan entailed a three part process which aligns with the three initial research assumptions posed in this study. The first component of the framework attempted to address the first research assumption, which assumed that the strategic plan misrepresented nontraditional students. This was accomplished by determining if any portion in the plan did not match the actual experience of nontraditional students as it currently exists.

To analyze potential misrepresentations, I used a discourse analysis. Discourse analysis looks to the actual text and language of a document in order to understand how the words and language position or frame certain persons or events (Allan, 2007). Each section of the plan was examined to determine what type of signifiers and subsequent explanations of signifiers were used to represent nontraditional students. Signifiers in this case represent the actual words used, while the signified are the ideas/notions the signifiers are supposed to denote. I did not arbitrarily identify terms of interest. Instead I drew on the relevant literature and created a list of common terms that are used to label nontraditional students and which carry narrow, limiting or even demeaning connotations. Each time a word or phrase appeared, it was counted. The full list of terms and their frequency appear in Appendix A, Tables One and Two. In addition to subject

positions regarding nontraditional students, terms referring to neoliberalism, capitalism and modernism were also identified and tabulated for the strategic plan. Some examples of relevant terms are economic, globalism, data, profit, industry and consumer. The full list of terms and frequency appear in Appendix A.

The strategic plan was then examined for a second time. Based on the above frequency counts, the context of the terms within the text and the background literature, I formed categories. The rationale here was to identify a reoccurring term which may seem innocuous or neutral, but which actually carries with it a specific set of meanings or connotations. Further, the terms that I identified were repeated frequently throughout the document, subconsciously reinforcing their connotative meanings. To create a category, I situated the reoccurring, connotative terms found above in the context of the particular literature I was using.

First, I situated the terms traditional and nontraditional as part of a dualistic hierarchy with traditional being superior to nontraditional. As a review of the literature makes clear, there is a division between traditional and nontraditional students on college campuses. This division entails funding, access and policymaker perceptions. Additionally, the statistics from the NCES and US Census make it clear that one of the main factors that cause the growth of nontraditional students is on the rise, the growing income gap in US society. In this context, nontraditional is no longer a neutral term, but a morally laden term. It is a term that occupies a definite place on a hierarchy, as well as a term or condition that at least in part is the result of economic and political policies. I created the traditional/nontraditional category to reflect this hierarchy.

The next category was neoliberal discourse. I devised this category by situating the terms from Table One and Two within not only the literature on nontraditional students, but also the literature on postmodernism and critical theory. I specifically looked at Adorno and Horkheimer's notion of the "new barbarism." The terms linked to the language of business and efficiency, or neoliberalism, such as customer service, performance efficiency and cost-benefit analysis are indicative. As Adorno and Horkheimer note, these are the notions that constitute the new barbarism, and the new barbarism falls in line with neoliberal discourse. Regarding academic capitalism, the market acts as the sole source of merit and virtue, and the guiding criteria is efficiency (Giroux, 2011; Rhoads & Torres, 2006; Slaughter & Rhoades, 2004). It was not just the frequency of these terms however, but the frequency of neoliberal terms in conjunction with what was *not* present in the strategic plan. There was no mention of liberal education, citizenship, humanism, fine arts or critical or transformational thinking. The only language used to describe higher education was that of neoliberalism. The strategic plan casts neoliberalism as the natural and unproblematic state of affairs. A reading of critical theory, however, shows how capitalism and neoliberalism can be extremely problematic. This was the rationale for the creation of the neoliberal discourse category.

The final category was the structural versus social opposition. The main things that led me to create this category were: the nine references to "the system" in the strategic plan and the many references to advertising and customer service in the strategic plan. The assumption of the writers of the strategic plan seem to be that there is a natural "system" of higher education and it is fluctuations in the system that causes tuition to increase. Further, some actions that can be taken to influence "customers" in the system is increasing efficiency and advertising to reach wider audiences. The absence of any mention of moral, political or social elements to the system led me to create the structural versus social category. The writers of the strategic plan did not seem to take any social factors into account. The lone exception was that the strategic plan mentioned that "these times" will see increasing tuition costs, and this is a stretch. The category is meant to

underscore the fact that the writers of the documents seemed to neglect the role that social factors play in policy and organizational behaviors. This was a prominent theme in the strategic plan. This is the rationale for creating this category.

The creation of frequency counts and the subsequent creation of categories from them was the attempt to examine the first research assumption: how do the documents represent nontraditional students? The next task was to decide whether the categories contradicted the evidence gathered from the various policy reports and research regarding nontraditional students, as well as economic and societal trends in general. This task was meant to examine the second research assumption: misrepresentations may have the potential to promote certain detrimental attitudes and behaviors toward nontraditional students.

This task was accomplished by comparing the information in the strategic plan, specifically the information as it appeared in the created categories, to the information of the policy reports and related research, but in a different way than in the previous task. This time, I drew on Baudrillard's (1994) notion of altered truth. I tried to determine if the portrayal of nontraditional students in the strategic plan represented the phenomena of the nontraditional student, as evidenced by the policy reports and the literature. How well did the signifier, nontraditional student, really represent what a nontraditional student is and the social, cultural, economic and political environment that surrounds her, at least according to the literature? More than this, I wanted to determine if this inaccurate portrayal had or could become a new truth. This called for an assessment of whether the misrepresentations had the potential to restructure human behavior. Did the signifier promote certain attitudes or actions on the part of administrators, faculty or students? The categories can be seen as having the potential for restructuring behavior, and represent the criteria that are present for future decision making. In essence, if nontraditional students are perceived in a misleading way, within the structural confines of the neoliberal discourse. These perceptions may help to drive decisions of future policymakers, higher education administrators and even students themselves, as well as their actions.

The third and final task of the methodology aligned with the last research assumption. I wanted to determine if the misrepresentations in the strategic plan, which subsequently had the potential to become new truths, could be made to correspond with a more accurate referent. Also, I wanted to determine whether, in the absence of a true objective reality, if I could create a useable one? Could I create truth? In order to negate the false truth or misrepresentations found in the above categories and create something new, I drew on the notion of the dialectic. As mentioned earlier, the dialectic is a progressive notion which incorporates the beneficial aspects of the present situation while transforming it through criticism. In a dialectal framework, truth is never static. The truth that I sought to create with the dialectic would be fluid. Each misrepresentation in the strategic plan that did not accurately represent nontraditional students was corrected by creating a new referent for it to correspond to that was more accurate and truthful.

Presentation of Simulacra as Derived from the Strategic Plan

Using the categories obtained from the word frequency counts and contextual analysis, I have identified three simulacra engendered by the strategic plan of the DOE.

1. The creation of an artificial hierarchy
2. Neglecting the societal aspects of policy
3. Unquestioned acceptance of the neoliberal paradigm

Creation of an artificial hierarchy. Traditional students are taken as the norm and nontraditional students are placed outside this norm, they are seen as second tier status, something that needs to be fixed, when in actuality, nontraditional students are becoming the norm.

Neglecting the social aspect of policy. If policymakers and bureaucrats fail to identify the economic problems as social problems, they will be blind to the real barriers for many nontraditional students. Simple Band-Aids such as increasing the amount of aid offered may not be enough to fix the system. Social problems cannot be corrected with simple structural fixes. Neglecting the political and social aspect may lead people to believe that only structural fixes are necessary when in fact they are impotent without corresponding political and social changes. Effective political and social changes however are much harder to attain. Of course the DOE's strategic plan and policy itself cannot entertain such controversial positions; so it casts them as neutral, as simple structural malfunctions that must be fixed. As Habermas (1973) notes, a government must appear neutral and above partisan interests to remain legitimate in the eyes of the governed. However, without this recognition of social realties the supposedly structural problems will remain simulacra because the signifier (solely structural problems) does not correspond to the signified (deeper social problems).

Unquestioned assumption of neoliberal paradigm. Neoliberal dominance is usually taken for granted in US political and economic policy (Fowler, 2009, Peet, 2009). The structuring of public institutions and processes similar to the free-market, to maximize efficiency and choice, is evident in higher education funding in general (Slaughter & Rhodes, 2004). With an unquestioned assumption of neoliberalism, anything that cannot be quantified may be overlooked. For example, student creativity, active citizenship and critical thinking are difficult notions to quantify and sell on the market. If nontraditional students are simply reduced to market analysis, many of the aforementioned dimensions (i.e. the notions of citizenship and creativity) will be lost because they cannot be quantified. Currently, strategic planners only see nontraditional students as consumers, and not citizens.

Negating the misrepresentations and the creation of a dialectal referent

The misrepresentations of the Strategic Plan will be negated by a series of questions. The use of questions promotes the dialectic and its potential for social action. Again, the answers are not absolute, but rather the first attempt at dialectally transforming the misrepresentations. Other scholars must engage with this work and modify, alter and critique it.

1. *Considering the economic changes in the United States over the last 30 years and the effects of globalization and demographics, how can the higher education student population be re-conceptualized so as not to negatively restructure human behavior?*

2. *What role do social, political and economic factors play in the emergence of nontraditional students?*

3. *Dialectally, what picture emerges of higher education and nontraditional students if neo-liberalism is not seen as the taken for granted paradigm?*

4. *Instead of only asking how should we fund nontraditional students, should we also be asking, why is increased funding needed?*

Considering the economic changes in the United States over the last 30 years and the effects of globalization and demographics; how can the higher education student population be re-conceptualized so as not to exclude particular members of it? Also, how can higher education students be conceptualized differently so as not to pigeonhole certain portions of them into misleading classifications which negatively restructure human behavior? Some of the groundwork has already been laid for these questions. Merisotis (2011) argued that the term 21st century student is more applicable than nontraditional student. The term draws attention to the unique and historical predicament of many students today. It cannot simply be an empty catchphrase however. Policymakers, administrators and students themselves must come to believe and understand this new terminology. Instead of relegation to a second tier position, the term 21st century student implies equal standing. Traditional students, as compared to nontraditional students, are not superior, more dedicated or more intelligent; they simply face different circumstances. It should also be noted that the new 21st century student/traditional demarcation may just simply reinforce the hierarchy because it still poses a hierarchy, a clear division. Perhaps we may have to view all higher education students as unique.

The artificial hierarchy of traditional/nontraditional or full time/part-time is the epitome of Adorno and Horkheimer's "new barbarism." To reduce students to pigeonholed classifications is to treat them as standardized parts. While this may be efficient and necessary to a degree in a larger bureaucratic system, it cannot be the only way students are viewed. Dialectally, this strictly quantitative view of students must be mediated or harmonized with a more qualitative understanding. Nontraditional student is a term which must be seen as historical, economic, cultural and political. The nontraditional label is incomplete because it does not represent the totality of what is a growing population in higher education. This leads into the next question.

What role do social factors play in the emergence of nontraditional students? If the social aspect is taken into account, nontraditional students are no longer structural issues, but students who are struggling in increasingly harsh economic and corresponding social conditions. Many of these students are employed part or full time, and they face rising income disparity and stagnant wages. All of which make it more difficult to attend school. The chances are that earning a college degree is the only way out of the economic burdens they face. A more educated populace, furthermore, benefits the country as a whole (Greenwood, 1997; McSwain, 2007). Dialectally, the structural assessment of nontraditional students must be mediated with the social assessment as well. Policymakers must understand the growing difficulties that nontraditional students face. This leads into the final questions

Dialectally, what picture emerges if neoliberalism is not seen as the taken for granted paradigm? Neoliberalism is largely responsible for the quantification of higher education phenomena, such as looking at students as customers. In addition, neoliberalism has contributed greatly to the growing income disparity in the United States. With this in mind, two further questions emerge: *How can higher education students be dialectally viewed as more than consumers/customers? Instead of only asking how we should fund nontraditional students, should we also be asking, why is increased funding needed? Lastly, how does a dominant conception of neoliberalism change the notion of "public" education, for both the individual and society?*

To view students as customers is not completely detrimental. Students, and especially nontraditional students, do act like customers in a variety of ways. They select programs based on convenience, flexibility and offerings; yet, to view them solely as customers may blind policymakers to more fundamental aspects of this growing

population. These students are not only customers, but citizens of a republic. As such, their education is not just a commodity, but a vital aspect of their political and social existence, and a vital aspect of the republic's survival. Education in a republic must be more than a commodity. Policymakers and bureaucrats must understand this vital function of education, especially in a global world (Giroux, 2011). Dialectally, the notion of student as consumer must be mediated with the notion of student as citizen. The notion of education as an individual commodity, or even as an economic advantage for the nation, must be mediated with the social and political benefits of an educated citizenry. The stakeholders in higher education funding are not simply students and colleges, but the nation itself.

The Department of Education's strategic plan simply tries to place a Band-Bid on the growing problems of higher education by arguing for more funding or for more efficient funding. While these are necessary measures, a singular focus on them obscures the reasons behind the need for increased funding. As mentioned earlier, neoliberalism has been one of the driving factors in creating the rising income disparity over the last 30 years (Peet, 2009; Slaughter & Rhodes, 2004). This can at least start a conversation among policymakers, higher education institutions, and the general public. It can force these various entities to rethink higher education funding completely. Is funding becoming scarcer because neoliberalism has fundamentally restructured the economy and society? Instead of relying on ever diminishing funds to finance a growing class of students, should education itself, not just funds, become more accessible to nontraditional students? This could include directing more funding to institutions themselves in an effort to lower costs. Of course this would not be a simple redirection of funds but a societal and political change; legislators and ultimately taxpayers would have to be convinced of not only the economic impacts, put the social benefits of an educated citizenry. The general public must take ownership and be made to understand the necessity of higher education. This would entail "educating the state" through lobbying and social activism.

In a global society, education may need to be thought of as a right of all, not a privilege (Pusser, 2008). Actually, it may need to be thought of as a duty of every citizen living in a republic. Of course this is a utopian vision, but the relationship between education and civic participation is obvious. If the numbers of nontraditional students continue to grow, this right and duty will be denied to a greater number of potential students. This is due to the fact that nontraditional students are still seen as nontraditional, or as a malfunction of a neutral system. A greater number of people without an education will obviously be a drain on the republic, as well as restrict the voices able to participate in the republic. Dialectally, neoliberalism's supposed unchallengeable nature should be mediated with the recognition of the adverse effects of neoliberalism.

Neoliberalism, which takes the individual and the free-market as immutable absolutes (Overtvelt, 2007; Reder, 1982) can erode the notion of public education, especially as it pertains to the growth of nontraditional students (Giroux, 2011). Through a neoliberal lens, nontraditional students are viewed mainly as individuals trying to buy a product on the free market. Further, this product is seen as a commodity and as fulfilling an individual need such as the individuals' need or desire for it, as well as a business need for the country as a whole. Education however is not solely a private good which translates to profit. The public aspect of education must be taken into account alongside the more atomistic profit minded conceptions.

Conclusions and Observations

The notion of public institutions is and has been under attack for roughly the last forty years (Bryson, 2004; Newfield, 2008; Peet, 2009; Plant, 2010; Slaughter & Rhodes, 2004; Washburn, 2005). This attack has mainly come from neoliberals who view the notion of the public as really an inept and corrupt bureaucracy (Plant, 2010). Strategic planners, as PAT holds, must be cognizant of this disconnect between policymakers and institutional goals. Unlike PAT however, institutional planners cannot hope for any idealistic solution or cooperation. Institutions of public higher education must understand they are operating in an increasingly hostile climate. Their strategic planning must come to reflect this. Unfortunately, as Vestritch (2008) has argued, up to this point, most institutional strategic planning has been driven solely by neoliberalism and a corresponding market ethos.

The methods offered in this paper can be one way to respond to the harsh realities facing the public sector. By identifying simulacra in the DOE's strategic plan and then creating a new, more truthful reality, institutions of higher education can adapt to the actual situation. In the widest sense then, the actions of the organization could be geared toward answering dialectal questions and notions posed in the new aggressive strategic plan. Organizational behavior and action may then become dialectal. In the process, institutions of higher education can circumvent the action of an increasingly irrational and hostile environment by creating a more accurate reality, at least for its immediate stakeholders.

Strategic planning is sometimes seen as a bureaucratic process. Many lament it, see it as useless and a waste of time (Bryson, 2004; Inbar, 2012). Perhaps there is an element of truth to this. If the process is revolutionized however, if it is seen from a new angle, it can become something more. The process I have outlined above makes strategic planning dialectal and progressive. If a dialectal strategic plan is adapted, for example if simulacra detection and rectification is actually written into the plan, members of organizations may act dialectally. The key however is not just to have individuals acting dialectally, but for their collective actions to be dialectic (Fullan, 2001). The collective actions of an organization can be geared not to mundane and structural goals, but to goals of action and transformation .This can push the organization in new directions. It can enable the organization to deal with the volatile political, social, economic and cultural changes that it now faces. Strategic planning may ultimately need to be a tool of empowerment.

Appendix A

Table 1: References to nontraditional students in the DOE' strategic plan

Nontraditional	9
Traditional	4
Vocational	6
[picture], full-time, adult learner	3

Table 2: References to neoliberalism in the DOE's strategic plan

Customer/customer service	30
Data	13
Advertising, preferences, choice, decision	16
References to "the system"	9
Propriety schools	3
Performance, efficiency	5
Taxpayer interests/cost-benefit analysis	3

References

Adorno, T. (1973). *Negative dialectics*, Translated by EB Ashton, New York, NY: Continuum Press.

Adorno, T. and Horkheimer, M. (1969). *Dialectic of enlightenment.* (2nd ed), Palo Alto: Stanford University Press.

Alexander, K. (2000). The changing face of accountability: Monitoring and assessing institutional performance in higher education. *The Journal of Higher Education, 71*, 411-431.

Allan, E. (2007). *Policy discourses, gender, and education: Constructing women's status.* New York, NY: Routledge.

Auld, D. (2010). Strategic planning and the principal-agent issue in higher education leadership. *Academy of Educational Leadership Journal, 8*(3), 23-29.

Baudrillard, J. (1994). *Simulacra and simulation.* Ann Arbor: The University of Press

Baudrillard, J. (1993). *The transparency of evil: Essays on extreme phenomena*. New York, NY: Verso Press.

Bess, J., & Dee, J. (2008). *College and university organizations: Theories for effective policy and practice. Volume I, state of the system.* Sterling, VA: Stylus Publishing.

Bowen, H (1996). *Investment in learning: The individual and social value of American higher education.* (2nd Ed). Introduction by Cameron Fincher. Englewood Cliffs, NJ: Transaction Publishers.

Bryson, J. (2004). *Strategic planning for public and nonprofit organizations: A guide to strengthening and sustaining organizational achievement* (3rd Ed). San Francisco, CA: Jossey-Bass.

Debord, G. (2011). *Society of the spectacle.* (2nd Ed). New York, NY: Soul Bay Press.

Fullan, M. (2001). *Leading in a culture of change.* San Francisco, CA: Jossey-Bass

Giroux, H. (2011). *On critical pedagogy.* New York, NY: Continuum.

Greenwood, D. (1997). New developments in the intergenerational impact of education. *International Journal of Educational Research, 27*, 503-510.

Habermas, J. (1973). *Legitimation crisis,* Translated by Thomas McCarthy. Boston, MA: Beacon Press.

Inbar, D. (2012). Proceedings from ISEP '12. *Education caught between trust and regulation*. Kansas City, Mo.

Jay, M (1996) *The dialectal imagination: A history of the Frankfurt school and the institute of social research, 1923-1950,* Los Angeles: University of California Press.

Johnson, J., & Rochkind, J (2009). *With their whole lives ahead of them: Myths and realities about why so many students fail to finish college.* Washington, DC: Public Agenda.

Kellner, D. (1992). *Critical theory, Marxism and modernity.* (2nd Ed), Baltimore: Johns Hopkins Press.

Kritsonis, W., & Gardiner, S. (2009). The virtues of postmodernism electrified with the use of the six realms of meaning and strategic planning. *National Forum of Applied Educational Research Journal, 23*, 72-77.

McSwain, C. (2008). *Window of opportunity: Targeting federal grant aid to students with the lowest incomes.* Washington, DC: Institute of Higher Education.

McSwain, C. Davis, R. (2007). *College access for the working poor: Overcoming burdens to succeed in higher education.* Washington, DC: Institute of Higher Education

Newfield, C. (2008). *Unmaking the public university: The forty year assault on the middle class.* Quincy, MA: Harvard University Press.

Overtveldt, J. (2007). *The Chicago school: How the University of Chicago assembled the thinkers who revolutionized economics and business.* Canada: Agate Publishing.

Peet, R. (2009). *Unholy trinity: The IMF, World Bank and WTO.* (2nd Ed), New York, NY: Zed Books.

Plant, R. (2010). *The Neo-liberal state,* United Kingdom: Oxford University Press.

Pusser, B., Breneman, D., Gansneder, B. M., Kohl, K. J., Levin, J. S., Milam, J.H., &Turner, S. E. (2008). *Returning to learning*. Indianapolis, Indiana: Lumina Foundation.

Reder, M. (1982). Chicago economics: Permanence and change. *Journal of Economic Literature, 22*, 1-38.

Rhoads, R., & Torres, C. (2006). *University, state and market: The political economy of globalization in the Americas.* Palo Alto: Stanford Press.

Slaughter, S., & Rhoades, G (2004). *Academic capitalism and the new economy: Markets, state and higher education,* Baltimore: The Johns Hopkins University Press.

Vestrich, R. (2008). The academy under siege: Threats to teaching and learning in American higher education. *American Academic, 2*, 55-71.

Washburn, J (2005) *University Inc: The corporate corruption of higher education,* New York, NY: Basic Books.

A Case for Schoolhouse Aesthetics

Charles Kenneth Tanner

ABSTRACT

When new learning environments are built, numerous variables are taken into consideration. For example, school systems consider the instructional needs of the students they serve, enrollment, and whether to replace or remodel an old building. The concept of "going green" encourages school system planners to consider the natural surroundings and built environment that surrounds the school, thereby allowing the school's architecture to match its surroundings. This notion has sparked an interest in sustainable design, which may best be explained as minimizing the harmful effects of the building on the environment. It further extends to the theory of biophilia or a natural attraction to living systems. Sustainability and the biophilia premise go far beyond just following new codes for construction and materials related to Leadership in Energy and Environmental Design certification. They link directly to aesthetics.

Aesthetics is the branch of philosophy concerned with art, beauty, and taste, with emphasis on sensory values, including an attraction to all that is alive and vital. Aesthetic spaces and places having ample natural light ensure a constructive influence on myriad human behaviors. Therefore, natural aesthetic surroundings having sustainability as a theme offers a context in which no textbook or technology-based learning environment can compete. A popular hypothesis generated by advocates of outdoor learning, for example, is that students learn at a more rapid rate when outside the typical classroom, they appreciate the learning more graciously, and they retain the information longer. Overall, built and natural aesthetic surroundings are invaluable!

Of all the numerous components traditionally included in the school's physical environment, natural light is among the most important aesthetic variables. It influences a person's wellbeing and performance positively. Given that other aspects of aesthetic surroundings are also significant, this article considers several variables that are vital to health, achievement, and good behavior. These include:

- *Classrooms having views overlooking green spaces and appealing gardens,*
- *Ample movement and circulation patterns,*
- *Commons places and spaces,*
- *Architecture with a welcoming entrance and a clear point of reference,*
- *Colors of various spaces,*
- *Scale designed to the physical size of students,*
- *Noise pollution and safety, and*
- *Biophilia, or bringing nature into the learning environments.*

A Case for Aesthetics

In the 1950s, Dr. Jonas Salk was working on a cure for the devastating disease polio in a dark and gloomy basement laboratory in Pittsburgh, Pennsylvania. Progress was slow and to clear his thoughts, Salk departed for Assisi, Italy, where he spent time in a 13th-century monastery, ambling amongst its pilasters and secluded courtyards. Unexpectedly, Salk found himself inundated with new perceptions, including the one that would lead to the discovery of his successful polio vaccine (Anthes, 2009). He strongly believed that his inspiration had come from the contemplative setting inspired by the

architecture in Assisi. A few years later, architect Louis Kahn in designing the Salk Institute in La Jolla, California captured the reflective atmosphere found in the Assisi architecture. Jonas Salk developed a distinctive conceptualization for the creation of aesthetic surroundings. He envisioned an Institute with spacious, unobstructed laboratory spaces that could be adapted to the ever-changing needs of science. The building materials had to be simple, strong, durable, and as maintenance-free as possible. When the Institute was constructed in the 1960s, *going green* and sustainability were not yet widely used concepts, but were implicit in the functional architecture.

One needs only to examine the architecture of the Institute to see sustainability perceptions and vivid parallels with the concepts studied and advocated by many educational planners and architects (Alexander, Ishikawa, & Silverstein, 1977; Meek & Landfried, 1995). Assume that Inspiration for students in classrooms follows an analogous pathway as that taken by Dr. Salk and the architecture of the Institute. In K – 12 school settings, for example, classroom views overlooking green spaces and appealing gardens have been shown to influence reflective behavior and also correlate positively with progressive student attitudes and outcomes (Thomas & Thompson, 2004). Positive outcomes are inherently dependent on the good health of the student, the environment, and teaching and learning strategies.

Research shows that natural light in classrooms influences student achievement and health positively, especially when the influence of circadian rhythms is acknowledged as a fundamental constant by which the human body maintains its relationship to the environment (Tanner & Lackney, 2006). These are only two of the many aesthetic characteristics employed at the Institute and also emphasized by researchers at the School Design and Planning Laboratory (2012) for K – 12 projects. Christopher Alexander, Sara Ishikawa, and Murray Silverstein (1977) inspired many of these physiognomies.

The School Design and Planning Laboratory (SDPL) was among the first organizations to initiate research-based linkages connecting the performance of students to the physical design of school buildings. With these basic sources as points of reference, several other research-based examples on artistic surroundings and lighting in school buildings are presented in the following paragraphs.

Connecting to Salk's beliefs regarding spacious, unobstructed laboratory spaces that could be adapted to ever-changing needs, the physical environment and human performance are directly related. Human health and behavior are strongly affected by many factors including environmental and technological dynamics. Students need room to move about and not feel restrained by congested spaces. Ample movement and circulation patterns have direct positive effects on reading comprehension, language arts, mathematics, and science (Tanner, 2009). Wohlwill and Van Vliet (1985) discovered that the consequences of high-density conditions that involve too many children and too little space are excess levels of stimulation plus stress and excitement.

Linkages Among Aesthetic Environmental Design Variables and Behavior

Ann Taylor and George Vlastos (1975) suggested that the learning environment is a practical art form and a place of beauty. The aesthetic school is a motivational center for learning. The artistic organization of places and spaces has a profound positive effect on student behavior and encourages a willingness to contribute to classroom interaction. Learning requires significant interface with the environment and widespread movement

and circulation configurations, with significant understanding and appreciation for territoriality of place. However, little exploration has been done regarding the many complex issues of social and personal space in educational settings and it is unclear exactly how much space is needed for learning when comparisons are made across cultures.

Common places and spaces add to the aesthetic appeal and overall organizational health of a school, going far beyond the traditional requirements of spaces such as a cafeteria where pupils and teachers may meet, greet, tweet, and eat. Public areas can create the perception among students that this is *our space.* Such spaces allow students to feel ownership of environments where they learn and engage in recreation and reflection. Commons areas can be designed for large and small group meetings and instruction, as well as a place for thinking, thereby developing a feeling of belonging to the school culture. Where appropriate social space is available, students perceive that *we are actually welcome here!*

Beyond the welcoming effect, educational spaces should challenge and stimulate students. Taylor and Vlastos suggested that educational architecture is a *three-dimensional textbook;* thus the educational setting is a real-world art form, a place of beauty, and a motivational and hospitable center for study and learning. Design of learning environments can stimulate or reduce learning capacity, inspire imagination, or lower intellectual awareness. A schoolhouse is a graphic entity; therefore it can be a motivational instrument.

Christopher Alexander, Sara Ishikawa, and Murray Silverstein contended that aesthetic architectural design should include an age appropriate and easy to find welcoming entrance that induces a comfortable feeling. Key structures should have a clear point of reference, a feature that heightens the awareness of belonging. The design concept of paths with goals translates to meaningful and easy to find focal points when moving among various locations, while variation of ceiling heights helps mix public and private places. Gradients induce the effect of inviting people into a space.

Natural light flowing into classrooms has received attention from several researchers and writers. An Investigation by Rikard Kuller and Carin Lindstern (1992) suggested that classrooms without windows should be shunned for prolonged usage. They point out the biological need for windows, especially noting that windows that students can actually see through, allow the eye to change focal lengths, providing essential relief for eyestrain. John Nash Ott's experiments in 1973 led him to conclude that only full spectrum natural light could promote full health in plants, animals, and humans. Critical to a student's health and growth, according to Ott, is full-spectrum light which is needed to stimulate the pineal gland's synthesis of melatonin, which in turn helps control the body's output of the neurotransmitter serotonin. Tanner and Lackney (2006) affirmed that inadequately lit and windowless classrooms evoke a daily form of gloom, doom, and *jet lag* among students, and toward the end of a school day, students in windowless classrooms with inadequate ventilation become exhausted and possibly dysfunctional.

Students, constantly exposed to dim light and windowless classrooms having inadequate air circulation (less than 15 cubic feet per minute per person), are expected to perform poorly on various standardized measures of success. Regardless of a school's

aesthetic attributes, the quality of indoor air, contaminated by such common occurrences as a poor rate of flow, leaking roofs and walls having mold and mildew, is a significant factor in a student's health and well-being. The Environmental Protection Agency (2012) has developed a tool to assist in improving 14 health-related categories, one of which is indoor air quality. The tool is used to periodically evaluate school facilities at a macro level to be sure that all of the essential elements of key prevention programs are being properly managed.

Color, a significant contributor to the aesthetics of spaces and places, ranks close to natural light in importance. Pyle (1997) has produced a definitive work on color in interior design. Our observations at SDPL have led us to hypothesize that interior coloring in classrooms has an effect on achievement, health, and behavior. Some students may be influenced negatively by extremely bright colors, becoming over stimulated by exceedingly bright color combinations. Color experts such as Pyle agree that reds, oranges and pinks are warm and stimulating colors, while most blues and greens are considered cool and relaxing. Most grays are thought of as neutral. Tints are fading and make a room look larger, while deep tones are impending and make a room look smaller. Overall, young children prefer red, blue, green, violet, orange, and yellow; although young children prefer bright colors, too many high contrasts should be avoided because they may produce fatigue and hyperactivity. As people age their color preferences change (Read & Upington, 2009). Obviously color cannot be considered without also including the effects of light.

Color in our society is used more shrewdly that we might think. For example, consider some *fast food* restaurants. Many of them are painted with varying degrees of deep red, orange, turquoise, and yellow. One philosophy is that children like these colors. However, there are such factors at play as the stimulation of movement - get in, eat hurriedly, and get out quickly so someone else can use the space. Too much red may increase blood pressure, but also increase appetite, while blue and green calm the nerves and induce relaxation. Color can improve interior spaces by making them more healthful (Marberry and Zagon, 1995). Given the increasing interest in color and color in nature such as explored some aspects of biophilic design, its impact on human behavior is one frontier in educational research that should be given more attention.

Adherence to scale is necessary to produce user friendly, safe schools. Scale as used here refers to the magnitude of a place as compared to the size of the student. Some design features may shock adults but be student friendly. For example, Ann Meek and Steven Landfried (1995) observed a lesson in scale at the front door of Crow Island School. They noticed that the door handle was too low - too low for adults, but just right for children. Other aspects of scale include windows low enough for children to *see out*, hand rails at three levels, and classrooms that resemble children's rooms at home. Carol Weinstein and Thomas David (1987) concurred that building to the scale of students promotes a sense of belonging and security. For children to feel competent in regard to their personal needs, the environment must be *child-scaled*. Water fountains, sinks, toilets, doorknobs, and light switches must be easily accessible and effortless for children to use.

When new learning environments are built, numerous variables are taken into consideration. For example, school systems consider the instructional needs of the students they serve, enrollment trends, and whether to replace or remodel an old building.

Going green encourages school system planners to consider the natural surroundings and built environment that surrounds the school, thereby allowing the school's architecture to match its surroundings. This notion has sparked an interest in sustainable design, which may best be explained as minimizing the harmful effects of the building on the environment. Noise pollution of the surrounding area is an important factor of concern to ensure less stress on students. Elevated levels of sound can significantly hinder students' overall performance and concentration.

Safety must be given the top priority when selecting a suitable place to locate a school building. The physical site for a school should be aesthetic, and properly located with respect to students' homes and surrounding business and industrial structures and agricultural operations. Sites should be free of air and water pollution and noxious gases and be far from sources of noise or danger such as high volume highways, airports, high-tension electric wires, chemical-based agricultural operations, and heavy industry (Earthman, 2000). Aesthetic and sustainability considerations should be stressed in the selection of a site. For example, trees, brooks, parks, or a natural environment near a school not only do much to beautify the area and enhance the study of biophilia, but also they serve as natural cooling areas in summer and allow sunshine to dominate the site in the winter. A suitable site's topography should be slightly higher than the area immediately surrounding it, giving the school structure a place of dominance in the community. Trees, shrubs, flowerbeds, and the arrangement of walks and drives contribute to the physical learning environment, a concept linking to *paths with goals and biophilia*. Both the design of the building and the arrangement and development of the site are important ingredients in the creation of an atmosphere that is educationally stimulating. The building should blend pleasingly into the terrain and be in harmony with nature and balance with its surroundings, bringing nature into the learning environments.

Well-planned instructional neighborhoods, a cluster of contiguous spaces accommodating about 100 elementary school students, includes large and small group areas, spaces and places for student and teacher planning, wet areas for art, a hearth area, and toilets for the students and teachers. The ideal instructional neighborhood includes windows for viewing outside the classroom and for bringing natural light inside. It contains open and closed spaces to maximize flexibility, and permit teachers and students to manage their own time and space. The instructional environment can affect non-achievement performances and attitudes and is directly associated with improved school attendance, participation, and attitudes toward the class, the school, the teacher, and peers. In aesthetic classrooms, desks are frequently being replaced with workstations and movable furniture suitable for problem-based learning styles. Adequacy of the instructional neighborhood depends on ample square footage and how the space is configured. For the instructional neighborhood concept to be effective, teachers should have special training where multitasking is a necessity. However, open spaces in instructional neighborhoods are threatening to teachers trained in traditional programs.

Other aesthetic and highly relevant aspects of instructional neighborhoods include workstations and research space for each student. Central gathering places and presentation arenas enhance problem-based learning activities, quiet semi-private areas, and spaces where students can think and work individually. Teachers should have offices located where they can perform individual work and advising, organize various study programs, or communicate with parents. Schools should be flexible enough to support a

variety of changing instructional strategies, taking into consideration the impact of technology on teaching and learning. Because curriculum and instructional methods are continually changing to meet the needs and demands of students, parents, and society, so the classroom space must also be designed for change. This underscores the need to design flexible buildings.

Early research efforts at SDPL led to the study of functional and aesthetic outdoor learning environments. The first issue was finding a definition for an outdoor learning environment, not to be confused with football, baseball, or soccer fields, and a swing set attached to a slide and monkey bars. What became clear was that outdoor teaching and learning was a curriculum innovation, seeking to involve students in the study of such important issues as science, mathematics, biology, anthropology, ecology and greener environments. Effective learning areas outside the school buildings demand the design and development of green spaces for birds, butterflies, and gardens, natural quiet areas, and play areas well beyond traditional fields for football and baseball.

"Environments that work" is the theme of Jim Greenman's (1988) classic work on spaces and places. For example, outdoor education linked to the theory of biophilia is an excellent medium to teach aesthetic ideals, social and moral values, and respect for life of small animals and birds. Students must be taught not to destroy animals and plants just for fun. To this end it is important to permeate physical settings for students with the sense of being in nature for reasons other than just being outside the school building to get fresh air. Natural things have unending variety, people do not create them, and they offer a feeling of agelessness. Views from inside classrooms overlooking life and green areas provide quality to the school's learning environment, while allowing spaces for small animals inside schools offers students the opportunity to *care for life*. Accordingly, caring for living things helps to teach a sense of responsibility and values.

Teaching in natural aesthetic surroundings that have sustainability as a theme offers a context in which no textbook or computer-based learning environment can compete. For example, if the learning goal is to understand the nature of a blue bird, why only ask students to read about blue birds, draw pictures of blue birds, or color sketches of blue birds in a classroom setting? Instead, why not perform these associated classroom activities and also observe the blue bird with all its shyness, at first, then as time goes by, its trusting nature with all of its graceful movements in nature? This is effective pedagogy because the process integrates abstract and face-to-face learning activities. At best, authors of textbooks and virtual learning packages only pass along second-hand information they obtained from observation, research, discovery and perhaps imagination. It is the student who sees, discovers, smells, and explores a situation who really gets the most out of it. A popular hypothesis generated by advocates of outdoor learning is that students learn at a more rapid rate when outside the typical classroom, they appreciate the learning more graciously, and they retain the information longer. Overall, built and natural aesthetic surroundings are invaluable!

Numerous aesthetic components included in the school's physical environment influence a person's wellbeing and performance positively. When learning environments are built, planners and architects should consider the natural surroundings and design structures accordingly. Of pronounced significance are aesthetic spaces and places having ample natural light. These ensure a constructive influence on human behaviors and attitudes. Built and natural aesthetic surroundings influence personal wellbeing more

positively than dull unimaginative places and spaces. While aesthetics is the branch of philosophy concerned with art, beauty, and taste with emphasis on sensory values, its value to us lies in our ability to reflect on structures we build, the culture linked the our developed environments, and nature in which they are located (Kelley, 1998).

References

Alexander, C., Ishikawa, S. & Silverstein, M. (1977). *A Pattern Language*. New York: Oxford University Press.

Anthes, E. (April 22, 2009). How room designs affect your work and mood. *Scientific American Mind*. Retrieved on February 8, 2012 from http://www.scientificamerican.com/article.cfm?id=building-around-the-mind

Earthman, G. I. (2000). *Planning Educational Facilities for the Next Century.* Reston, VA: ASBO International.

Environmental Protection Agency (2012). *Healthy School Environments Assessment Tool.* Retrieved on February 7, 2012 from http://www.epa.gov/schools/healthyseat/

Greenman, J. (1988). *Caring spaces, learning places: Children's environments that work.* Redmond, WA: Exchange Press.

Kelly, M. (1998) *Encyclopedia of aesthetics* (Ed.). Oxford: Oxford University Press.

Kuller, R., & Lindsten, C. (1992). Health and behavior of children in classrooms with and without windows. *Journal of Environmental Psychology*, 12, 305-317.

Marberry, S. O. and Zagon, L. (1995). *The power of color: Creating healthy Interior spaces*. New York: Wiley.

Meek, A. and Landfried, S. (1995). Crow Island School: 54 Years Young. In A. Meek (Ed.), *Designing Places for Learning* (pp. 51-59.). Alexandria, VA: ASCD.

Ott, J. (1973). *Health and Light*. New York: Simon & Schuster.

Pyle, J. (1997). *Color in Interior Design*, New York: McGraw-Hill.

Read, M., & Upington, D. (2009). Young children's color preferences in the interior environment. *Early Childhood Education Journal,* 36(6), 491-496.

School Design and Planning Laboratory (2013). Planning, concept design, and sustainability. Retrieved April 25, 2013 from http://www.coe.uga.edu/sdpl.

Tanner, C. K. & Lackney, J. A. (2006). *Educational facilities planning: Leadership, architecture, and management.* Boston, MA: Allyn and Bacon.

Tanner, C. K. (2009). Effects of school design on student outcomes. *Journal of Educational Administration,* 47(3), 376-394.

Taylor, A. P., & Vlastos, G. (1975). *School zone: Learning environments for children*. New York: Van Nostrand Reinhold Company.

Thomas, G. & Thompson, G. (2004). *A child's place: Why environment matters to children*. London: Green Alliance.

Wohlwill, J. F., & van Vliet, W. (1985). *Habitats for children: The impacts of density*. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Weinstein, C. S., & David, T. G. (1987). *Spaces for children: The built environment and child development (Eds.).* New York: Plenum Press.

Schools in a Crisis: Where to Put the Students?

Glen I. Earthman

ABSTRACT

Catastrophes can occur at any place and for any reason. Within the past years an extraordinarily high number of catastrophic events have happened to public schools. From a high number of tornados to excessive flooding and unseasonable weather, the country has experienced a considerable number of very difficult environmental disasters that have adversely affected schools. These are never pleasant occurrences and it is the duty of education officials to ameliorate the subsequent devastation. Such was the case in a school system in Virginia where the roof of the gymnasium collapsed during a snowstorm in the middle of the school year. At the beginning of the spring semester, the high school students were without a place to continue their schooling. The planning efforts of the school authorities were strained for several reasons. Questions regarding the continued use of the high school building for the remainder of the year and where to put the student body for the rest of the year if the building was unusable were of utmost concern. The concerns and maneuvering of the various players in this drama are discussed in this article. In spite of the fact that this was a catastrophe to the various groups within and outside the school system, plans were made and executed so that all students were housed for the semester. The planning activities for the following year are set forth as well as the manner in which the school division staff conducted the effort and interacted with the community and governing body. The lessons that can be learned from the planning effort of this school staff are carefully analyzed and discussed.

INTRODUCTION

Planning in the public schools is normally a routine process dealing with budgets, numbers of students, size of the faculty, transportation, and even buildings. But sometimes events occur that place the school authorities in a situation where extraordinary planning measures must take place. Such situations are often caused by external natural forces of some sort that place the personnel of the schools in a vulnerable and unfavorable position due to the training and expertise that educators normally receive and possess.

The data for this manuscript were gathered through an examination of the Montgomery County School Board Minutes dated for the period of time of the collapse and subsequent planning sessions. Further information from local newspaper articles written by reporters who were on the scene and interviewed actual participants was used to help document the stream of events. Related research on the relationship between school conditions and student performance was identified and incorporated into the manuscript to be reflected against the action of the participants. These sources of information were used to present the story of a disaster and how the local school authorities tried to plan for the recovery from the event. Further, lessons from the actions and consequences of the actions are presented.

The following is a description of a disaster to a certain community and the planning responses certain individuals in authority employed to address that happening. As such, the only theoretical background for such an event is what happened and how did those individual respond. Undoubtedly there can be no prescription of how persons in authority

should respond to a crisis or disaster, because each incident is unique. It is possible to theorize that when a disaster occurs, individuals in authority will use certain effective planning devices and strategies to ameliorate the situation. The planning activities to address disasters are to a large measure the same type of planning activities used in normal circumstances, but with a much shorter time frame and perhaps with much less data available at the time needed. The need for action often makes the planning process fragmented and rushed. What seems to be a plausible answer can sometimes circumvent rational planning activities and proceed to implementation before better thought can occur. It is not possible to weigh the actions of persons in authority responding to a disaster against any set of preferred or normalized actions, but the consequences of the planning activities can be measured as to their effectiveness in ameliorating a disaster.

The quality of the planning strategies used in a disaster can always be in question by those individuals not involved and perhaps from a distance, because the results of the planning activities are quite visible to the public in general. When a crisis or disaster of any sort occurs the question becomes: did the individuals in authority utilize successful planning strategies to address a disaster? Did those in authority employ effective data utilization to formulate successful plans? Were the results of the planning strategies effective and by what measure? What can be learned for the planning activities of those who were responsible for addressing the disaster?

It is entirely possible to learn from the experiences of others even when the activities result in negative consequences. The theory of learning from the experiences of others is very relevant to the expressions of Dewey (Dewey, 1938). Dewey proposed that individuals learn from experience, by experiencing the event or activity itself. The learning is more relevant to the individual when this happens. It is self-evident that individuals in authority involved in recovering from a disaster will learn what actions and plans are effective and what are not effective. Likewise, the experiences of other individuals are instructive of how we may act in certain circumstances. It is with this caveat that the following experiences and events are presented so that the reader may learn from the actions of individuals experiencing the event. It is not necessary to experience a crisis or disaster in order to learn how to react to it.

CATASTROPHE STRIKES

In the late winter of 2009 in a town in southwestern Virginia the heavy snow accumulation on the roof of the gym in the local high school building resulted in the collapse of the roof causing considerable damage. Luckily the girls' basketball team that was practicing in the gym at the time heard the rumble of the roof, saw the cracks in the wall appearing, and were able to exit the building safely. Fortunately, no one was hurt in the collapse of the roof. February 13, 2009 was not a good day for the local school division, even though the students were on a winter break from school (Mallory & Polantz, 2010). A new Superintendent of Schools was employed earlier in the school year and was not expected to assume the office until March 1, 2009. This, of course, added to the awkward situation because the interim superintendent had to make some quick decisions regarding the appropriate investigations to be made and where the high school students would be housed the week following the winter break. At the same time the incoming superintendent had to be kept apprised of the situation and presumably agreed with the solutions offered.

INVESTIGATIONS CONDUCTED

Immediately after the collapse, investigations were started to determine not only the cause of the collapse, but also the feasibility of using the remainder of the high school building for the rest of the second semester. Decisions had to be made within a week so that the high school students could be housed in some location. The damage to the gym roof caused some apprehension on the part of the school authorities regarding the usability of the rest of the high school building for the student body. Based upon initial investigations, the school authorities determined that it would not be safe to return to the building for the rest of the school year.

INITIAL HOUSING PLAN

In order to house the Benton High School student body in some location for the remainder of the school year, the school administration ordered the students in the Benton Middle School building in town (which was only seven years old) to be placed on short sessions with the middle school students going to classes from early morning until 1:00PM (Montgomery County School Board Minutes, February 17, 2010). The high school students then used the middle school building from 1:30PM to 7:15PM that evening. Lunch for the high school students was available at 2:30PM and snacks later in the day, which meant that most students went more than five hours between meals.

Naturally the traffic problems at the middle school building increased tremendously. As is usual with most high school student bodies, there were a good number of students at this high school who drove their own vehicles to school. This increase in private vehicular traffic, along with the buses bringing in the high school students to school and the middle school buses loading the students to take them home, and the few middle school parents who picked up their children created a monumental vehicular movement problem for all concerned. Additional police, at increased costs to the local government, were required to control the traffic because the middle school building was located on a major four-lane street.

CONTINUED INVESTIGATIONS

Needless to say, the extended discussions of what would happen to the students were foremost in the mind of parents and educators in the community during the spring and summer of 2009. Newspaper reports of the situation added to the conflicting impressions of the average reader, in spite of the fact the news personnel were making every effort to report on the planning process within the school division staff. The big question was whether or not the high school building could be salvaged. Many community individuals and groups started asking for a new high school to be built. In addition, there were several studies completed reporting on the suitability of the damaged high school building to house the high school student body (Mallory & Polantz, 2010). The completion of these reports delayed the school staff in making definitive plans for housing the students in the fall school term, until it seemed that the inevitable solution was that the high school students could not return to the building in the fall of 2009. These investigations amounted to over half a million dollars of school board funds (Montgomery County School Board Minutes, June, 15, 2009).

THE PLAN

As spring slipped into summer the school administration and school board determined that the high school building definitely could not be used for the coming school year. A plan had to be devised to place the high school student body numbering some 1,100 individuals in suitable facilities. At the June 15, 2009 work session of the school board,

the superintendent suggested five options that could be implemented for the coming year. The following alternatives were suggested:

1. Use the Benton Middle School building to house grades 9-12,
2. Use the Benton Middle School building to house the Benton High School students and use the Old Chester Middle School in a neighboring town to house grades 6-8,
3. Use the Benton Middle School to house grades 8-12 and locate grades 6 and 7 at the old Chester Middle School building and run as one school,
4. Use the Benton Middle School building to house grades 8-12 or 9-12, establish the old Chester Middle School as the site for CMS and BMS students on a split schedule operating as separate schools, or
5. Use the Benton Middle School to house grades 9-12, establish the new Chester Middle School in a neighboring town as a location for grades 6-8 students, and for Benton students and Chester students on a unified schedule with 1,705 students. (Montgomery County School Board, June 15, 2009, p 7).

As can be seen, not all of the alternatives were educationally sound, and every option assumed that the high school students would be housed in the new middle school building. The quality of these options left much to be desired because it would mean that in every case, students would be placed in inappropriate buildings or be merged into another middle school student body. Nevertheless, the five options were seriously discussed and the school board decided that they should be presented to the community.

The new superintendent of schools was now in office, and she and her staff were responsible for identifying the five housing alternatives. According to one school board member, there were several plans suggested by the superintendent and some by the school board. One such plan was to move the displaced Benton Middle School students into an operating middle school in a neighboring town. Another plan discussed was to move the high school student body into the operating high school building in a neighboring town on an alternating day schedule. For instance, one student body would attend school on a Monday, Wednesday, Friday schedule, and the displaced high school student body would attend school on the alternative dates. Although such plans were highly questionable educationally, the plans were actually discussed as viable possibilities.

The option of double sessions for two high school student bodies on a five period day in one high school building was not apparently suggested as an option. Such an alternative would have placed both student bodies in facilities designed for high school use. The five options, although educationally and socially questionable, would not have placed any student bodies in facilities designed for their level of education. The alternative of double sessioning one high school building with two student bodies, which was not discussed as a viable option, might have caused the least disruption as far as student movement was concerned. The alternative would have also allowed all students to be in facilities designed for the type of educational program in which they were enrolled. This housing alternative would undoubtedly have been more economical than what was implemented. The school board alternatives were presented to the two communities on June 21 and June 22 as viable alternatives for housing the students.

Finally on the July 6, 2009, meeting, six weeks before the beginning of the school term, the superintendent presented a plan for placement of the Benton High School and

the Benton Middle School student bodies, along with the movement of the alternative education programs in the old Chester Middle School building. The plan called for the Benton High School students to be housed in the Benton Middle School building and the middle school students in the old Chester Middle School building. The school board approved the plan on July 15, 2009 (Montgomery County School Board Minutes, July 15, 2009). The last-minute decision was at least met with relief on the part of the high school students and parents, and with considerable dismay on the part of middle school students and parents. Nevertheless, these parents and students accepted the finality of the decision and realized there was no recourse.

CONSEQUENCES OF THE PLAN

The Benton Middle School building, which was only seven years old, was originally designed and constructed to house 1,200 middle school students; yet two portable classroom units were placed on the campus of the Blacksburg Middle School to accommodate the high school student body of 1,100 pupils. Obviously, there were no chemistry, physics, or technology laboratories in the middle school building. Additionally, the library was sized for a middle school student population, rather than for a high school population. The physical education facilities were designed for middle school students and not for a high school program that included an interscholastic athletic program. Additionally, there was no auditorium or large area for student assemblies.

The displaced Benton Middle School students in turn would be housed in a vacant older middle school building located ten miles away in an adjacent town. The old Chester Middle School was built some time during the 1950s, making some of the buildings over 60 years old. The school building was a modified campus-style structure, having had additions to the original building completed over time according to need. Because of the age of the buildings, several of the necessities for a good learning environment were lacking. The buildings did not have modern thermal control and the lighting, even though improved, was marginal. The school campus was in the middle of a small town, but bounded by two major thoroughfares with constant automobile traffic. Acoustical control was lacking in the buildings. The old buildings could not accommodate the nearly 900 middle school students; as a result several portable classrooms were purchased and placed on the site. In addition, the school authorities had to expend $1.5 million in improvements to the school building to make it suitable for use (Montgomery County School Board Minutes, July 15, 2009).

Previous to this catastrophic happening, the old middle school building housed several programs for students in alternative education settings. These programs and students had to be moved from the old Chester Middle School to buildings that were in even worse conditions than what they had been in before, at least according to one teacher in the program (Hartenstein, 2010). Of course, students in alternative education programs are usually very vulnerable, and such changes can easily disrupt their efforts to learn. Nevertheless, these students were moved from less-than-desirable facilities in the first place to what some thought were even less desirable facilities. Needless to say, the move, in and of itself, plus the different facilities had an influence upon the students in all of these programs.

As a result of all this cascade of moves of students to different facilities, three different student bodies or groups of students were uprooted and placed in facilities that were either not designed for them, or were facilities that had been abandoned because of age and their unsuitability for a modern educational program. The end result was that high school students were attending school in a building designed for middle school students. The middle school students were in an old building that was abandoned because

the facility was not suitable for a modern educational program. The students in the alternative education programs were moved into older buildings not suited for their type of educational program.

COMMUNITY ATTITUDES

Naturally these moves of the three student bodies engendered some negative attitudes on the part of students, teachers, and parents. There were some letters to the editors from parents and students in the local newspaper indicating dissatisfaction with the housing arrangements. (Sunday Forum, 2010). The middle school teachers had some resentment against the high school teachers because they were usurping their space by being in the Benton Middle School building. This happened even though the high school teachers and administration had nothing to do with the decisions. A teacher in one of the alternative education programs who had to move from the old middle school building to make way for the Benton Middle School students stated that she and her students were placed in even worse facilities than before because of the move (C. Hartenstein, 2010). The results of the three student bodies being moved to different locations did not improve the climate or morale of the teaching staffs of the three student bodies, let alone the students and parents.

TRAFFIC PROBLEMS

The traffic problems that the initial move of the high school students in with the middle school students created was not alleviated in any manner by the latter solution. In fact, the traffic problem was exacerbated by the necessity of transporting the middle school students to a facility in a different town. Buses bringing high school students to the middle school building, plus buses bringing middle school students to the same facility, and the parent and high school student drivers all converge on the middle school site morning and afternoon. At the present time, the middle school students are picked up by bus in their neighborhood (as was done before the drastic move), and taken to the middle school building where they are re-loaded into buses to be taken 10 miles away to the old middle school building in a neighboring town. Students ride the buses for almost one hour each way morning and afternoon. This is much more than what most educators believe is the maximum time limit.

FINAL DECISION

The latest decision by both the school board and the board of supervisors was to build a new high school in Benton and another building to replace the old Ashburn High School and renovate the old Ashburn high school building. The Ashburn High School Building replacement had been in the capital improvement program of the school division for quite some time prior to this date. At the present estimates, the projects will cost in the neighborhood of $132 million in 2009 dollars (Mallory & Polantz, 2010). By the time these projects can be bid for construction, the cost will naturally increase putting a greater tax burden of at least a 17% increase on the citizens of the county.

LESSONS ABOUT PLANNING

What lessons in planning can be learned for a situation like this? The collapse of a school roof is not the only catastrophe to be endured. During the year of this event there were more than 300 severe tornados plus severe and damaging flooding in the United States, and a devastating earthquake in Japan. Not many school authorities are placed in such painful and exhausting situations where the natural elements ruin the physical structures that have been created and, perhaps in some cases, reveal shortsightedness on

the part of school personnel and those who design and construct schools. Yet there are lessons to be learned by observing the misfortunes of other entities.

Expediency Rules Planning

The first thing that can be learned is that expediency overrules normal planning efforts. Expediency, however, does not have to rule out feasible and effective alternatives such as it did in this situation. Viable housing alternatives could be identified if sound thinking is employed. The timeframe for decisions in crisis planning is compressed exceedingly. Decisions must be made in minutes, not days. The time for gathering data is shortened considerably. These situations, of course, are ripe for errors. Emergency situations provide a platform for decision making that does not always have the best possibilities available to school authorities. Obviously, the ideal planning situation is not at hand when a school building collapses during the school year and students have no immediate place to be housed. Emergency decisions must be made absent a reasoned approach. Time is not a friend to the educator or planner in such a situation. Nevertheless, sound- planning efforts can be made in such situations if a rational approach can be taken.

Planning Supervision

Results of several investigations of the high school building reported mistakes were made in the original construction of the building resulting in the unsuitability of the building for further use. Obviously, such mistakes were the result of the lack of sufficient supervision of the construction phase of the building. Supervision of construction that permits such mistakes is not in the best interests of the school board. This is what happened in the Benton situation.

Another prerequisite of planning is that school personnel must provide competent and severe supervision of all design and construction projects. School personnel must be expert enough to read design plans and technical specifications. If the school staff does not have that expertise (and small school divisions usually do not), then outside neutral expertise must be employed (Tanner & Lackey, 2006; Earthman, 2009). This must be a stringent requirement of every school board of its own employees. Some design professionals suggest the use of commissioning to insure the integrity of design plans and construction methods, but this method does not provide the complete supervision need on a construction project to eliminate as many construction errors as possible (Earthman & Lemasters, 2004). Regardless, oversight of the design professionals and construction companies by school division personnel is mandatory.

Educationally Sound Alternatives Needed

The prerequisite of all sound planning is the identification of sound alternatives. Regardless of the time frame, rational and feasible options or alternatives to the situation is a must for the school staff to identify. This effort should not be abrogated in emergency situations such as was the case in Montgomery County. The superintendent and staff did not identify educationally sound alternatives to house students. From the Board minutes, the alternatives identified and presented to the school board had one overarching idea of having the Benton High School students go to the Benton Middle School building. That was the first option and all of the other options identified dealt with the housing of the middle school students in various locations. This type of alternative identification is not sound planning, nor is it reasonable. Good planning is when all possible alternatives and their consequences and costs are identified and evaluated. The superintendent and her staff obviously did not deal with the consequences or costs of the various alternatives,

and could not have evaluated the alternatives closely enough because there was always a major given which was that the Benton High School students would occupy the Benton Middle School building. This is the antithesis of good planning. Even in an emergency, good planning demands all alternatives be placed on the table for discussion and evaluation.

Student Wellbeing

One of the most important lessons to be learned from this terrible situation is that good research should guide the educator in making educational decisions on the wellbeing of students and teachers. There is sufficient good research on the relationship between the condition of school buildings and student and teacher health and productivity to provide guidance in making decisions regarding placement of students and teachers (Cash, 1993; Earthman et al, 1995; Hines, 1996; Lanham, 1999; Crook, 2006; Bullock, 2007). The research is plentiful and credible in suggesting that students be placed in the best possible physical environment for the best possible performance. On the contrary, research also indicates that by placing students in a building that should be assessed as being in unsatisfactory condition will result in student academic performance that is less than if they were in a satisfactory building. Yet, this apparently did not deter the school authorities from placing the middle school students in a building that was at least 60 years old and did not have the necessary components for adequacy (Earthman, 2002). There were some options available that would have prevented placing students in such buildings.

The same could be said for the high school students only with a different twist. It is quite sensible to acknowledge that high school students need proper kinds of facilities and equipment to succeed in a modern high school educational program. Obviously, a middle school building does not have the kinds of facilities and equipment to adequately support a modern high school educational program. In the situation above, teachers and students will have to make do with facilities and equipment designed for a different kind of educational program. To say otherwise, is to say that students can be adequately educated in any kind of an environment. Again, research is quite explicit in stating that for students to succeed in a modern educational program and for teachers to have the means for expert teaching, proper facilities and equipment are needed (Bailey, 2009; Lemasters, 1997). Because of this, options that would place students and teachers in the best possible locations should have been explored. The availability of vacant space should not be the basis of decisions regarding the placement of students and teachers, especially if the vacant building is over 60 years old. Researchers have found that the age of the school building does influence student performance (Phillips, 1997; Plumley, 1998; Bowers & Burkette, 1988). Older school buildings are not capable of accommodating a modern educational program and do not typically have the right components such as proper thermal control, good lighting and acoustical control to facilitate effective student learning and teacher performance.

The safety and health factors must be foremost in the considerations of placement of students and teachers (Earthman, 2002). This includes the fact that such older buildings present a real fire hazard to the users of the building. A reasoned and stable approach to all possible options need to be explored in a rational manner for the best possible solution, especially in an environment of not having the best solution available. Again research can provide the best basis for decision-making for all educators.

Community Involvement

The normal planning process that includes the community has a good research basis that should be used by school personnel. Research in communication and community processes can guide the educator in properly including the community and stakeholders in the decision-making process. Research also suggests that the community and other stakeholders do not make decisions, they simply advise the professionals as to their own wishes. The school personnel should never give the community a list of possible suggestions to decide between them. The community does not have the background information to make such decisions in the first place, and to entice the community into believing the school authorities will let the community decide is a risky and dangerous practice. Best practices indicate that the school authorities examine the situation and possible alternatives. Based upon the information they have and their knowledge of how students learn best, they should develop a defensible plan to present to the community. Then discussions of alternatives considered but rejected can take place followed by a presentation of what the school authorities believe is the best solution. Only in this manner can the community be intelligently brought along in the process and understand the constraints of the situation.

Political Considerations

Too often school authorities are pressured into the decision-making process resulting in decisions that may or may not be in the best interests of the students. This could well have been the case in the Benton High School roof collapse and subsequent placement of students. Political pressure from outside the school organization can influence decision making as can the inevitable fear by educators themselves that they will be criticized by outside interests for decisions they make. When these interests have a political nature, there is even more pressure on the school authorities and professionals regarding the quality of their decisions. Having a politician looking over the shoulder of every move by educators is often times intimidating and, unfortunately, educators are capable of yielding to such intimidation. In the case of the Montgomery County there are four distinct communities and these communities have feelings about and for the local school buildings. Further, these communities want their fair share of the resources of the county as they perceive them.

Although there did not appear to be any direct political pressure upon the school authorities and school board in making decisions, nevertheless the indecision and wavering back and forth by the school board and administration seemed to indicate some sort of concern for outside pressure either by the community or the Board of Supervisors. In this situation the Board of Supervisors of the county does have the funding responsibility for the local school board and there could have been some thought of the possible financial consequences of the school board decisions. Undoubtedly there was community pressure to keep the Benton High School students in the town, thus forcing the school board to move the Benton Middle School students to the neighboring town in spite of the fact that the reverse might have caused less disruption to both student bodies. Transparency is the only means educators have for militating against such pressures. That plus keeping the community informed of what is happening in the decision-making process helps to diffuse pressure, but does not entirely eliminate it. Knowledge of these facts should be in the forefront of educators while planning for solutions to such extreme situations.

SUMMARY

Catastrophes can happen in every location. Most of the time the individuals and organizations involved in the happening have not expected the occurrence nor have necessarily planned for it to happen. Planning in a crisis must begin immediately and be done in a compressed time frame. Most importantly, educationally sound solutions or alternatives must be developed by the school staff as quickly as possible. Outside or political influence should be minimized so that the school staff is not put into a situation where solutions or alternatives that are not educationally sound are put into consideration. Although it is very difficult for educators to resist political influence, it is their responsibility to remember that what is best for children must prevail as it is their responsibility. Transparency of information is the only method of resisting political influence that might not be in the best interest of students. As always, the wellbeing of the students and staff should be foremost in the planning efforts of the school authorities.

REFERENCES

Bailey, J. (2009). *A synthesis of research relating to the relationship between school building condition and student achievement, attitudes, and behavior*. Blacksburg, VA: Unpublished doctoral dissertation. Virginia Polytechnic Institute and State University.

Bowers, J.H. and Burkette, C.W. (1988). Physical environment influences related to student achievement, health, attendance, and behavior. *CEFPI Journal.*

Bullock, C. (2007). *The relationship between school building conditions and student achievement at the middle school level in the Commonwealth of Virginia*. Blacksburg, VA: Unpublished doctoral dissertation. Virginia Polytechnic Institute and State University.

Cash, C.S. (1993). *Building condition and student achievement and behavior*. Blacksburg, VA: Unpublished doctoral dissertation. Virginia Polytechnic Institute and State University.

Crook, J. (2006). *A study of school building condition and student achievement and behavior in the high schools of Virginia*. Blacksburg, VA: Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University.

Dewey, J. (1938). *Experience and Education.* NY: Simon and Schuster.

Earthman, G.I. (2002). *Prioritization of 31criteria for school adequacy*. Baltimore, MD: American Civil Liberties Union Foundation of Maryland.

Earthman, G.I. (2009). *Planning educational facilities: What every educator should know*. Lanham, MD: Rowman and Littlefield Publishers.

Earthman, G.I. & Lemasters, L.K. (2004). *School maintenance and renovation: Administrator policies, practices, and economies.* Lancaster, PA: Pro>Active Publications.

Earthman, G.I., Cash, C.S. & Van Berkum, D. (1995). Student achievement and behavior and school building conditions. *Journal of School Business Management*, 8 (3) 26-37.

C. Hartenstein. (Email communication, January 15, 2010).

Hines, E. (1996). *Building condition and student achievement and behavior*. Blacksburg, VA: Unpublished doctoral dissertation. Virginia Polytechnic Institute and State University.

Lanham, J., III. (1999). *Relating building and classroom conditions to student achievement in Virginia's elementary schools*. Blacksburg, VA: Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University.

Lemasters, L.K. (1997). *A synthesis of studies pertaining to facilities, student achievement and student behavior*. Blacksburg, VA: Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University.

Mallory, A.L. & Polantz, K. (2010). *Blacksburg high school*: *A breakdown.* Roanoke Times, November 7, 2010, pp 11-13.

Montgomery County School Board Minutes. (July 15, 2009). Christiansburg, VA.

Montgomery County School Board Minutes. (February 17, 2010). Christiansburg, VA.

Montgomery County School Board Work Session Minutes. (June 15, 2009). p 7. Christiansburg, VA.

Phillips, R.M. (1997). *Educational facility age and the academic achievement and attendance of upper elementary school students*. Athens, GA: Unpublished doctoral dissertation, University of Georgia.

Plumley, J.P. (1978). *The impact of school building age on the academic achievements of selected fourth grade pupils in the State of Georgia.* Athens, GA: Unpublished doctoral dissertation, University of Georgia.

Sunday Forum, (2010). Roanoke Times, November 7, 2010, Current Section, p 4

Tanner, C.K. & Lackney, J. (2006). *Educational facilities planning: Leadership, architecture, and management*. Boston, MA: Allyn & Bacon, Pearson Education.

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.

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