The Online Journal of New Horizons in Education

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April 01, 2015
Prof. Dr. Aytekin İŞMAN
Sakarya University

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AN OVERVIEW OF INTERNATIONAL EDUCATION IN HIGHER EDUCATION FROM A MACRO PERSPECTIVE

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Abstract: Expansion of globalization triggered more people from various walks of life to demand university education, gave rise to the number of higher education institutions and popularization of international education programs. It is a requirement to analyze globalization, internationalization and the international opportunities all shareholders of higher education institutions can benefit in Turkey and around the world. Depicting the present situation, this study is a descriptive survey which involves the results of local and international studies on globalization, internationalization and international education. It also includes the findings of various articles, thesis and books published in different countries. In this study, the effects of globalization, internationalization and their impact on education are examined from educational, cultural and financial aspects. The second part of the study introduces the international opportunities in tertiary education and their application in Turkey.

Keywords: International education, globalization, exchange programs

Introduction

Financial, social, political and cultural developments changed agricultural society into an industrial society and with the advent of new technologies, the world has turned into an information society. Due to the improvements in technology and mass media, social changes and international interactions have gained speed. Therefore, globalization has become inevitable and has given way to transition from information society to communication society by creating a world beyond borders.

Although globalization is defined in various ways by different scientists, most of these definitions focus on the financial aspect of the term. According to Lubers, the word global dates back to 1600s, but the term globalization is a new one (Özkan, 2006). Hirst and Thompson define globalization as a growing flow of commerce among countries and an open international economy which includes investment of capital. However, sociologist Peter Berger describes globalization as the cultural face of a financial based process. Similarly, Giddens explains it as a financial, political, technological and cultural concept (Özkan, 2006). As these definitions indicate, the political and cultural aspects of globalization are inevitable howewer much the term originally refers to the financial issues. Therefore, focusing only on commercial facet would be misleading.

Globalization is often confused with internationalization, but is in fact a completely different phenomenon. While internationalization refers to the significance of international commerce and relations, globalization refers to global economic integration of national economies into one global economy. Although the relations among nations become constantly necessary and important, the basic focus of internationalization is still the nation. However, globalization is the annulment of national boundaries for financial reasons primarily by free trade and free capital mobility (Daly, 1999). Therefore, the difference lies in their focus. While globalization highlights an economic process, cross-border sharing, common market and dependence; internationalization enhances world view, multicultural approaches and attitudes.

Having different aspects, globalization has brought about new concepts such as competitiveness, global education, global culture, global economy, global policy, democratization, indigenization, privatization and marketization (Şentürk, 2007). In line with the aims of this study, we will focus on the term global education. Global education is a process which enhances the knowledge, skills and behaviours required for surviving in a world of pluralism, international dependence and international financial competition (Özkan, 2006). We aim to highlight relationships and interaction among countries and train new generations who are aware of ethnic values, cultural pluralism and are capable of living in new environments.

Impact of Globalization and Internationalization on Education

A nation's human capital can be a more significant determinant of its long-term financial success than any other resource. Therefore, this resource must be invested in and used efficiently to develop returns. Although there is

high rate of unemployment around the world, there is also scarcity of skills and talents in global economy, which slows economic growth down if it is neglected. In fact, according to the 2013 Human Capital Index, the countries which are ranked in top 10 are those which invest in education pillar (Zahidi, 2014). Since human capital is attained through education and effects not only one nation but also the whole world, all the educational institutions around the world should take the importance of it into consideration. In this sense, international education and mobility of students and academic staff play an important role. The more all the shareholders of tertiary education internationlize, the more and better talents and experiences they will possess, which will generate a rich human capital all over the world bringing about economic balance.

As a result, like many other institutions, higher education institutions have started to evaluate their missions and responsibilities in search of preparing their graduates as global citizens and professionals in today's world. Therefore, they base their policies on internationalization which Knight (1994) defines as a process of integrating an international dimension into the teaching, research, and service functions of the institution (Jackson, 2008). It is obvious that education plays a crucial role in the process of globalization, for training skillful individuals who can adapt to new challenges becomes essential with the increase in international relations. International education helps developing students' worldview, global identity, intercultural sensitivity (being flexible and tolerant with values and modes of behavior, open-minded, and willing to try new things, especially food) and communicative competence (foreign language proficiency, communication styles).

International Opportunities in Higher Education

Education affects societies in terms of political, social, economical and cultural aspects by providing service to individuals throughout their lives. Therefore, organizing the educational services according to the modern developments in line with the needs of individuals and societies are among the priorities of all the countries in the world. The most important issue of the modern age is human capital for it maintains economical growth and social development and currently, the most powerful countries in the world are those which invest in human capital. Human capital can be expressed as the stock of competencies, knowledge, social and personality attributes, including creativity, cognitive abilities, embodied in the ability to perform labor so as to produce economic value. It is of utmost importance to invest in human being for increasing their abilities and qualifications during the process of becoming an industrial and information society.

When we look at the developed countries in the world, the common features of them are having high-grade universities which are active in international cooperations and research- development technologies. Since investment in education is rewarding for both individual and society, contribution of education in financial growth and the increase of national income are inevitable. Training individuals who can keep up with the technology and contemporary life is only possible through a quality educational system which is rational and universal.

Being aware of these positive effects of internationalization, higher education institutions aim at increasing the opportunities through which students can benefit outside their home countries through bilateral, multilateral agreements, joint projects, dual diploma programs, student and faculty exchange programs, multiple varions of study and residence abroad programs, internships or service learning in a foreign country, intercultural curricula, multilingual curricula, foreign language education, area or cultural studies, international or comparative education programs, offshore campuses and distance learning activities. In line with these goals, higher education institutions not only motivate their students and staff to participate in international programs but also develops their promotional activities by enhancing their organizational images, attending international educational fairs, and visiting foreign countries to establish new contacts. Apart from these, higher education institutions extend their opportunities with the help of grant programmes, volunteer programmes, strategic partnership programs such as

- Mevlana Exchange Programme granted by Higher Education Council of Turkey,
- Erasmus + Exchange Programme granted by European Union,
- Fulbright scholarships supported by the USA government,
- Humboldt Foundation scholarships supported by German Government,
- Jean Monnet scholarships,
- Research and study scholarships supported by different countries
- Student competitions in which students can present their inventions or research results,
- Interrail programs which enables students travel around Europe with a rail pass
- Work and Travel.

With the constant increasing number of universities around the world, the number of students participating in study abroad (SA) programs has been increasing dramatically. The trends in international students tends to be on the rise in the following years because the number of students enrolled outside their home has risen from 0.8 million worldwide in 1975 to 4.3 million in 2011. This number worldwide more than doubled, with an average annual growth rate of almost 7% between 2000 and 2011 (OECD, 2013).

According to the 2007 OECD reports there were 2.7 million students enrolled in higher education outside their home countries in 2004. It is estimated that this number will rise to about 7.5 million by 2025 (Verbik, L. and Lasanowski,V., 2007). Most of these students will be engaged in year abroad programs and short-term sojourns or internships, ranging from a week to 3 or 4 months (Jackson, 2008). However, a more recent study done by OECD (2013) indicates that nearly 4.3 million students are enrolled in tertiary level education outside their home country. Australia, the United Kingdom, Switzerland, New Zealand and Austria have, in descending order, the highest percentage of international students. Among these, Asian students represent the 53% of foreign students most of whom are from China, India and Korea. OECD countries host more international students than they send abroad for university education. Some 83% of all foreign students are enrolled in G20 countries, while 77% are enrolled in OECD countries. These proportions have remained stable during the past decade.

This study also shows that three out of four students studying abroad prefer OECD countries. Australia, Canada, France, Germany, the United Kingdom and the United States together attract more than 50% of all foreign students around the world. Europe is the top destination for university students enrolled outside their home country. It hosts 48% of these students while North America hosts 21% of all international students. In the case of Oceania, the number of international students in have tripled since 2000 although the region hosts less than 10% of all foreign students. The numbers of international students are rising in Asia, Latin America and the Caribbean, which reflects the internationalization of universities in different countries (OECD, 2013). These results might cause from the effect of exchange programs such as Erasmus Exchange Program as it included only European countries until 2014.

Erasmus Student Mobility will be more reinforced through Erasmus+, the new EU programme for education, training, youth and sport to be started in 2014, which will provide the students with the opportunity to study abroad during the next seven years. According to a statistical report published by European Commission, 3244 students from 11 countries spent a study period abroad under the Erasmus Programme in 1987. 25 years later, in 2011-12, the Programme is nearly 80 times larger, with more than 250,000 students and 46,000 staff spending a mobility period abroad (European Economy, 2009).

However, this situation might change with Mevlana Exchange Program, which is supported by Turkish Higher Education Council and in accordance with todays global academic perception, Mevlana Exchange Programme students and academic staff will have the opportunity to study at a University that they desire in any part of the world except those involved in Erasmus Program. It is not limited with a region, area or certain part of the world.

As in the case in many other countries, globalization has affected the political, financial, social and cultural resources of Turkey, which also has placed Turkey into interaction with the world in terms of education (Çetinsaya, 2014). This is partly due to the geopolitical location of Turkey. Being at the juncture of two continents, Turkey is within easy reach of many countries, which is an advantage to draw students from different parts of the world. This location also provides students with a rich cultural atmosphere and natural beauties, which gives them the opportunity to have fun and extend their knowledge as they study. Turkey is also an appropriate place where the international students can experience the mixture of a variety of cultures blended with both western and orientalist elements. Therefore, students from all parts of the world regardless of their nationalities, origins, religions, languages and etc. are most welcome in Turkey and Turkish hospitality. For this reason, government and higher education institutions should analyze the potentials of the country to intake international students and take necessary precautions accordingly. They can establish consortiums with other universities and contact with international organizations in order to promote Turkish higher education universities abroad. Moreover, international students can prefer Turkey as the cost of living is not so expensive as it is in the most popular countries.

With over 180 higher education institutions, over 140,000 academic staff, around 5.5 million tertiary students and increasing public finance support regardless of the global financial crisis, higher education in Turkey has certain advantages in the context of internationalisation in tertiary schools. These institutions have been experienced in participating in and benefiting from the educational facilities, funding and grants of European Union (Çetinsaya, 2014). On account of this, from now on it is even more easier to comply with the requirements of international

education, propose new projects that can develop global teaching opportunities and bring about exchange of students and staff among the colleges.

Conclusion

In this sense, institutions of higher education are reevaluating their goals as they try to answer the following question: how can they best meet their students' expectations in terms of providing international programmes for them and upgrading their academic skills in today's diverse world? As a response to this question, higher education institutions are trying to keep up with increasingly interconnected world by encouraging students to receive education outside their home countries due to their ever-increasing cooperations with partners all over the world. The popularity of exchange programs in foreign universities has grown considerably in recent years, also in the universities of Turkey have made profound efforts to attract students from different countries. With these international programmes, students have the opprtunities to learn about other cultures, to upgrade their international perspectives and skills and to develop their crosscultural understanding.

As it is a new concept in higher education, internationalization should be considered with more sound and organized strategies in order that Turkish universities can be more effective. Therefore, it should be handled as a government policy and all the plans and legislation should be prepared accordingly. In doing this, it is of utmost importance to maintain quality. In this regard, both the old and newly established universities should do their best in order to offer the best quality education so that it would worth for international students to come all the way from different parts of the world.

It is expected that student mobility will grow, however, institutions are in a competition to accept talented and self-funded students. Therefore, they should improve their recruitment efforts which can be implemented in a shorter time and with reasonable budgets. This is to be done with an awareness of global mobility trends and investment in analysing the decision-making process of their prospective students. (Choudaha and Chang, 2012) For this reason, it is important for these instituions to follow the changes and developments not only in global education but also in the various aspects of higher education.

References

Choudaha, R. and Chang, L. (2012). *Trends in International Student Mobility.* WES Research and Advisory Services.

Çetinsaya, G. (2014) *Büyüme, Kalite, Uluslararasılaşma: Türkiye Yükseköğretimi için Bir Yol Haritası.* (pp. 199) YÖK Yayınları, Eskişehir.

Daly, H. E. (1999) *Globalization versus internationalization*
http://www.globalpolicy.org/component/content/article/162/27995.html [Accessed 07/04/2014].

European Economy (2009). *Economic Crisis in Europe: Causes, Consequences and Responses.* European Commission, Directorate-General for Economic and Financial Affairs.

Jackson, J. (2008). *Globalization, internationalization, and short-term stays abroad* (pp. 349 – 358) International Journal of Intercultural Relations.

Knight, J. (1994). *Internationalization Elements and Checkpoints.* Canadian Bureau for International Education. Research Monograph No.7. Ottawa, Canada.

OECD (2013), *Education Indicators in Focus.* OECD Publishing.

Özkan, T. (2006). *İlköğretim Öğretmenlerinin Küresel Eğitime Yönelik Görüşlerinin Değerlendirilmesi.* Master Degree Thesis, Social Sciences Institute, Çukurova University, Adana.

Şentürk, İ. K. (2007). *Küreselleşmenin Eğitim Fakülteleri Üzerine Etkileri.* PhD. Thesis, Social Sciences Institute, Hacettepe University, Ankara.

Verbik, L. and Lasanowski,V. (2007). *International Student Mobility: Patterns and Trends*,
The Observatory on Borderless Education, London.

Zahidi, S. (2014) *"The Human Capital Index" Education and Skills 2.0: New Targets and Innovative Approaches*. World Economic Forum,Geneva, Switzerland.

DIFFERENCES OVER TIME IN HISPANIC STUDENTS TAKING AND PASSING THE STATE TEACHER EXAM

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Abstract: The extent to which changes had occurred in the numbers of Hispanic students taking the Texas Examinations of Educator Standards and passing this exam from 2-year higher education institutions between the 2004 and the 2011 academic years was examined. Statistically significant increases were yielded in the average number of Hispanic students taking the Texas Examinations of Educator Standards between the 2004 and the 2011 academic years, from 7.17 to 17.83 students, and in the average percentage of Hispanic students passing the Texas Examinations of Educator Standards, from 80.46% to 99.56%. These numbers are indicative of improvements with respect to Hispanics being able to enter the teaching profession. Implications of these findings are discussed.

Keywords: TExES, Hispanic students, 2-year institutions, Texas

I.   INTRODUCTION

The U.S. Census Bureau (2010) reported that 16% of the nation's population were Hispanics, having experienced a 3% increase since 2000 (Ennis, Ríos-Vargas, & Albert, 2011). The states most affected by the increase in Hispanics have been California, Texas, and Florida. These states account for over half of the total Hispanic population in the nation. In particular, 50.2% of the Texas population is Hispanic, making it a majority-minority state. This growing population trend influences both the economy and the education system (Pew Hispanic Center, 2005).

In the 2011-2012 academic year, 2.6 million Hispanics were enrolled in non-profit institutions (Hispanic Association of Colleges and Universities, 2013). Of these 2.6 million Hispanic students, 51.7% were enrolled in 2-year higher education institutions (Hispanic Association of Colleges and Universities, 2013). A 25.2% increase has occurred in the overall Hispanic student enrollment in 2-year higher education institutions, particularly in the 18-24 year old student group (Fry & Lopez, 2012). Furthermore, the National Center for Education Statistics documented that 13.2% of Hispanics students earned an associate's degree compared to 8.5% of Hispanic students who earned a bachelor's degree in 2010 (Snyder & Dillow, 2012). Haro (2008), however, contended that the increase in Hispanic student enrollment in 2-year higher education institutions has not led to these students persisting to 4-year higher education institutions. As such, enrollment in 2-year institutions may ultimately influence their future academic and career goals (Haro, 2008). Higher education institutions need to assess their current policies and practices to determine factors influencing the Hispanic student persistence rates.

A growing need exists for more ethnic diversity in teachers as numerous researchers (e.g., Gomez, Rodriguez, & Agosto, 2008; Ingersoll & May, 2011; Noguera, 2009; Quiocho & Rios, 2000; Torres, Santos, Peck, & Cortes, 2004) have contended that the teaching workforce needs to reflect the diverse student population in the school setting. Reported in the 2008 School and Staffing Survey was that 83% of the teaching force was White and 7% was Hispanic or Black. Furthermore, school districts have not kept up with these changing student demographics (National Center for Education Statistics, 2008). Fry and Gonzales (2008) noted a 60% increase in Hispanic student enrollment in Kinder thru 12th grade from 1990 to 2006. Due to this demographic trend, one-in-five public school student is of Hispanic descent (Fry & Gonzales, 2008). The latest population projections by the U.S. Census Bureau indicate an increase of 166% by 2050 of Hispanic students while the non-Hispanic student population will only grow by 4% in public schools (Day, 1996; Fry & Gonzales, 2008; Irizarry & Donaldson, 2012). Almost half, 49.7%, of the students under the age of five were minority in 2011 (U.S. Census Bureau, 2012). Disparities exist among the numbers of minority teachers in comparison to the number of minority students within a school (Ingersoll & May, 2011). Because these disparities are still present, higher education institutions have formulated recruitment and retention plans to increase underrepresented groups among their student population (Harris, Joyner, & Slate, 2010).

In recent years, debate surrounding educational reform has been focused on the need to diversify the teaching workforce and to provide role models for students of diverse ethnic backgrounds (Villegas & Irvine, 2010). Benefits from a culturally diverse teaching workforce would help to bridge the gap of cultural discontinuity in the classroom and improve teachers' perceptions of students' ethnic and cultural backgrounds (Bone & Slate, 2011; Graybill, 1997). Additionally, culturally diverse teachers have an impact on the cultural climate within the classroom, facilitate multicultural interactions among students, and address the varying learning styles of ethnically diverse students (Bone & Slate, 2011; Harris et al., 2010).

School districts have relied on 2-year higher education institutions along with other teacher certification entities to bridge the ethnic gap among their teaching staff (Little & Barlett, 2010). Two-year higher education institutions that incorporate early recruitment strategies of Hispanic students in teacher preparation programs establish a pathway to teacher certification and reduce the Hispanic teacher shortage in public schools (Texas Association of Community Colleges, 2002). School districts and 2-year higher education institutions play a key role in shaping teacher preparation program policies and practices that are culturally responsive to their diverse student population (Irizarry & Donaldson, 2012). The state of Texas evaluates teacher certification entities based on their teacher candidates' 3-year performance average along with a survey administered to the school's principal (National Council on Teacher Quality, 2010). These accountability measures help to preserve the integrity and effectiveness of the certification programs. However, despite these accountability efforts, a lack of Hispanic teacher candidates taking and passing the Texas Examinations of Educator Standards (TExES) from 2-year higher education institutions still exists (Irizarry, 2011).

II.   PURPOSE OF THE STUDY

The purpose of this study was to determine the extent to which Hispanic teacher candidates had changed in their performance on the TExES at 2-year institutions between the 2004 and the 2011 academic years. An analysis of Hispanic teacher candidates' passing rates on the TExES assisted in analyzing the passing rate trends of Hispanic teacher candidates in 2-year higher education institutions in regard to their ethnic background. Additionally, analyzing these archival data aided in understanding the degree to which 2-year higher education institutions in the state of Texas had closed the ethnic gap among their Hispanic students' passing rate on the TExES. Furthermore, through this study we intended to address the gap in the literature and contribute to efforts made by 2-year higher education institutions to increase the percentage of Hispanic teachers in the teaching workforce.

III.   SIGNIFICANCE OF THE STUDY

Recruiting ethnically diverse teacher candidates into the teaching force has become a primary focus of many community colleges. This focus is in response to the need of school districts to serve diverse student populations (Bone & Slate, 2011; Johnson, 2008; Montecinos & Nielsen, 2004; Noguera, 2009). Limited research exists in which Hispanic teacher candidates in 2-year higher education institutions perform on the TExES has been addressed. This study will be beneficial for 2-year higher education institutions' directors and key officials and to school districts across the state of Texas in attempt to train and hire Hispanic teacher candidates seeking a teaching certification. Ideally, the results of this study may lead to more Hispanic teacher candidates taking and passing the TExES and becoming part of the teaching force.

IV.   RESEARCH QUESTIONS

The following research questions were addressed in this study: (a) What is the difference in the number of Hispanics taking the TExES between the 2004 and the 2011 academic years?; (b) What is the difference in the percentage of Hispanics passing the TExES between the 2004 and the 2011 academic years?; (c) What are the numbers of Hispanics taking the TExES for the 2004 through the 2011 academic years?; and (d) What are the percentages of Hispanics passing the TExES for the 2004 through the 2011 academic years?

V.   METHOD

5.1 Participants

Participants for this study were the 23 two-year higher education institutions on whom data were available from the Texas Higher Education Coordinating Board Accountability system website (http://www.txhighereddata.org/Interactive/Accountability/default.cfm). Using the Interactive Institutional List function on the Texas Higher Education Coordinating Board Accountability system website, the number of and percentage of Hispanic students taking and passing the TExES between the 2004 and the 2011 academic years, as well as the total of Hispanics taking and passing the TExES for the 2004 through the 20011 academic years were downloaded into an Excel file. These data, which were downloaded as Excel files, were converted into a Statistical Package for the Social Sciences (SPSS) datafile for statistical analyses. For some academic years, however, data were not available. As such, the sample size varies by year and by research question. For the purpose of this study, the data gathered were only for Hispanic students because they constitute a large percent of the student enrollment population and are one of the most underrepresented groups in the field of education (Pew Hispanic Center, 2005).

VI.   RESULTS

Descriptive statistics were calculated for all four research questions investigated in this study. Delineated in Table 1 are the sample sizes, means, and standard deviations pertaining to the number of Hispanics students taking the TExES between the 2004 and the 2011 academic years. The average number of Hispanic students taking the TExES in 2004 was 7.17 compared to the average number of 17.83 of Hispanic students taking the TExES in 2011.

Table 1. Descriptive Statistics for the Number of Hispanic Students Taking the TExES by Academic Year

Hispanic Students Taking the TExES by Academic Year	*n* of 2-year institutions	*M*	*SD*
2004	6	7.17	8.11
2005	7	9.43	6.66
2006	8	18.38	9.35
2007	7	22.00	7.23
2008	8	30.75	28.90
2009	8	17.88	7.20
2010	7	14.86	2.55
2011	6	17.83	9.15

Descriptive statistics pertaining to the percentage of Hispanic students passing the TExES between the 2004 and the 2011 academic years are delineated in Table 2. The average percent of Hispanic students passing the TExES in 2004 was 80.46% compared to the average of 99.56% of Hispanic students taking the TExES in 2011. These percentages are depicted in Figure 1. The average number of Hispanic students taking the TExES increased from 7.17 in 2004 to 17.83 in 2011. As evidenced in Table 1, a gradual increase was observed in the average number of Hispanic students taking the TExES for the 2004 through the 20011, varying by year. The average percentage of Hispanic student passing the TExES increased from 80.46% in 2004 to 99.56% in 2011. Readers are directed to Figure 2 for the average percentage of Hispanic students who passed the TExES in these two academic years. As revealed in Table 2, a gradual increase was revealed in the average percent of Hispanic students passing the TExES for the 2004 through the 2011, varying by year.

Table 2 Descriptive Statistics for the Percentage of Hispanic Students Passing the TExES by Academic Year

Hispanic Students Passing the TExES by Academic Year	*n* of 2-year institutions	*M*	*SD*
2004	13	80.46	36.83
2005	18	79.11	37.07
2006	17	96.71	6.61
2007	17	98.18	6.64
2008	17	96.00	5.90
2009	19	97.68	7.72
2010	18	96.00	6.12
2011	15	99.56	1.75

Prior to performing inferential statistics to address the previously mentioned research questions, the number of Hispanic students taking and passing the TExES variables were checked for normality. To test for normality in the distribution of the number of Hispanic students taking and percentage of Hispanic students passing the TExES, the standardized skewness coefficients (i.e., the skewness value divided by the standard error of skewness) and the standardized kurtosis coefficients (i.e., the kurtosis value divided by the standard error of kurtosis) were calculated. Because all of the standardized coefficients revealed normally distributed data (i.e., +/- 3) for the first dependent variable, number of Hispanic students taking the TExES, a parametric statistical procedure was utilized (Onwuegbuzie & Daniel, 2002). Because three of the four standardized coefficients revealed non-normally distributed data (i.e., +/- 3) for the second dependent variable, percentage of Hispanic students passing the TExES, a nonparametric statistical procedure was utilized (Onwuegbuzie & Daniel, 2002).

For the first research question, a parametric dependent samples *t*-test was utilized. The parametric dependent samples *t*-test revealed a near statistically significant difference in the number of Hispanic students taking the TExES between the 2004 and the 2011 academic years, $t(9.86) = -2.14$, $p = .059$. The effect size associated with this difference, Cohen's *d*, was 1.23, large (Cohen, 1988). Thus, a near-statistically significant average increase of 10.67 Hispanic students took the TExES in the 2011 academic year than in the 2004 academic year. As noted previously, descriptive statistics for this research question are listed in Table 1. For the second research question, a nonparametric Wilcoxon's dependent samples *t*-test (Huck, 2007) was utilized. The Wilcoxon's dependent samples *t*-test yielded a statistically significant difference in the percentage of Hispanic students passing the TExES between the 2004 and the 2011 academic years, $z = 2.78$, $p = .005$. The effect size associated with this difference, Cohen's *d*, was 0.73, moderate (Cohen, 1988). Hispanic students who passed the TExES in 2011 demonstrated a statistically significantly higher passing percentage than Hispanic student who passed the TExES in 2004, 19.10% higher. As noted previously, the descriptive statistics for this research question are presented in Table 2.

VII.   DISCUSSION

Results from this study indicate that 2-year institutions had an average gain of 5.60 Hispanic students taking the TExES from the 2004 to the 2011 academic years. Readers should note, however, that this gain was not reflective of a statistically significant increase. For the percentage of Hispanic students passing the TExES, however, a statistically significant increase of 13.44% was present in the passing rate from the 2004 to the 2011 academic years. Efforts made to increase the passing rate of Hispanic students have clearly been successful. Efforts made

by 2-year higher education institutions to increase the number of Hispanic students taking the TExES for the 8 years included in this study, however, have not been as successful. Hispanic students constitute 51.7% of the total student enrollment in 2-year higher education institutions across the nation, however, the enrollment population percentage is not reflective of the number of and percentage of Hispanic students taking and passing the TExES. The overall number of Hispanic students taking the TExES in 2004 through 2011 academic years at 2-year higher education institutions increased, however, increases in the number of Hispanic students taking the test has not reduced the disparities that still exist among the numbers of Hispanic teachers represented in the teaching force. The ethnic background of the teaching force remains overwhelmingly White and does not reflect the ethnic diversity of the student population (Rojas-LeBouef & Slate, 2012).
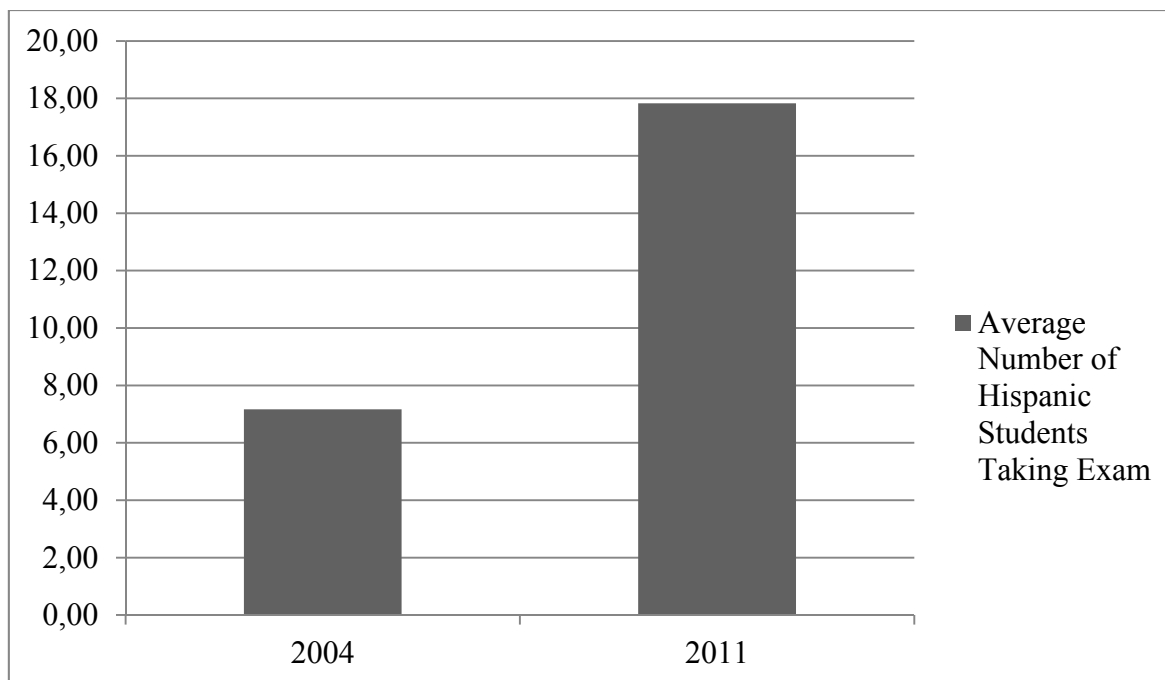
Figure 1. The average number of Hispanic students taking the TExES for the 2004 and 2011 academic years.

In the state of Texas, accountability measures of teacher preparation programs in 2-year higher education institutions have not been successful in increasing the number of Hispanic students taking and passing the TExES. Hispanic teacher candidates score lower on teacher certification examinations than Whites or Blacks (Angrist & Guryan, 2007). Few studies have been conducted to determine the extent to which teacher examination scores predict student achievement (Ferguson & Brown, 2000). Therefore, 2-year higher education institutions along with other teacher preparation entities could conduct an evaluation of their teaching preparation programs. Policy changes should reflect the growing need for underrepresented groups in the teaching force. The impact of a diverse teaching population may bridge the cultural gap in the classroom, facilitate learning, and improve teacher and student relationships (Bone & Slate, 2011; Graybill, 1997). Results from this study could evoke changes at the state and national level to examine higher education institutions and other teacher preparation programs' initiatives to increase the number of underrepresented groups taking and passing teacher certification exams to correlate with the number of underrepresented students groups in public education. Furthermore, higher education institutions could be more consistent in their annual reporting of students taking and passing the teacher examination.
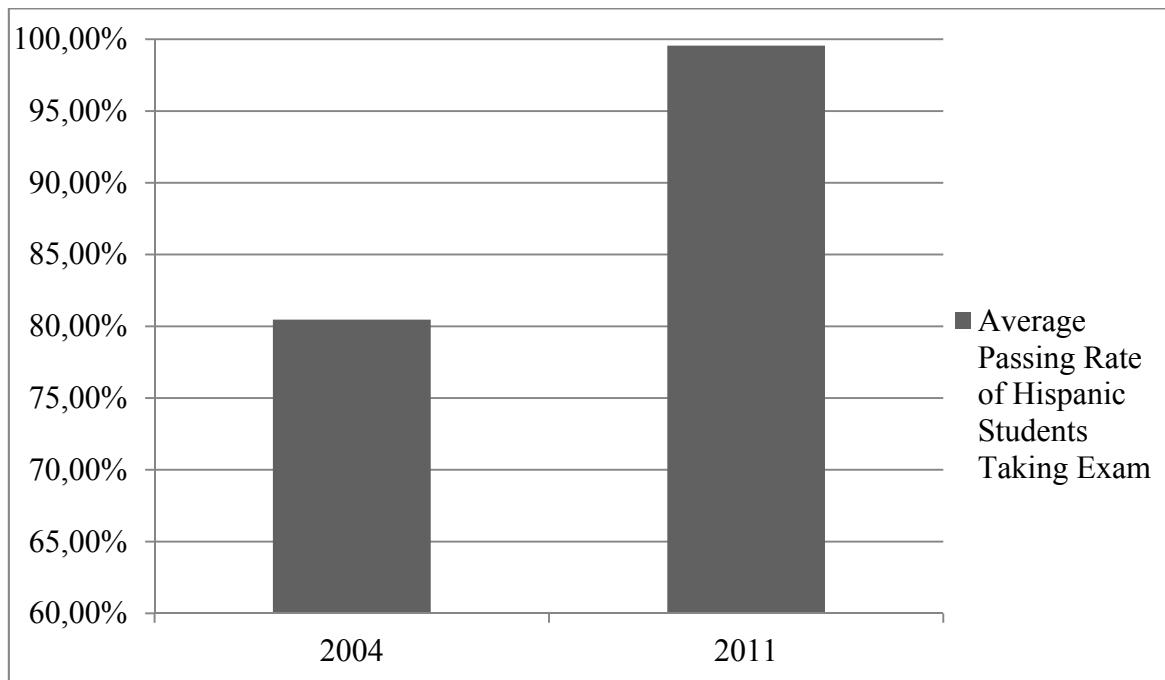
Figure 2. The average passing rate of Hispanic students taking the TExES for the 2004 and 2011 academic years.

In this study, the extent to which other ethnic groups (i.e., White, Black, Asian) performed on the TExES was not examined. Few studies were located in which the number of students taking and passing the TExES by ethnicity group was examined. Research in this area would contribute to a better understanding of why certain ethnics groups perform better or worse on the TExES. Additionally, future research could expand to higher education institutions in other states. Including more states would yield a larger sample size and provide a more comprehensive analysis of the data. Researchers may be able to utilize the information gathered from other states to determine best teacher certification practices used by other higher education institutions.

REFERENCES

Angrist, J. D., & Guryan, J. (2007). Does teacher testing raise teacher quality? Evidence from state certification requirements. *Economics of Education Review*, *27*(5), 483-503. doi:10.1016/j.econedurev.2007.03.002

Bone, J., & Slate, J. R. (2011). Student ethnicity, teacher ethnicity, and student achievement: On the need for more diverse teacher workforce. *The Journal of Multiculturalism in Education, 7*(1). Retrieved from https://wtamu.edu/webres/File/Journals/MCJ/Volume%207-1/Bone%20and%20Slate%20-%20Need%20for%20Minority%20Teachers.pdf

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Day, J. C. (1996). *Population projections of the United States by age, sex, race, and Hispanic Origin: 1995 to 2050*, U. S. Bureau of the Census (Report No. P25-1130). Washington, DC: U.S. Bureau of the Census.

Ennis, S. R., Ríos-Vargas, M., & Albert, N. C. (2011). *The Hispanic population: 2010*. Census Briefs. U. S. Census Bureau. Retrieved from http://www.census.gov/prod/cen2010/briefs/c2010br-04.pdf

Ferguson, R. F., & Brown, J. (2000). Certification test scores, teacher quality, and student achievement. *Analytical Issues for Assessment of Student Achievement*, 133-156. Washington, DC: National Center for Education Statistics. Retrieved from

https://www.stcloudstate.edu/tpi/initiative/documents/assessment/Certification%20Test%20Scores,%20Teacher%20Quality,%20and%20Student%20Achievement.pdf

Fry, R., & Gonzales, F. (2008). One-in-five and growing fast: A profile of Hispanic public school students. *Pew Hispanic Center*. Retrieved from http://pewhispanic.org/files/reports/92.pd

Fry, R., & Lopez, M. H. (2012). Now the largest minority group in a four-year college campuses: Hispanic student enrollment reach new highs in 2011. *Pew Research Hispanic Center*. Retrieved from http://www.pewhispanic.org/2012/08/20/hispanic-student-enrollments-reach-new-highs-in-2011/

Gomez, M. L., Rodriguez, T. L., & Agosto, V. (2008). Who are Latino prospective teachers and what do they bring to U.S. schools? *Race Ethnicity and Education*, *11*(3), 267-283. doi:10.1080/13613320802291165

Graybill, S. W. (1997). Questions of race and culture: How they relate to the classroom for African American students. *Clearing House*, *70*, 311-319.

Haro, R. (2008, April 30). Beyond: Disparity between enrollment and graduation rates begs questions about: The future of Hispanics in higher education, *The Journal*, The Student Newspaper of the University of Iowa. Retrieved from

http://www.uis.edu/journal/opinion/2008/2008BeyondTheFutureofHispanicsinHigherEducation.html

Harris, A., Joyner, S. A., & Slate, J. R. (2010). Faculty diversity at Texas community colleges: Increases in Hispanic faculty members, *Community College Enterprise*, *16*(2), 63-75.

Hispanic Association of Colleges and Universities. (2013). *Fact sheet: Hispanic higher education and HSIs*. Retrieved from http://www.hacu.net/hacu/HSI_Fact_Sheet.asp

Huck, S. W. (2007). *Reading statistics and research* (5th ed.). New York, NY: Addison Wesley.

Ingersoll, R. M., & May, H. (2011). *Recruitment, retention, and the minority teacher shortage. Consortium for Policy Research in Education* (Research Report No. RR-69). Retrieved from the University of Pennsylvania Scholarly Commons website http://repository.upenn.edu/gse_pubs/226

Irizarry, J. G. (2011). En la lucha: The struggles and triumphs of Latino/a teacher candidates. *Teachers College Records*, *113*(12), 2804-2835. Retrieved from http://www.tcrecord.org/Content.asp?ContentID=16206

Irizarry, J., & Donaldson, M. L. (2012). Teach for America: The Latinization of U.S. schools and the critical shortage of Latina/o teachers. *American Educational Research Journal*, *49*(1), 155-194. doi:10.3102/0002831211434764

Johnson, S. P. (2008). The status of male teachers in public education today. *Education Policy Brief*, 6(4), 1-12. Retrieved from Center for Evaluation & Educational Policy website: http://www.iu.edu/~ceep/projects/PDF/PB_V6N4_Winter_2008_EPB.pdf

Little, J. W., & Bartlett, L. (2010). The teacher workforce and problems of educational equity. *Review of Research*

in Education, *34*(1), 285-328. doi:10.3102/0091732X09356099

Montecinos, C., & Nielsen, L. E. (2004). Male elementary preservice teachers' gendering of teaching. *Multicultural Perspectives*, *6*(2), 3-9. doi: 10.1207/s15327892mcp0602

National Council on Teacher Quality. (2010). *Evaluating the fundamentals of teacher training programs in Texas*. Retrieved from http://www.nctq.org/edschoolreports/texas/docs/executive_summary.pdf

National Center for Education and Statistics (2008). *Schools and Staffing Survey*. Retrieved from http://nces.ed.gov/surveys/SASS/issues.asp

Noguera, P. (2009). *Identifying the educational needs of Black and Latino males: School staff perceptions driving single-sex theory*. Retrieved from http://www.inmotionmagazine.com/er/fsmn_09.html#Anchor-Identifying-35882

Onwuegbuzie, A. J., & Daniel, L. G. (2002). Uses and misuses of the correlation coefficient. *Research in the Schools, 9*(1)*,* 73-90.

Pew Research Hispanic Center. (2005). *Hispanics: A people in motion*. Retrieved from http://www.pewhispanic.org/2005/01/24/hispanic-trends/

Quiocho, A., & Rios, F. (2000). The power of their presence: Minority group teachers and schooling. *Review of Educational Research*, *70*(4), 485-528.

Rojas-LeBouef, A., & Slate, J. R. (2012). *The achievement gap between White and Non-White students*. NCPEA Collection. Retrieved from http://cnx.org/content/col11402/latest/

Snyder, T. D., & Dillow, S. A. (2012). *Digest of Education Statistics: 2011*. Retrieved from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2012001

Texas Association of Community Colleges. (2002) *Addressing the preparation of teachers for PK-12 classrooms through community colleges: A survey of Texas community colleges and universities*. Retrieved from http://www.tacc.org/otherinfo.htm

Torres, J., Santos, J., Peck, N., & Cortes, L. (2004). *Minority teacher recruitment, development, and retention*. Retrieved from Brown University Educational Alliance website: http://www.alliance.brown.edu/pubs/minority_teacher/minteachrcrt.pdf

U. S. Census Bureau. (2010). *State and county quickfacts*. Retrieved from http://quickfacts.census.gov/qfd/states/12000.html

U. S. Census Bureau. (2012). *Most children younger than age 1 are minorities, Census Bureau reports* [Press release]. Retrieved from http://www.census.gov/newsroom/releases/archives/population/cb12-90.html

Villegas, A. M., & Irvine, J. J. (2010). Diversifying the teaching force: An examination of major arguments. *Urban Review*, *42*, 175-192. doi:10.2007/s11256-010-0150

EFFECTIVENESS OF MOODLE-ENABLED BLENDED LEARNING IN PRIVATE INDIAN BUSINESS SCHOOL TEACHING NICHE PROGRAMS

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Abstract: Educational methods have become advanced and changed dramatically in the last decade. The revolution in communication technologies, especially after the invention of the internet, has introduced new methods of teaching and new ways of managing education. Various Learning Management Systems, such as WebCT, Black Board and Learning Spaces are now available for these purposes. Both open source and commercial versions of these LMSs offer combined services such as creating learning material online and its distribution, facilitating communications between various users etc. The availability of Learning Management Systems has enabled stakeholders in creating a platform that aids in web-based teaching in a convenient and flexible manner. The present investigation is a quantitative study to analyze the effectiveness of the open source LMS/CMS (Course management system) MOODLE (Modular Object Orientated Dynamic Learning Environment) when used by the faculty and students of a private Business School in India teaching niche programs. The aim of this evaluation was to analyze the user-experience of employing MOODLE and also the benefits and barriers towards its use. The results of the study would be useful to the institutions trying to integrate technology in their teaching and learning processes.
Keywords: LMS, MOODLE, ICT, Business Education, Biotechnology Management Education, Pharmaceutical Management Education

MOODLE – AN OPEN SOURCE LEARNING MANAGEMENT SYSTEM

Learning Management Systems (LMSs) are the technologies in the field of education, which by integrating various features provide an excellent enriched media for learning. They provide a convenient platform for enabling the creation and distribution of teaching materials, ease of communications between different users, and allowing for collaboration. An LMS, by providing a uniform interface to various stakeholders such as students, teachers, authors, and administrators, is widely used as a source of learning materials. An LMS allows flexibility with respect to space and time by permitting advanced interactions between instructors and learners and ease of access to learning resources. It also functions as a single window for all kinds and levels of interactions for students, teachers and administrators (Georgiakakis et.al, 2005). Several institutions have started using LMSs to augment their existing resources and enable distance learning. Institutes also use LMSs to manage their teaching-learning resources. However, it must be emphasised that the success of LMSs in the institutional environment is largely dependent on the acceptability of the tool by the faculty since they in turn influence the use of LMSs by students (Al-Busaidi & Al-Shihi, 2010).

MOODLE (Modular Object Oriented Dynamic Learning Environment) is an open-source LMS that can be freely downloaded from the web (www.moodle.org). Martin Dougiamas at Curtin University in Western Australia (Dougiamas & Taylor, 2003) developed Moodle from a social constructivist perspective. Moodle has features not found elsewhere, including the ability to embed resources, communications and/or activities centred on a topic of study. The instructor may also specify a variety of modes of operation ranging from weekly formats to topic-based to social formats. It is free, in the sense, that the user can modify it for custom use. MOODLE has built up an extensive user community that adapts or customises the software for its own and others' use. Written in the PHP language with a significant evolution since 1999, MOODLE has been widely accepted and adopted as it aids teachers in creating online study materials of good quality. As of Nov 2014, about 68,889,923 registered users use it across 7,440,022courses in 231 countries (http://moodle.net/stats/).

POTENTIAL OF LMS IN EDUCATION

An LMS guarantees the flow of information to and from students in a secure and efficient manner. The statistical analysis capability of the LMS allows teachers to assess the performance of the students. An elementary working knowledge of computers will enable the participants – teachers and students, to use the system well.

According to Maikish (2006), online teaching and learning environment can be beneficial to both the students and teachers, which work well for the education goals in terms of curriculum. "E-learning is widely used in universities, other educational institutions and commercial organizations all over the world. It is growing more and more popular, and an increasingly large number of institutions are working on creating better tools for e-learning" (Hölbl

and Welzer, 2010). Hsu (2011) stated in her study that face to face learning grouped with E-learning, bridges the gap between students and instructors. According to Alkhanak and Azmi (2011), students like to take those courses, which include the use of Information Technology and point out that activities offered through e-learning systems are more useful and valuable as compared to traditional classroom activities

LMSs are being widely adopted in higher education. A study done in the University of Minho surveyed students' experiences and perceptions with MOODLE and Blackboard. These two are the most commonly used LMSs in Portugal. This study analyzed the students' method of engagement with the course, their preferences of LMS, their level of satisfaction and their assessment of various functionalities and features of the LMSes. Overall, the students viewed an LMS as a complement rather than a substitute to classroom teaching and appreciated its contribution to their learning (Carvalho, Areal & Silva, 2011). A study done in Oman on the use of MOODLE showed that those students who were introduced to online learning environment through MOODLE, had encouraging, optimistic and positive approaches and attitudes towards MOODLE. Their learning was improved and their understanding of the course material was better. Most students preferred a face-to-face approach, supported with online material and activities (like E-mails or chat sessions etc.), as a favourite mode of learning (Ahmad & Al-Khanjari, 2011). Hölbl & Welzer, (2010) reported in their study of MOODLE that the attitudes and approaches of students were positive when using MOODLE as a learning tool, and they were satisfied that it was a suitable approach to modern teaching and learning. They believed that while E-learning is very useful, it could not replace face-to face learning, entirely. The students surveyed in this research were learning Informatics and Communication Technologies, and Media Communications. The most promising things students underlined were

(1) Availability and ease of access to the teaching materials, exercises and updated information regarding their course, from anywhere outside of the classroom,
(2) Collection of all the learning material in one place, and
(3) Rapid feedback of their e-communications through online chat, sessions and exchange of e-mails on the course website,

A study on the use of MOODLE in Higher Education reported from Saudi Arabia revealed that it is used mostly for sharing and distributing learning materials. Most of the participants found it easy to use and were highly satisfied. Teachers appreciated the possibility of an out-of-classroom communication with students, and the ease with which the resources could be managed digitally and provided to the students at all times. Respondents also noticed positive changes in their courses after the adoption of MOODLE though female students shied away from using the system or used fake names to conceal their identities and registered with male names (Daoud, 2007).

A study done for an English language course in Slovenia showed that the MOODLE platform was helpful, useful and timesaving. Above all, it had a positive influence on the students' language learning. The results also showed that the learner type, i.e. whether a full-time or a part-time student, had no influence on a student's perceived usefulness of the virtual learning environment. Upon further examination of MOODLE, it was determined that all participants in the study downloaded lecture notes and homework activities (Zoran and Rozman, 2010).

A study done in Hong Kong discusses the benefits and issues in using MOODLE for understanding the use of ICTs in education among the students and teachers there. The investigators observed that in times when the education budgets are very low, use of open-source systems instead of licensed ones substantially reduce the costs for schools and universities. MOODLE can provide a low cost solution in classrooms, particularly for schools (Kennedy, 2005).

THE CONTEXT OF THE INDIAN PRIVATE BUSINESS SCHOOL
Like most countries in the world, in India too, educational institutions face financial constraints. While many teachers are aware of the usage and advantages of modern technologies, they continue to use the traditional chalkboard method of teaching, in significant numbers. Thus, there is a need for simple, cost effective technologies for managing learning in Indian educational institutions.

While many open source LMSes such as Claroline, ETutor, eFront etc and many commercially developed LMSes such as Blackboard, Learn.com, eCollege etc are available in the market, we decided to use MOODLE as the offical CMS.The main reasons for adopting MOODLE as the official CMS were:
1. It was free and open source software. Since this was a new initiative in the institute, and was being done on an experimental basis, financial support was not sought for. Hence choosing licensed software was not feasible.
2. The software had all the required features that the researchers were evaluating for the purpose of the study.

3. Comfort of use by faculty and students: Two faculty members were already aware about MOODLE. This helped in its acceptance by the other faculty members and in imparting trainings. Hence, it was advantageous to choose MOODLE over others.
4. Infrastructure requirements: the software was installed on the college server itself, without incurring any addional cost for hardware.
5. Since some of the teachers were aware of the software and volunteered to take up the administration responsibilities and facilitate the usage of MOODLE, no extra cost was incurred for providing support to the users.

Hence, the researchers used MOODLE LMS in this study, which did not put any financial burden on the institute and was simple to learn and adopt.

At SIES College of Management Studies,(SIESCOMS) a private Business school operating in Navi Mumbai, India, MOODLE has been employed as the official CMS for a few of our courses. We have recognized MOODLE as an excellent hybrid tool encompassing modern technology along with traditional methods of teaching.

The aim of the following study was to analyze the effectiveness of MOODLE (in imparting education) as felt by faculty and students of the institute. Through this study the researchers have tried to evaluate students' and faculty's experience of using MOODLE. This process is required to gain the necessary insights to enable the successful implementation and support of the system.

While faculty participation was voluntary, student participation was mandatory, but restricted to the courses taught by the participating faculty. Hence, the number of faculty participants was low.

MOODLE AS A POTENTIAL CHANGE AGENT FOR INDIAN BUSINESS SCHOOLS
Business education in India is very challenging for both teachers and students. Apart from the intensity of conducting different kinds of classroom and out of class activities for students, such as projects, presentations, multiple kinds of assignments, teachers must also complete other routine tasks such as marking attendance of students, examination supervisons, continuous assessments and grading of students etc. As a result, a lot of time is spent on work that can be better done on a CMS platform thus enabling the teacher to have more time for self-development work such as writing research papers, attending conferences etc. Thus, MOODLE can be a potential change agent while ensuring that overall quality of education does not get impaired in any way. Besides, it can be a useful tool for those students who need to conform to curriculum requirements such as assignments, tests etc while away from the institute transiently, completing field projects or internships in industry. Video lectures can also be uploaded for those students who are completing their education through a distance mode, this giving them the same opportunites for learning as regular students and allowing them to complete class room requirements as regular students.

RESEARCH OBJECTIVES AND METHODOLOGY
The objectives and aims of the study are the following:
1. To study the effectiveness of MOODLE as an education management tool.
2. To determine and analyze the benefits of and barriers to the use of MOODLE.
3. To determine usefulness of various features of MOODLE
4. To evaluate the overall experience of students using MOODLE as a learning tool

The sample for the study was the students and the faculty of Pharmaceutical Management and Biotechnology Management Programs, The sample size was 89 studnets and 9 teachers. The investigators installed MOODLE on a server in the institution's premises and provided user ids to all students and faculty members. They demonstrated the use of MOODLE to all pariticipants. Presentations on the important features of the software and its use were prepared and circulated among the teachers through e-mail. After the participants gained confidence, the course management part (distribution of class notes and news updates) and the evaluation part (quizzes and assignments) were facilitated through MOODLE. The students who were in the last semester of their courses and were away on projects also used this software to keep in touch with the course activities. They were asked to submit projects and assignments through this software only.

The principal method of study was a questionnaire-based survey done to get the feedback of the student participants. Eighty students responded to the questonnaire.

Although there were nine teachers teaching in these programs, only three faculties used the new system of LMS. 2 were from biotechnology and one from finance specialization. All three had a good technical competency.

Statistical analysis was done on the responses tio understand the effectiveness and acceptance of the LMS by the students. Frequency distribution and mean were calculated using SPSS.

THE MOODLE EXPERIENCE IN AN INDIAN BUSINESS SCHOOL

Demographics of students: The large majority of students were in the 21-25 age group (80%), which fits the general profile of master level students. 56% of the students were female while 44% were male.

Practically no student had an experience of using MOODLE prior to joining the courses. Nearly 30% had permission to work on projects outside the institute and hence were less likely to come to classes and could benefit more from the distance learning facility of MOODLE. A significant majority of the students were very positive about the distribution of notes through this forum (72%). Similarly, 89% of the students felt that this was a good tool for uploading class assignments and submitting reports. 82% of the students felt that MOODLE was a good way of marking attendance. 83% of the students also stated that this was a good system of putting up class notices. However, when it came to class assessments approximately only 40 % felt that this tool was good for conducting objective and subjective tests while 25-31% felt that this was not a good tool at all. 62 % students felt this was a good tool for uploading personal user profiles (Fig 1).
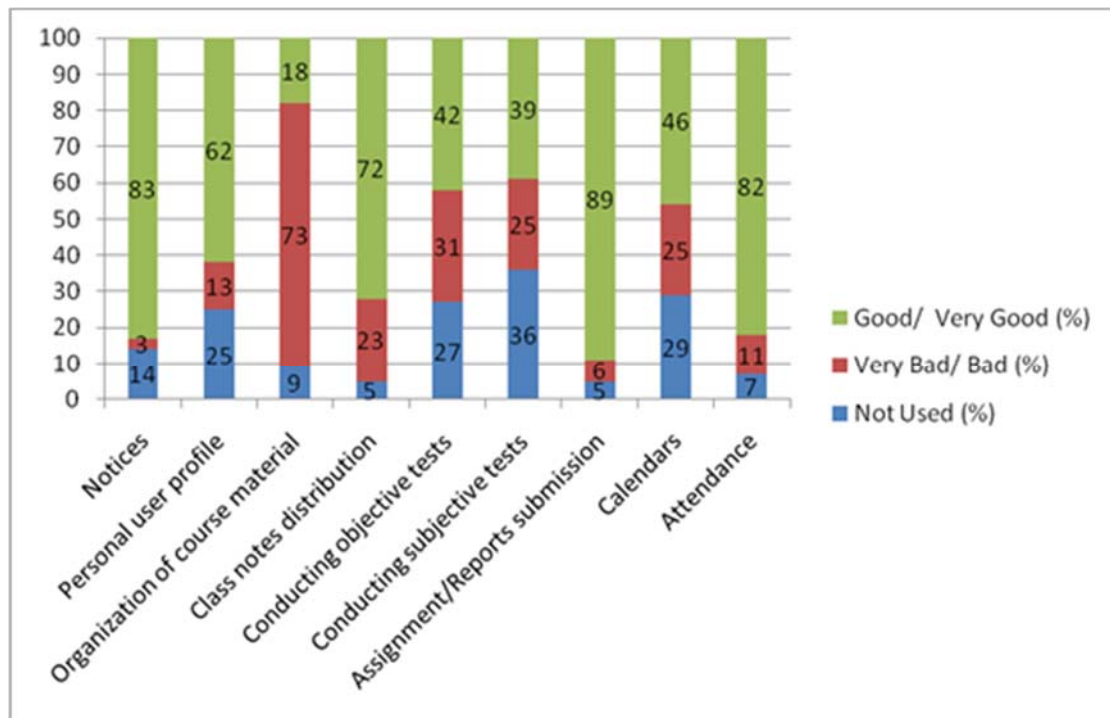
Fig 1: Students' experience of the various features of MOODLE

When surveyed with respect to barriers using MOODLE, not a single student reported that he/she did not possess the necessary technical skills. This shows that the technical competency of all the students was good and they could adopt MOODLE well. However, 9% reported that they felt, using MOODLE was extra work and 5 % reported they did not like the technology. Of the 91 % students using MOODLE, nearly 50% of these (44% overall) reported that they did not face any barriers at all. While 25% faced problems related to network and bandwidth, 8% reported that they did not have the required technical support. Only 9 % reported that they had alternative options (Fig 2).
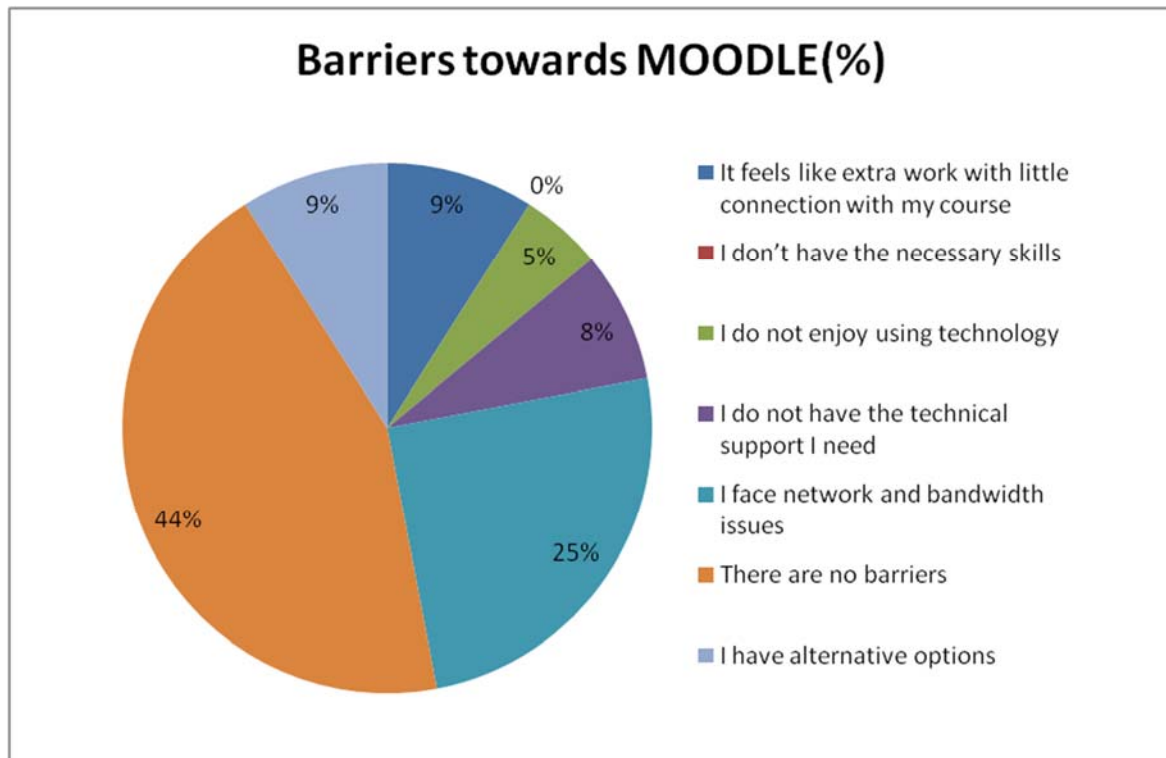
Fig 2: Barriers towards MOODLE, as felt by the students

When asked about the effectiveness of different features of MOODLE, 70-80 % of the students reported an improvement in the learning and/or planning of class activities. 41% of students found that the uploading of syllabus and session plans on MOODLE improved their learning, while 29% found that this improved the planning of class activities. Nearly 11% found improvement in both these activities. 20-33 % students did not use MOODLE for accessing the calendar, for submission of assignments and sharing materials. However, at least 60% reported an improvement in learning and planning of class activities when using MOODLE for sharing of study material, submitting assignments (59%) and using the calendar (64%). With respect to class notes material, 39% students reported an improvement in learning, about 14.3% in planning of class activities and 23.2 % reported improvement in both. (Fig 3)
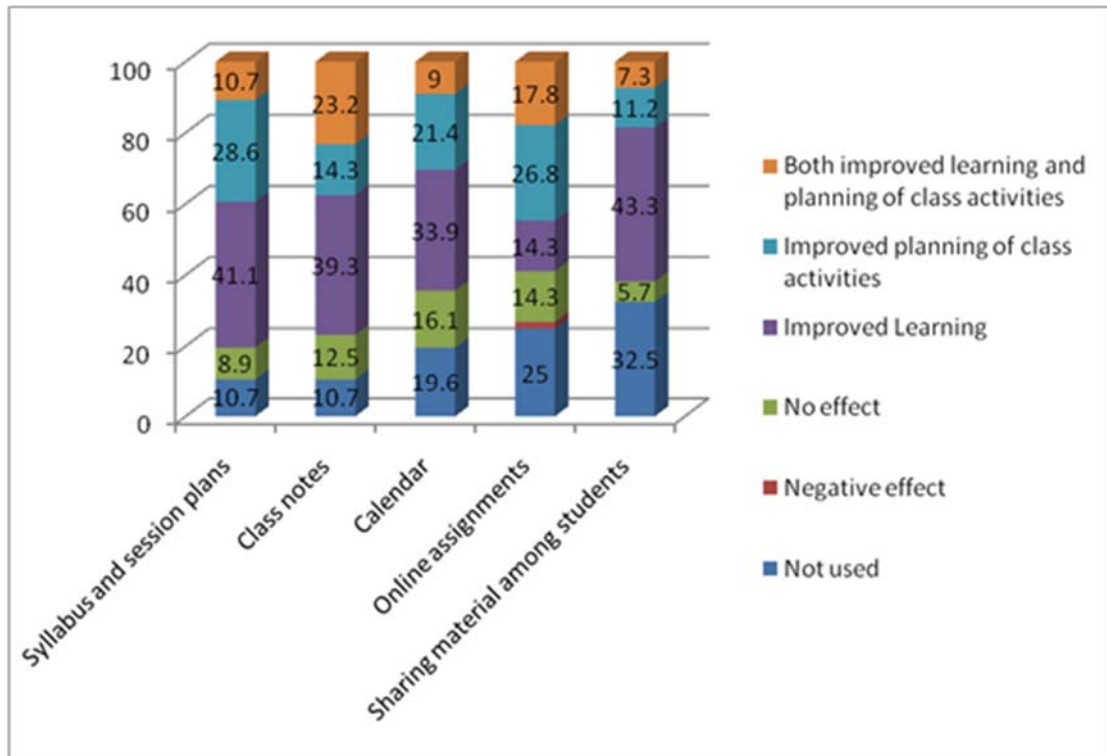
Fig 3: Effectiveness of different features of MOODLE

When asked to rank the different benefits of MOODLE usage, students reported this was a very good tool for sourcing study material. This benefit was ranked the highest. Student also rated the fact that it is convenient to use as very high (2.16). All other features i.e., time saving, improvement of learning, keeping update and planning of learning activities scored between 2.18and 3.63 (Table 1).

Table 1: Benefits of MOODLE (Rank)

Benefit	Mean
Easy Access to Class Material	1.77
Convenience	2.16
Saved Time	2.18
Keeping Track of the latest developments in the course	2.39
Improved Learning	2.59
Helped in planning the course activities	2.63

The respondents were asked to rate their experience of using MOODLE with respect to the points listed in the table on Likert scale (1 being strongly disagree and 5 being strongly agree). Students found MOODLE easy to use as evidenced by the high mean value of 4.16 (out of a maximum of 5). Students also judged them very competent at handling MOODLE (3.79) and found it useful for staying updated (3.41) and accessing class material when absent (3.79). Importantly, students felt that support for MOODLE was available when they needed it to do their course work (3.82). MOODLE made it convenient for students to do their activities (3.39), better plan their class activities (3.14). Importantly students also found that they could refer to their notes of previous semesters using MOODLE. Overall, student found MOODLE to be an effective educational tool (3.8) (Table 2).

Table 2: Student experience of using MOODLE

Statements on MOODLE	Mean
MOODLE is easy to use	4.16
The training I received was sufficient for me to start using MOODLE	3.79
Whenever I was not able to attend college, MOODLE was useful to keep me updated with the latest developments in the course	3.41
MOODLE helped me access all the class material even when I was not at college	3.79
MOODLE makes it more convenient to do my course activities	3.39
Using calendars, I was able to do better planning of my class activities	3.14
MOODLE made it possible for me to refer to my notes from earlier semesters	3.27
Support for MOODLE was available when I needed it for my coursework	3.82
MOODLE helped me to better communicate with the instructor	3.16
MOODLE helped me to communicate and collaborate with my classmates	3.14
MOODLE helped me to get a prompt feedback from the instructor	3.04
Based on all the above features, I feel that MOODLE is an effective educational tool	3.8

PILOT EXPERIENCE – CLEARLY POSITIVE

Since this was the first phase of MOODLE implementation at the Institute, it was incorporated in those programs whose academic heads were comfortable with the technology and who saw a lot of potential in its uses. Since the entire faculty did not embrace it wholeheartedly, it was not made compulsory for the faculty. However students were expected to be more receptive to its use and hence it was made compulsory for them.

An online mode of course management was found convenient by the students since, it enabled them to get class notes while away from the institute. They could access the course details, class notes, calendar etc anytime. Importantly this also offered a mode for them to submit their class-work and assignments without actually meeting the teachers. However, students felt this tool was still wanting as far as assessments of students were concerned. This may have been because there were very few teachers who used this tool for their assessments. Students were also reluctant to put up their personal profiles on MOODLE. Although 62% students felt it was a good tool for this purpose, not a single student did so. They were not worried about putting up class assignments on MOODLE, since they were not able to see each other's work. Students welcomed the idea of putting up class notices on MOODLE indicating that they preferred this mode to a notice board since this was convenient and was available on their desks through their laptop computers. Students of Management studies in our institute are expected to have their laptop computers with them always when in the institute. Very few students reported they did not like the technology. However 9% students said they felt it like additional work, probably finding that accessing MOODLE online to be more time consuming. Perhaps these students felt submitting assignment through email and simply copying lecture notes from colleagues or teachers was better. However, an important understanding that emerged from this study was that students could use this forum for referring to class notes from previous semesters. This also means that MOODLE can serve as a lifelong repository of various components of any teaching program or courses taught through this mode. Assignments, class notes, notices, calendars etc could be stored on MOODLE with the purpose of accessing the same in the future for reference.

Overall, the software was found to be beneficial in the context of a small private Indian B-school. With limited resources and niche programs, there was a need for a technological solution only for a small group of stakeholders. The investigators found that MOODLE very well fitted this requirement and hence successfully adopted it. Further, there was no additional cost incurred for the use of MOODLE– the software was downloaded and installed free of cost on the already existing server in the college. The internal faculty of the institute provided the administration and support. This initiative of using an LMS in the researchers' institute was an experiment and choosing MOODLE for this experiment posed no financial burden to the institute.

CONCLUSION

Our findings indicated that teaching institutions and students have still a long way to go before incorporating such tools in a fully-fledged manner in managing education and learning. Teachers need to be informed about the usefulness of such tools before implementing them on a larger sale. More importantly, they would need a lot of hand holding while they chart their way around such tools. Students on the other hand were a lot more receptive towards this particular tool. Of course, these students were from a technical background, being graduates in Science/Pharmacy and were not wary of using technology for their studies. It remains to be seen whether students from other more general management programs would respond similarly.

The major finding in this study has been that students can adapt themselves quite readily to an online mode of teaching as far as these two courses go (Biotech Management and Pharmaceutical Management). They were eager learners, which probably explains their cooperation in this study. However, there are still many challenges. One of these was some students felt it to be additional work and the reluctance of a lot of faculty to implement this in their courses. These could be made more receptive by encouraging them to be active participants in deciding how best to use MOODLE for online teaching. Another approach could that of adopting a blended environment where face to face learning/teaching could be supplemented by the various options offered in MOODLE, such as assignment submission, messaging, class notices, attendance, session plans, academic calendars, class notes etc. Thus, information technology could play a more supporting role in managing education, which is imparted in a conventional manner. Weaver et. al. had a similar conclusion while using WebCT at Monash University, Australia (2008). Ahmad and Al-Khanjari (2011) also concluded that when using MOODLE, it could influence positively the learning and understanding of students, in conjunction with classroom teaching. As in the present study, the latter concluded that students were positive about E-learning and felt that availability of teaching materials, calendars etc. are additional positive features of MOODLE.

Similarly, another study done in Ghana reported an insight into the benefits and challenges of moving a face-to-face class to partly online. The investigators based their study on the experience of practitioners using Moodle. They concluded that there was exposure to and gain in enormous amount of knowledge as well as technological skills when using a hybrid approach. Further, the study also concluded that the use of Moodle enhanced the teaching and learning styles of both the teachers and learners (Hanson and Asante, 2014).

As seen in the present study, with the positive feedback from the students and a successful adoption of MOODLE by the teachers, it was possible to present a case, about the effectiveness of using technology in a business school, to the institute's management. Since then the institute has implemented MOODLE on a larger scale for all its full time courses, thus making it an efective change agent

REFERENCES

[1] Ahmad, N. & Al-Khanjari, Z. (2011), Effect of MOODLE on learning: An Oman perception, *International Journal of Digital Information and Wireless Communications (IJDIWC)*, 1(4), pp. 746-752.
[2] Al-Busaidi, K. A., & Al-Shihi, H. (2010), Instructors' Acceptance of Learning Management Systems: A Theoretical Framework, *IBIMA Publishing Communications of the IBIMA*, pp. 1-10.
[3] Alkhanak, S. A. K. & Azmi I. A. G. (2011), Information technology usage and attitudes towards online resources-Students perspective, *African Journal of Business Management*, 5(7), pp. 2582-2589.
[4] Carvalho, A., Areal, N., & Silva, J. (2011), Students' perceptions of Blackboard and MOODLE in a Portuguese university, *British Journal of Educational Technology*, 42(5).
[5] Daoud, A. M. (2007), e-Saf MOODLE LMS in Saudi Higher Education: Implementation and Experiences, *Conference of MIT & Learning International Networks Consortium*, pp. 205 -210.
[6] Georgiakakis, P., Papasalouros A., Retalis S., Papaspyrou, N & Siassiakos K. (2005), Evaluating the Usability of web-based learning management systems, In Zaphiris, P., Lambropoulos, N. & Zacharia, G.

(2005). *ICT in Diaspora, Special Issue, THEMES in Education*, University of Ioannina. Athens: Ellinika Grammata, 6(1), pp. 45-60.

[7] Hanson, R. & Asante, J. N., (2014), An exploration of experiences in using the hybrid MOODLE approach in the delivery and learning situations at the University of Education, Winneba, Ghana, *Journal of Education and Practice*, 5(12), pp. 18 -23.

[8] Hölbl, M. & Welzer, T. (2011), Students' Feedback and Communication Habits using MOODLE, Electronics & Electrical Engineering [serial online]. July 2010; (102): pp. 63-66. Available from: *Computers & Applied Sciences Complete*, Ipswich, MA (2010). Last accessed December 14, 2014

[9] Hsu, L. (2011), Blended learning in ethics education: *A survey of nursing students*, Nursing Ethics, 18(3), pp. 418-430.

[10] IEEE Learning Technology Standards Committee. 2000. Draft Standard for Learning Technology Systems Architecture (LMSA), November 2000.

[11] Kennedy, D. M. (2005), Challenges in evaluating Hong Kong students. Perceptions of MOODLE, *Ascilite 2005: Balance, Fidelity, Mobility: maintaining the momentum*, pp. 327-336.

[12] Maikish, A. (2006), MOODLE: A Free, Easy, and Constructivist Online Learning Tool, *Multimedia & Internet@Schools*, 13(3), pp. 26-28.

[13] Zoran, A. G., & Rozman, K. (2010), Students Perceptions of Using MOODLE, MOODLE.si 2010, *4th International Conference Proceedings*, Koper, 21 May 2010.

Website references

[1] www.moodle.org Last accessed on 14th Dec 2014
[2] http://moodle.net/stats/, Last accessed on 14th Dec, 2014

LEARNING OUTCOMES AND LEARNING INDICATORS: SHIFT IN INDIAN ELEMENTARY EDUCATION

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Abstract: In its endeavour of Universalisation of Elementary Education, India has succeeded widely in terms of enrolment and access; however, retention remains a challenge as quality of education is a huge concern. The policy directives under National Policy on Education (NPE) 1986 and Programme of Action (POA) 1992 require that the essential levels of learning be laid down and children's achievement should periodically be assessed so as to keep track of the progress towards the NPE goal of ensuring that all children achieve essential levels of learning. Various initiatives under curricular and assessment reforms as mandated by the Right to Education (RTE) Act have been rolled out by the States in order to address quality issues and improve learning outcomes. Since there is a shift in the national curriculum frameworks developed subsequent to NPE-1986, the article is an attempt towards understanding this shift on these essential levels of learning/learning outcomes and their potential use to tap quality in children's learning.
Keywords: Right to Education (RTE), Minimum Levels of Learning, Learning Outcomes, Learning Indicators

1. INTRODUCTION

To provide elementary education to all children, various initiatives with large investment have been launched across all States and UTs in India during last few decades. According to the All-India Educational Survey conducted by the National Council of Educational Research and Training (NCERT) in 2007, 87.98 per cent out of approx. 6.5 lakh primary schools and 79.06 per cent out of 2.45 lakh upper primary schools are situated in rural areas. The Annual Status of Education Report (ASER) 2012, mentions that 96.5% of all rural children between the ages of 6-14 were enrolled in school. In addition to this, various non-formal education centres are either converted to the special training centres for the out of school children/dropouts or are now upgraded as regular schools for the children in the neighbourhood as per the Right to Education (RTE) Act 2009. There is a wide variation across regions, states, districts, and rural/urban sectors as far as the quantitative aspects such as institutional infrastructure, teaching-learning resources such as availability of teachers as mandated under the RTE Act, are concerned and all these variations also affect the extent of accomplishment of the goals of enrolment, access and quality. It is undeniable that the strategies to be adopted need to keep the contextual variations in view while addressing the quality component, the sole aim of which should be to enable each child to learn, grow and develop holistically in different dimensions that include psycho-social besides the cognitive domain. The quantitative expansion, although, enhanced accessibility of the elementary education to the unreached section of the population eliciting a successful step towards Universalisation of Elementary Education(UEE) yet the quality aspects show a dismal picture as evident from various educational surveys conducted from time to time indicate declining levels of students' performance. As per the Global Monitoring Report (GMR 2013), national and international assessments data suggest that, in most of the countries, children are not mastering basic skills. Low achievement is widespread. In a PISA study covering forty-three countries, 18% of 15-year-olds in OECD countries (mostly high-income) performed at the lowest of five reading literacy levels. India was one of them and was the last but one country among these.

As we shape a new global sustainable development agenda after 2015, the Global Monitoring Report- 2013 shows equality in access and learning must stand at the heart of future education goals. It needs to be ensured that all

children are learning the basics and that they have the opportunity to acquire the transferable skills needed to become global citizens. This requires setting goals that are clear and measurable, to allow for the tracking and monitoring for bridging the gaps that remain. Thus, it is imperative that within a system of education, the national/state educational bodies need to have information about how well the system is doing to make rational decisions by administrators, planners and policy-makers.

Improved quality education reflects improved learning outcomes which essentially depend on the quality of teaching learning process i.e. transaction of the curriculum. To do so, a multi pronged approach involving child centred curriculum, learning environment, teaching learning processes, the curricular material that enable a child to learn and develop her physical and mental potentialities to develop fully. In order to map the progress in learning and development, some criterion is needed for which the curriculum needs to lay down certain parameters that specify a set of knowledge, skills and dispositions to be acquired by each child. The large scale assessments, mostly, are performance based that include achievement of students in different curricular areas measured in scores through tests measuring quality in education only quantitatively. In spite of the fact that qualitative aspect of learning/assessment is crucial to quality education as it strongly affects what students learn, how well they learn and to what extent it helped them, however, it is undeniable that the quantitative measures supplement the qualitative aspects.

2. LEARNING OUTCOMES: THE BACKGROUND

Achievement of the desired learning outcomes representing appropriate skills, dispositions besides the requisite cognitive knowledge is an indicator of progress to keep pace with the world in an era of globalisation. Highlighting it as a national issue on our policy agenda, the recent Joint Review Mission Reports mention that the accountability of the performance of individual schools, school system and the functionaries needs evaluation against well designed criteria. The extent of students' learning progress can help decide that, and this requires the reflection/reporting of their actual learning in a manner that it does not distort the curriculum, its transaction and assessment. A careful understanding of the curricular expectations/learning outcomes and learning indicators is needed as they play a crucial role in it.

In India, an attempt to draw such criteria across all stages up to elementary level was made in India about two decades ago at the national level. The learning outcomes were first drawn out for all children at the primary stage during late seventies. Further, to address quality issues in education in the light of the National Policy on Education 1986, the Minimum levels of Learning (MLLs) were developed class-wise and subject-wise for primary stage in 1992 in the form of competencies by the NCERT. The MLLs took learning outcomes as the minimum required educational standards to be acquired by all children irrespective of their class, caste, gender, religion, region which do not fit today's scenario especially post 2005 and to understand this shift in educational discourse since last decade one needs to look into the factors that governed and guided their development.

3. WHY LEARNING OUTCOMES

The learning outcomes were meant to help the system in many ways.
3.1 MLL and Learning Outcomes
 As per the MLL document of the committee set up by the MHRD, GOI, the MLLs were expected to;

3.1.1 Address Inequities
 In order to help each child acquire an education of a comparable standard, bridging the gaps between education among privileged/ unprivileged, rural/urban, public/private, formal/non formal sectors and addressing other inequities of caste, creed, gender, religion, culture and geography, the need for well defined standards came up. The effort was to combine issues of quality and equity to provide opportunities of developmentally appropriate structured learning to children of a particular stage.

3.1.2 Providing some minimum learning all to be functional in Society

Realising the harsh reality that children from the underprivileged sections, especially from the government schools, could not read even after five years of schooling, the MLLs were thought to ensure a minimum level of learning at the primary stage for them. Such deprived and disadvantaged sections of children, vulnerable to be pushed out beyond primary stage or were unlikely to avail the opportunity of further education, the MLLs expected them to acquire this minimum level of learning to enable them understand their world better and be functional among others in the society. Taking an integrated view of primary level education in the country, the specified MLLs were applicable to both the formal and the non-formal sectors of primary level education.

3.1.3 Understanding Health of the Education System

In addition to this, the MLLs were expected to help understand the health of the education system and its working, using these as tools to assess the quality of a school and its learning environment. Measuring quality of schools based on the output i.e. students' achievement and using it to decide the need and extent of the inputs i.e. infrastructure and qualified teachers was one of the key objectives of introducing MLLs. Measurement of performance capabilities of students against expected standards to be achieved by all children as a reflection of quality was sought to identify good schools and provide selective inputs for those which needed them most.

3.1.4 Setting Accountability Measures for the teachers

In the absence of clearly defined criteria, the teachers found it difficult to assess the learning progress of students. The MLLs provided teachers with the goals to weave their teaching learning around them so as to avoid drifting away from the purpose. In a way, these were seen as accountability measures for teachers by setting performance goals for them to help them direct their efforts towards the identified criteria and organise their teaching learning to enable children acquire the desired competencies at the completion of each stage i.e. accomplish these goals within the stipulated time. In other words, these non negotiable prerequisites i.e. the MLLs were also seen as indicators of effectiveness of the education system as these were expected to help infuse accountability in the system to facilitate all children to achieve MLLs at a given stage.

3.2 Learning Outcomes vs. Competencies - The Shift from MLL

A paradigm shift came a decade ago when the National Curriculum Framework (NCF)-2005 portrayed children as a natural learners and knowledge as an outcome of their engagement with the world around when they explore, respond, invent, and make meaning out of that. It envisaged conceptual understanding as a continuous process i.e. the process of deepening and enriching connections acquiring more layers of dispositions, emotions as an integral component of cognitive development, making meaning and developing the capacity of abstract thinking, reflection, and work.

Although, overall development of a child through education, enacted now as a fundamental right under the Right to Free and Compulsory Education Act 2009, had earlier also been a priority of almost all policy documents since Kothari Commission (1964), and even the Minimum levels of Learning at Primary Stage (1991) too recognised this yet it considered difficult to deal with the non cognitive areas. The document states, "The committee recognized that consideration of non-cognitive aspects of learning is a wide area and may not deal with the psychomotor domain and even in the affective domain." The reasons for doing so were mentioned as; difficulty to assess affective qualities with precision and through paper-pencil tests as they are intangible and subjective, influenced by personal preferences and prejudices. It also states that it may coerce children to behave against their will and conviction. It further states that non-cognitive outcomes can at no stage be considered as fully developed and, therefore, they cannot be referred to as terminal outcomes at any point. It considers them to be a part of process of development and change in the students' personality rather than being the final product of specific inputs and processes. Based on these, the document is apprehensive of discerning the qualities and drawing inferences related to non cognitive outcomes. In cognitive area also, the MLLs, identified as some minimum prerequisites *in*

terms of terminal competencies, free of irrelevant and excessive learning load were expected to ensure the acquisition and mastery of some basic competencies and skills by one and all to move towards functional primary education.

Understanding learning outcomes as broadly the curricular expectations/abilities that students need to acquire over a period of time which may or may not be quantifiable, the National Curriculum Framework (NCF-2005) and the syllabi based on it across different curricular areas spell out stage-wise learning outcomes/ curricular expectations. The MLL document mentions these as competencies defining them at each class up to primary level.

Knowing the fact that children do not learn in a linear manner as the learning needs to be seen as a continuum in which new experiences are provided building on the previous knowledge as per the need and style of the learners to allow them to progress at their pace and doing efforts to bring them at par with others, the MLL document failed to recognize and appreciate this fact.

Taking example from MLLs in Environmental Studies, Chapter 5, page 41, out of the ten major competencies identified under Environmental Studies which aim at the cognitive, affective and psychomotor domains of development together with the content elements associated with them, if we carefully observe, some appear to have very broad perspective such as - acquires awareness about one's well being in the context of social and natural environment, explores aspects of socio economic environment, analyses observable socio-economic problems and seeks possible solutions, understands relationship between man and his environment, whereas others seem to be very narrow aimed such as- knows about people at work, observes common characteristics of non living things, observes phenomena of earth and sky and so much product oriented and terminal in nature i.e. to be developed in each child at the end of a class with little flexibility for even the inherent individual variation among learners. It completely ignored the fact that like Personal social Qualities (PSQs) the cognitive development too is a continuous process of development with no terminal point/class/stage/ boundary. Also taking cognizance of individual variations among children due to various factors it required reinterpreting equity aspects envisaged under MLLs for their suitable addressal.

Even the competency of the teachers due to contextual variations can significantly affect their accomplishment. These class-wise competencies identified under MLL in the context of evaluation were targeted to help the teacher anchor their teaching around these and assist others in conducting competency based evaluation. However, the scope to enrich learning got restricted as the focus became achievement of the identified product oriented competencies only, ignoring the intended curriculum and learning. These rubrics reduced and restricted the curriculum to accomplish only the specific objectives presented as the minimum essential levels instead of the intended curriculum resonating with the aims/objectives of education as envisaged under the National Policy and the National Curricular Framework of education. This led to detrimental and reductionist effect on the curriculum especially on the type and content of learning in the classroom and restricted the MLLs to outcome and achievement oriented in contrast to promoting experimental/critical thinking and focusing on overall development of children.

In order to overcome this and promote children's holistic development, the NCF-2005, recommended curricular expectations/ learning outcomes to be laid out stage wise as the abilities, skills, dispositions and, are essentially expected to be accomplished by all children over a period of time.
Moreover, there is a conscious attempt to drift away from rote memorisation of the content with a concerted focus on the processes of learning. The complexity of the learning outcomes increases from one stage to another.

For example,

- Awareness about immediate surroundings from lived experiences from themes related to daily life during early years (up to class III) to understanding the relationships between natural and social environment through various activities within and beyond classroom towards class V.
- Valuing the immediate resources (water, food, paper, fuel etc.) using as per need (up to class III) to protection and conservation of natural resources towards class V and beyond
- Enhanced curiosity and creativity w.r.t. the immediate environment (in early grades) and towards the extended environment towards class V and beyond.
- Appreciate diversity in immediate surroundings (social and cultural variations in family, immediate neighbourhood) during early stages to diversity in distant environment (in the district, state, country) as children approach later stages
- develop sensitivity towards elderly/old, differently abled, and disadvantaged (at early primary stages) however towards class V, also reflects Awareness of rights of self (Right to education, right to food, against child labour etc.).

It also needs to be seen that accomplishment of these learning outcomes does not mark a sharp boundary at the end of any particular class/stage but is hazy with overlaps across stages accommodating all children with varied abilities and backgrounds to address equity issues.

3.3 Learning Indicators vs. Sub Competencies: The Shift from MLL
In order to foster the overall development of a child, and assess the health of an education system it requires a fair idea to be obtained of the extent of children's learning progress. The MLL document has given for each competency in a class a rubric of sub competencies.

A careful look at these sub competencies reveals that, these limit assessment to terminal behaviour oriented observables that could be measured with precision. For example,
- identifies the main parts of the body
- stays in queue and waits for his turn
- interprets important road symbols
- practices personal hygiene including toilet habits
- observes important rules of road.

It cannot be denied that these competencies are highly product oriented having little scope and flexibility to accommodate all learners with different abilities especially those with learning disabilities and even due to contextual variations e.g. a rural/tribal child may not have an access to the desired toilet facility and even road safety symbols. Further, the MLL document spells out sub-competencies as testable constructs in rubric form, concrete in terms of their ease and reliability of use but a sense of reductionism to the intended curriculum cannot be ignored. For example in each class assessment based on the five sub competencies for the competency 1 in EVS (The pupil acquires awareness about one's well being in the context of social and natural environment), will limit the curriculum transaction up to these five sub competencies each in classes I and II and three sub competencies in classes III and IV and only two sub competencies in class V only. Moreover, it too includes some competencies such as- practices personal cleanliness including toilet habits (class I), appreciates that house is essential (class II), sees relationship between unclean food and water and diseases (class II) which are difficult to be restricted to one particular stage. Also, the neglect of some curricular expectations/learning outcomes especially with respect to the personal social qualities which cannot be easily measured creates a disjuncture between the expected, intended and assessed curriculum leading to curriculum distortion making it unusable.

On the other hand to overcome these issues and bridge the gaps in expected, intended and assessed curriculum as envisioned under the RTE Act, learning indicators can help to map the learning and developmental progress of learners. These indicators are, basically, process based reference points which can be used to tap children's

progress of their holistic development on their learning and development continuum and not just as end products in terms of measured achievement or competencies, based on which different stakeholders can arrive at some decisions and decide their further actions.

For example, in Environmental Studies, the indicators like; Observation and Recording (reporting, narrating, making/reading pictures, tables and maps etc.), Discussion (listening, expressing opinions, finding out from others), Expression (Drawing, gestures , creative writing, sculpting, etc.), Explanation (Reasoning, making logical connections), Classification (categorising, grouping, contrasting and comparing), Questioning (Expressing curiosity, critical thinking, developing good questions), Analysis (Predicting, making hypotheses and inferences) Experimentation (Improvisation, making things and doing experiments), Concern for Justice and Equality (Sensitivity towards all living beings i.e. all animal and plant life especially for the disadvantaged, differently-abled and old), Cooperation (taking responsibility and initiative, sharing and working together) can not only be used by teachers to assess the gaps in curricular expectation, transaction and attainment and plug them timely using suitable strategies under Continuous and Comprehensive Evaluation (CCE) but can also help the system assess its effectiveness by analysing children's learning progress. The indicators help a teacher or a system to move further or improve learning outcomes/ curricular expectations.

Indicator	Class III	Class IV	Class V
Observation	Observes and explores environmental objects/plants/animals/local transport in the immediate surroundings. e.g., 'identifies names of objects, local plants, animals, transport, and shelters, etc in their own language.'	Observes and explores environmental objects, plants, animals, shelters simple phenomenon in the surroundings. e.g., "identifies variations in plants (leaves, flowers), animals (bird's beak, claws, feather, and nests) modes of transport, and variation in seasons, give examples of each".	Observes and explores the natural and social environment, gradually moving from immediate to the wider environment. e.g., 'identifies objects, events phenomenon in natural & social environment, locate states on the map'.

In order to achieve these learning outcomes, appropriate pedagogical processes need to be employed. As EVS learning is process-oriented its content has to be derived from child's real life experiences, as per the need and context.

These indicators help the teachers keep track of children's learning progress and eventually the accomplishment of the curricular expectations. However, in view of the nature of the curricular expectations i.e. abilities, skills, and dispositions it is obvious that, it is will be short sighted attempt to evaluate the health of an education system by mapping the learning outcomes in a short span of time such as annual or even lesser. But a continuous monitoring by the teachers during teaching learning through CCE helps can help to tap the processes of learning without affecting the curriculum intention and transaction, prevent any wash back effect and accomplish the curricular expectations/learning outcomes. Further, the in-built flexibility to adapt these as per the abilities of a learner and compare the progress with his/her previous progress, can further help us to achieve the goal of equity to a great extent.

REFERENCES

- (2013) Joint Review Missions, Reports, MHRD, Govt. of India, New Delhi, www.teindia.nic.in/jrm.aspx

- (2013-14): Teaching and Learning: Achieving Quality for All, Education For All Global Monitoring Report, UNESCO, http://unesdoc.unesco.org/images/0022/002256/225660e.pdf

- (2011): International Workshop on Assessment standards, Final Report, David Scott et. al. Research and Developments Project: Curriculum Standards, Ministry of Education, Mexico

- (1991), Minimum Levels of Learning at Primary Stage, Report of the Committee Set up by MHRD, Dept. of Education, GOI), NCERT, http://www.teindia.nic.in/mhrd

- (2012) Programme for International Student Assessment (PISA), OECD Secretariat, www.oecd.org

- (2012):Annual Status of Education Report(ASER), http://img.asercentre.org

- (2009, August): The Right of Children to Free and Compulsory Education Act, MHRD, Govt. of India, mhrd.gov.in/rte.

- (2014): Curricular Expectations and Learning Indicators at the Elementary Stage, NCERT, New Delhihttp://www.ncert.nic.in/departments/nie/dee/publication/pdf/EVS.pdf

- (2013): A package on CCE at the Elementary level, NCERT, New Delhi,

  http://www.ncert.nic.in/departments/nie/dee/publication/pdf/CCE_Primary.pdf

- (2007-08): Seventh All India Education Survey of NCERT, National Council of Educational Research and Training National Informatics Centre and Ministry of Information Technology, Government of India, New Delhi.

- (2005): National Curriculum Framework, NCERT, New Delhi; http://www.ncert.nic.in/rightside/links/pdf/framework/english/nf2005.pdf

- (1992): Programme of Action, MHRD, Govt. of India, New Delhi. mhrd.gov.in,

  http://www.ncert.nic.in/oth_anoun/npe86.pdf

- (1986) National Policy on Education). MHRD, Govt. of India, New Delhi. mhrd.gov.in,

  http://www.ncert.nic.in/oth_anoun/Policy_1986_eng.pdf

- (1964-66): Indian Education Commission(Kothari Commission), http://www.indg.in/primary-education/policiesandschemes/principal_recommendations_of_the_education_commission.pdf

MENTAL MODELS OF STUDENTS ON STOICHIOMETRY CONCEPT IN LEARNING BY METHOD BASED ON MULTIPLE REPRESENTATION

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Abstract: This study was conducted to obtain students' mental models after learning using multiple representations. The application of learning based on multiple representations is carried out through the interconnection between the three levels of chemical phenomenon (macro, sub-micro, and symbolic). The research samples are taken from the 2011 year of Physics Education (3 class) randomly selected from 8 available classes. The number of students from whom the samples were taken is 96 students. The students' mental model is confirmed through the procurement of essay test questions encourage them to think at the three levels of chemical phenomenon. The results of this research show that the students' mental models towards chemistry reaction stoichiometry was mirrored in various questions from the interpretation down to the verbal-to-symbolic transformation and verbal-to-visual transformation (sub-micro diagram) and vice versa. Findings indicated that *macro–submicro–symbolic* teaching by used multiple representation method could be enhancing student mental models and learning effectivity of chemical reactions. It indicates that there has been a statistically significant change on the students' mental models after multiple representations learning method was implemented.
Key Words: Mental models, multiple representations, chemical phenomena.

INTRODUCTION

Several researches indicate that many factors can affect the ability of students to make connections between the three levels of chemical phenomenon in growing thinking skills (Eilam & Poyas, 2010; Prain, *et al*, 2009; Schönborn and Anderson, 2009). In addition, teaching chemistry to build mental models requires a strategy that involves the use of chemical representations as mentioned above accurately, because to build a mental model of students requires an understanding of the three levels of chemical phenomenon. Mental models are unstable and the student's ability to operate or use their mental models in order to explain the events that involve the use of a visual model is very limited, so the need for ongoing training to build it (Coll, 2008; Devetak, *et al.,* 2009; Davidowitz, *et a.l*, 2010; McBroom, 2011). Therefore, this study was conducted in order to build a student's mental model in learning by involving the three representations on the topic of chemical stoichiometry. Learning model used is learning the IF-SO framework (Waldrip, 2008 and 2010) which is modified by considering the seven basic concepts the student's ability in dealing with the phenomena of external representation (Schönborn and Anderson, 2009).

Mental Model

Stoichiometry is one of the most basic topics of learning chemistry and it is required to understand the qualitative and quantitative aspects regarding chemistry phenomena as well as to solve various chemistry problems at high schools and college level. Hence, understanding the concept of stoichiometry is critical to solve chemistry problems. For example, chemistry equation is the basic concept for solving various chemistry problems. Without understanding the chemistry reaction, it will be far more difficult to solve the problem (Chandrasegaran, *et al*., 2007; Davidowitz, *et al*., 2010; Laugier & Dumon, 2004). Understanding the concept of chemistry can be achieved if the students perform higher level of mind processing using an internal representation (mental model) established

using various visualization models to describe all three macroscopic, sub-microscopic and symbolic phenomenon (Chandrasegaran, *et al.*, 2007; Johnstone, 1991).

According to the experts on cognitive psychology, mental model is an internal-scale model representation of an external reality, or person's private representation of an idea or concept (Greca and Moreira, 2000). Mental model can be defined as conceptual model, mental representation, mental image, internal representation, mental process, abstract construction and personal cognitive representation (Chittleborough & Treagust, 2007; Chittleborough & Treagust, 2008). In this case, the experts of cognitive psychology often use academic studies on mental model to obtain information on thinking process, especially during problem solving. Bower and Morrow (Strickland, *et. al.*, 2010) defined the mental model in the following statement: *"an individual's mental models are complex knowledge constructs representing the person's experiences regarding a particular phenomenon. The construction of mental models is not limited to tangible objects; the phenomena may be as abstract as the notions of 'right' and 'wrong''.* Therefore, mental model construction is the core of a meaningful learning. People should construct mental model system he/she encounters in his or her mind in order to understand and comprehend how it works.

Related to the chemistry learning system, Wood (2006) and BouJaoude & Barakat (2003) stated that learning chemistry is similar to learning the logics of problem solving, the achievement of which indicate the use of various chemistry problems at molecular level by the student in a correct manner. However, most students perceive chemistry as a difficult subject (BouJaoude & Barakat, 2003; Huddle & Pillay, 1996; Wood, 2006). If the students can understand the roles of all three levels of chemistry phenomenon, they can transfer their knowledge by interconnecting the levels to one another, which means that they can obtain the conceptual knowledge required to solve a problem. According to Johnstone (1991), the three levels of phenomenon connect one another and all of them provide great contribution towards the development of students' mental model in building definition and conceptual understanding.

Several results of research indicated that learning methods which do not interconnect the three levels of chemistry phenomenon leave the students unable to create their own mental model (Coll, 2008; Devetak, *et al.*, 2009; Jansoon, *et al.*, 2009; McBroom, 2011). In his research, Jansoon, *et al.* (2009) in his study on "understanding the mental model of students in relation to the dilution process" reported that most students' encountered difficulties in describing symbolic representation to explain the phenomena occur at sub-microscopic level. According to Coll (2008), the students' ability to operate or use their mental model to describe the events, involving the use of visual model is very limited. Rendering is necessary to hold training on how to interpret a visual sub-micro image through learning method which involves the three levels of chemical phenomenon. Next, Devetak, *et al.* (2009) found that students who have not been trained with external representation found it difficult to interpret sub-micro structure of a molecule. McBroom (2011) stated that students who are not constantly drilled with learning method involving the multiple roles of representation would encounter difficulties in transforming all three levels of chemical phenomenon presented.

Learning Based on Multiple Representations

This model is a learning method based on a multi-representation of science that tries to connect the three levels of chemical phenomenon (macro, sub-micro and symbolic) into the learning steps. Through this model, the learning of IF-SO framework (Waldrip, 2008 and 2010) applied by considering the interaction factor (seven basic concepts) that affects the student's ability to represent the phenomena of science (Schönborn and Anderson, 2009). Seven Basic Concept, the ability of learners which have been identified by Shönborn and Andeson (2009) is the ability of the reasoning learners *(Reasoning;* R), conceptual knowledge learners *(Conceptual*; C), and select the mode of representation of the learner's skills *(representation modes;* M), then four other factor are the factor R-C is a self-conceptual knowledge of the ER; R–M factor is a feature of the ER itself; the C–M is interactive factors affecting the interpretation of the ER; and the C–R–M is the interaction of these three factors early (C, R, and M), which represents the ability of learners to engage all the factors in order to interpret the ER properly.

By considering the interaction of R–C and C–M, the required learning model conceptual stages of exploration activities is needed, while while the stage of imagination is needed in considering the interaction of R–M and C–R–M. Exploration stage with more emphasis on the conceptualization of the problems is being faced by science discussions, laboratory experiments or demonstrations, and tracking information via text books, *weblog* or *webpage*. The stage of imagination is required to perform the mental imagery of the external representation of the sub-microscopic level. Hence, it transforms into macroscopic level or symbolic or otherwise. Imagination is very helpful in improving conceptual knowledge learners and raises the creative power of the learner (Ogawa, *et al*., 2009; Thomas & Brown, 2011). Therefore, imagination representation as one of the activities include in the syntax in developing learning model. During the conceptual stage of exploration carried imaginative activities to train students in conducting mental image representation through the imagination. Train students to perform mental imagery representation through the imagination. Thus, the stage of exploration and imagination are combined into a single phase, i.e.; exploration–imagination phase.

The results of the exploration-imagination need to be internalized through presentations, assignments, and exercises. The last stage of evaluation is the stage to get feedback during the learning process. Before the exploration of imagination, teachers need to learn orientation capabilities as the basis for the exploration–imagination phase. Therefore, the learning model developed consist of four stages (phases), i.e.; orientation, exploration–imagination, internalization, and evaluation. In the exploration-imagination phase, learning sequence depends on the concept learned by learners. The abstract topics of the concrete examples (e.g.; the law of conservation of mass and comparative law anyway), can be taught these following order: exploration, and coupled with imaginative representation. However, the abstract topics (e.g.; discussion and calculation of chemical reaction) and the stage of exploration and imagination sequences can be implemented with imagination and conceptual exploration. The fourth stage of the representasion multiple methods have the following steps:

Tabel 1. Phases of Teaching in Multiple Representation

Phase I: Orientation	1. Delivering the purpose of study. 2. Motivating with various chemistry phenomena related with the students' experiences
Phase II: Exploration–Imagination	1. Introducing the concept of chemistry by providing several different abstractions regarding chemistry phenomena (such as transformation of substance phase, chemical transformation, etc.) verbally or through demonstrations and visualizations such as pictures, charts or simulation and or analogy with the involvement students in listening and Q & A (question & answer). 2. Guiding the students in establishing imaginative representation of chemical phenomena through collaboration (discussion). 3. Encouraging and facilitating students discussion panels to establish mental model to interconnect different levels of chemical phenomena by implementing chemical transformation phenomena in the students' activity sheet.
Phase III: Internalization	1. Guiding and facilitating the students in articulating / communicating their ideas through presentation of group works. 2. Encouraging other students to comment or respond to the represented group works. 3. Giving assignments to create individual activity on articulation of imagination. Individual practice is stated on the Student Activity Sheet (SAS) which contains questions and/or instructions to interconnect the three levels of chemical phonomena and/or crossword puzzle on chemistry.
Phase IV: Evaluation	1. Reviewing the student's work result 2. Assigning works on interconnection of three levels of chemical phenomena and providing feedback. 3. Conducting formative and summative evaluation.

The purpose of this study

The purpose of this study was to determine how the mental models of students after the intervention using a learning model based on multiple representations. In addition, this study also aims to determine the effectiveness of a learning model based on multiple representations in building student's mental models. Intervention from this learning model done with involving the chemical phenomenon on the macro, sub-micro and symbolic levels, so hopefully will be able to bring up a mental model of the student with the category of "good mental model" or the characteristics of the mental model of "consensus" and "target. It is based on previous findings that the study involving all three levels of chemical phenomena (macro, sub-micro, and symbolic), was able to produce students with the mental model of "good" category and can achieve mental model of "consensus" and mental models of the "target" (Chittleborough, 2004; Coll & Treagust, 2003; Park, 2006; Jaber and Boujaoude, 2012; Wang, 2007). Learning interventions in this study involves higher-order thinking, reasoning, and deep understanding, so hopefully will be able to build a mental model of students about the reaction stoichiometry concept on the "good" category. To reach the reasoning and deep understanding, then the intervention in this study was conducted involving potential student imagination. The power of imagination will be able to excite students to learn and foster student creativity (Ogawa, *et al.*, 2009; Thomas & Brown, 2011). Therefore, these research questions are:

1. *how students' mental models after applied learning to use multiple representations that involves the interconnection of the three levels of chemical phenomenon?*

2. *whether the application of learning to use multiple representations can be effective in building students' mental models?*

METHODOLOGY

Population, sample and research procedure

The population in this research consists of all students in 2011 year of Basic Chemistry Studies, Department of Math and Science Education, Faculty of Teacher Training and Education, University of Lampung-Indonesia. The research samples are taken from the 2011 year of Physics Education (3 class) randomly selected from 8 available classes. The number of student from whom the samples were taken is 96 students. The design used in this stage is group pre-test and post-test design (Fraenkel and Wallen, 2003 p. 271-272)

The students' mental model is confirmed through the procurement of essay test questions encourage them to think at the three levels of chemical phenomena. The measurement of mental model is adapted from the model developed by Park (2006), Wang (2007), and Davidowitz, *et al*. (2010), in the form of written essay questions with sub-micro illustrations. The Mental model test consists of 6 questions for Stoichiometry discussion materials in the order of competence achievement criteria (indicator). The mental model test questions are selected in order to encourage mental processing among students by the following steps:

- Transforming visual representation into verbal representation, chemistry equations and mathematical calculations.
- Representing the occurrence of chemical reaction by describing the representation into external representation (macro, symbolic or sub-micro).

The intervention in this study is done by using multiple representation methods, i.e. learning methods that involve interconnection between the three levels of chemical phenomenon (macro, sub-micro and symbolic). Intervention in the early stages of learning is the orientation of the initial knowledge of students. The purpose of this orientation is to know the initial experience of the students that used as to determine the next intervention. After the orientation phase, the learning is done with the exploration–imagination. At this stage students involved in seeking information via a webpage/webblog and trained in the interpretation and transformation through the visualization of chemical phenomena. The power of the imagination of students at this stage is maximized to perform reasoning on the external representation of the sub-micro of chemical reaction, so as to generate creative thinking. Student activities on the exploration–imagination phase is done collaboratively in groups. The next activity is the internalization of the results of the group's imagination through the presentation, and then proceed to optimize the power of imagination through the implementation of individual activities. Individual activities carried out through exercises in interconnect the three levels of chemical phenomena, as stated in the student worksheet. Last intervention in learning is evaluation. Evaluation phase activities conducted through a review of student work by faculty and individual task assessment, as well as giving homework.

Data Analysis

The mental model test data analysis is performed by assigning scores to each answer given by the students (Park, 2006; Wang, 2007) according to the types of student's answer. Scoring technique is performed by assessing the students' answer to a test question with a label indicating their level of achievement. The labels are written "very good", "good", "moderate", "poor", and "very poor", which correspond respectively to 5, 4, 3, 2, and 1 at ordinal scale, as is common in mental model assessment topic. Next, the data undergoes a descriptive analysis to describe the student's mental model before and after the implementation of multiple representations method. Student responses as answers to the test questions in the form of an explanation, mathematical calculation, molecule images, and chemical reactions indicated as mental models. As said by Mumford, *et al*. (2012) that the students' mental models can be generated through the mapping task conceptually where the maps, or models, it is expressed through the image of structural model that describes the relationship between the concepts selected by the student in completing creative problem.

FINDINGS

Student mental models analyzed by acquisition of mental models as a rubric score for each test question mental models can be seen in the students' ability to interpret sub-micro drawing transformation of molecular and chemical phenomena on one level to another level.

The Questions regarding students' mental model of simple chemical reactions required the students to use their mental model in transforming chemical phenomena to verbal form and from verbal form to mathematical form (calculations), to interpret the sub-micro visual image of a simple reaction with reactant and the product available in the box. Furthermore, the students are also asked to describe the product of reaction as well as to perform transformation from verbal statement into a sub-micro (visual) diagram by drawing the reactant and product of a given reaction, and to interpret the reaction occurring in a container. Questions to measure students' mental models with stoichiometry concepts expressed in the No.1, 2, and 3 (TMM 1, TMM 2, and TMM 3) in the appendix.

An analysis of the student's answer to the TMM 1, TMM 2, and TMM 3 questions is stated in the diagrams apparent in Figures 1, 2, and 3.
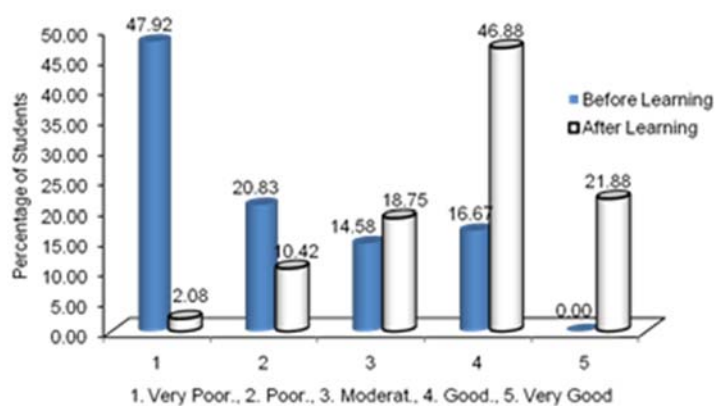
Figure1. Chart of Student's Mental Models on Stoichiometry Topic for question of TMM_1.
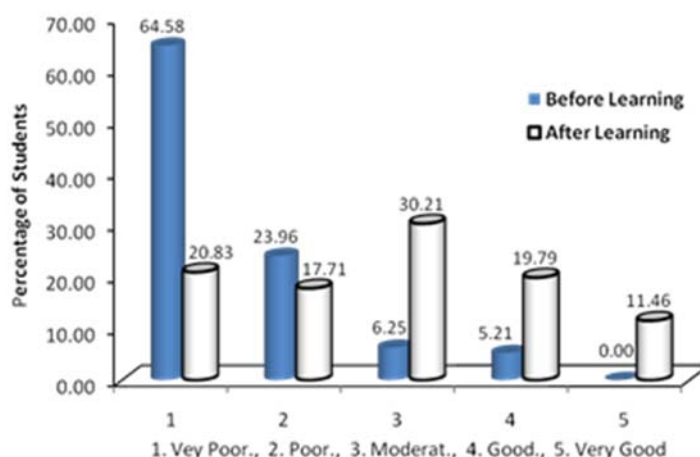
Figure2. Chart of Student's Mental Models on Stoichiometry Topic for question of TMM_2.
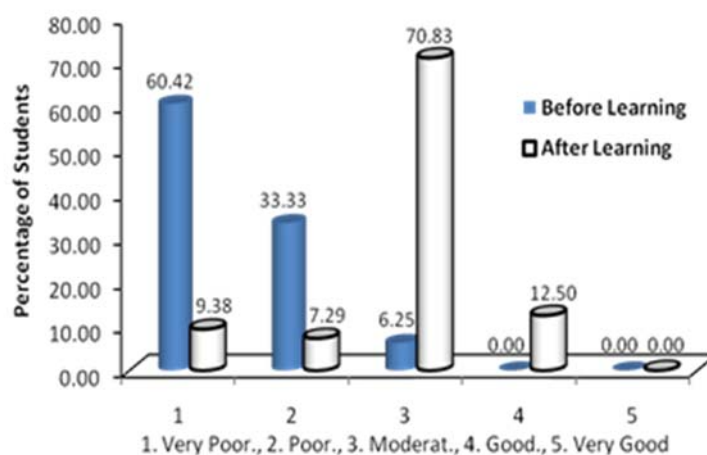
Figure3. Chart of Student's Mental Models on Stoichiometry Topic for question of TMM_3.

Based on the analysis of student mental models of the charts above, it seems like the students' mental model of chemical reaction stoichiometry with various questions from interpretation down to verbal-to-symbolic and verbal-to-visual transformations (sub-micro diagram) and vice versa indicates significant differences before and after the implementation of multiple representations method.

In Figure 1 and Figure 2, students who were initially unable to write reaction equation by directly translating the sub-micro image were able to directly interpret the reaction equation from sub-micro image as well as solve a balanced reaction at the same time after adopting the learning model based on multiple representations. The percentage of students who are able to accurately reply, interpret and transform the sub-micro to macro and symbolic or vice versa for TMM_1 (Figure 1) is 21.88% (very good), 46.88% (good) and 18.75% (moderate), whereas the remaining percentage of students still have low capabilities and must continue to practice their interpretation and transformation of sub-micro to macro and symbolic figure and vice versa. For TMM_2 (Figure 2), the percentage of students with very good, good, and moderate mental models are 11.46%, 19.79% and 30.21% respectively, and the remaining students have bad mental models. In Figure 3 (TMM_ 3), students who have the

ability to transform the macro phenomena (verbal) to sub-micro is low, in which case the student with excellent skills mental models (0%), good (6.25%), and moderate (78, 13%).This indicates that the student has not been fully able to do the transformation of macro phenomena to the phenomena of sub-micro (picture) as well.

Difficulties in transforming these students is the ability to interpret the term "excess substance" in a reaction, so the images transform into sub-micro level, the term does not appear in the sub-micro images created by the students. Therefore, students need guidance and training in making representations imagination in order to build good mental models. Nonetheless, these results suggest that after the implementation of learning by using multiple representation method, students have been able to cultivate mental models in the face of external representation of macro and sub-micro level, when compared to the prior implementation of learning.

Based on these results, students still have difficulty in transforming verbal to visual (sub-micro images of chemical reactions), although the study was conducted, involving all three levels of chemical phenomenon. This sub-microscopic external representation is highly required to explain the existing reaction phenomena, since an in-depth understanding of stoichiometry requires more than just an ability to follow an algorhythm or equation alone (Ben Zvi, *et al*., 1987), but also the ability to translate symbols and explain the reaction phenomena occurring at molecular scale. Such findings correspond to those reported by Davidowitz, *et al*. (2010) that 22% students are able to translate sub-micro image directly into a reaction equation, 63% are able to write a balanced reaction accurately, and 15% are incapable of translating a sub-micro image. As such, we can conclude that even though the learning emphasizes on the visual approach using diagrams at sub-micro levels, some students still find it difficult to understand the chemical reaction stoichiometry subject in dealing with the external representation at sub-micro scale (Ben-Zvi, *et al.*, 1987; Sanger, 2005).

The results can also be seen from the percentage of students' ability to create images sub-micro, determination of limiting reactant, and write chemical equations directly from the image and the balanced equation. More results are contained in Table 2 to Table 5 below.

Table 2. Percentage of students who can answer questions TMM_1a, TMM_2c, and TMM_3a before and after the learning by using multiple representation method.

| No. | Representation/Answer | Percentage of students | | | | | |
| | | TMM_1a | | TMM_2c | | TMM_3a | |
		Before	After	Before	After	Before	After
1	Writing a reaction equation based on visual image	19.79	79.17	25.00	68.75	-	-
2	Writing a balanced equation of chemical reaction.	14.58	70.83	31.27	61.46	51.04	80.21
3	Incorrectly writing reaction equation/unbalanced reaction	43.75	20.83	47.92	22.92	34.38	17.71
4	No answer	21.88	0.00	16.67	8.33	14.58	2.18

Table 3. Result of analysis on the students' answers to questions TMM_1c and TMM_2b regarding the determination of limiting reactant from visual image representation before and after the learning by using multiple representation method.

Question	Student's answer	Percentage of students	
		Before	**After**
TMM_1c	Limiting reactant: O_2	18.75	76.04
	Limiting reactant: H_2	43.75	12.50
	Limiting reactant: H_2 and O_2	16.67	8.33
	No answer	20.83	3.13
TMM_2b	Limiting reactant: SO_2	30.21	68.75
	Limiting reactant: O_2	32.29	15.62
	Limiting reactant: SO_2 and O_2	14.58	5.21
	No answer	22.92	10.42

Table 2 shows that the students have been able to write a balanced equation of the reaction by using the smallest number with the correct ratio, as many as 70.83% (TMM_1), 61.46% (TMM_2) and 80.21% (TMM_3) and these results better than before the application of the learning model based on multiple representation, although not maximized. Not maximal percentage of students who are able to balance the equation with the smallest ratios, because students do not realize that a balanced chemical equation always use the ratio of the smallest numbers. In this case, students are stuck with only translating images sub-micro, which is just write the equation with a direct view of the image without settling into a balanced equation. The ability to write a balanced equation on TMM_1 and TMM_2 highly dependent on the ability of the mental models of students in identifying chemical formulas of molecules involved in the reaction. Table 3 shows that after learning using multiple representation method, the ability of students to use their mental models to move from sub-micro level to the symbolic and mathematical level is better than before the study. Question on TMM_1c and TMM_2b require students to use the algorithm model in problem solving of computation of chemistry with better results. Although most students can identify reactions that occur by writing the equation, but there are still students who failed to identify the reaction products and limitinh reactants, so the answer is to be one who does not even give an answer. After learning, there are 23.96% of the students are not able to recognize that the limiting reactant is O_2 on TMM_1 question, and as much as 31.25% on TMM_2 students can not recognize that the limiting reactant is SO_2.

Table 4. Results of an analysis of student answers to questions TMM_1b.

Students' Answer; Sub-micro image of Reaction Product	Percentage of students	
	Before	After
$4H_2O + H_2$	19.79	76.04
$5H_2O + O_2$	31.25	6.25
$4H_2O$	20.83	7.29
$2H_2O$	19.79	6.25
H_2O	8.33	4.17

Table 5. Result of analysis on the students' answer to question TMM_2a.

Students' Answer: Sub-micro image of Reaction Product	Percentage of students	
	Before	After
$6SO_3 + 3O_2$	30.21	68.75
$6SO_3$	33.33	12.50
$6SO_4$	14.58	6.25
$3S_2 + 24O_2$	16.67	8.33

Analysis of the images created by students (Table 4 and Table 5) with the predictions of the reaction products showed that after the application of the learning model based on multiple representation, 76.04% (TMM_1) and

68.75% (TMM_2) students can make a picture of the product molecule appropriately. This result is higher than before the study. In Table 4 and Table 5 also shows that the students as much as 7.29% (TMM_1) and 12.50% (TMM_2) which draw molecule products, but does not show the reactants remaining in the container (box). Nevertheless, their percentage decreased as compared with before application of the learning model based on multiple representation. In addition, for TMM_1 (Table 4) as much as 6.25% of the students draw a molecule products in accordance with the reaction coefficient in the balanced equation (i.e. $2H_2O$), and 4.17% draw students with an understanding of the formation of 1 mole of water (H_2O).

DISCUSSIONS AND CONCLUSIONS

Learning chemistry based on multiple representation is performed with the purpose of increasing the students' analogical thinking capacity on stoichiometry by establishing a student's mental model. The appearance of a student's mental model is reflected by his/her ability to interpret all three levels of chemical representation phenomenon (Johnstone, 1991), as seen from the students' answers in verbal, mathematical or symbolic forms and visual image at molecular level. The result of this research shows that the students' mental model has been well formed. In this case, before the implementation by using multiple representation method, the students' mental model was generally in the category of "very poor", but after the implementation of multiple representation method, it improved to "moderate" and "good". The establishment of the students' mental model shows that there has been an improvement of the their ability to understand the macroscopic, sub-microscopic and symbolic representation, as well as the ability to interpret and transform all three levels of chemical phenomenon as reported by Chittleborough & Treagust (2007), Coll (2008), Devetak, *et al*. (2009), Davidowitzt *et al*. (2010).

This research finding shows that the learning model based on multiple representation can be used as an alternative learning model to train the students in interconnecting the three levels of chemical phenomenon representation. In learning the stoichiometry, the students are not only able to learn using algorhythm, but also understand the reaction phenomena at molecular level through imagination. Chemical learning which only focuses on the algorhythm will result in a shallow understanding (Dahsah and Coll, 2008). As such, the roles of imagination in chemistry learning become very important, since the students will be able to improve their imagination, skills and creativity. Thomas & Brown (2011) stated as follows:

> "…*imagination is the process of world building to create a new context in which the strange, the new, the different can be understood as familiar*."

Results of research conducted by Ogawa, *et al*., (2009) reported that

> "…*the teaching with emphasis on the imagination can evoke the representation capabilities of learners, so that learners can improve their creativity. The power of imagination will evoke passion to improve the skills and conceptual knowledge of the learners*."

For example, the response to TMM_1 and TMM_2 shows the students' imagination in understanding the chemistry reaction at molecular level, not only in interpreting sub-micro image but also creating a sub-micro image out of reaction product at molecular level (Table 2 and Table 3). Reaction equation which must be written directly from the molecular diagram in TMM_1 is $5H_2 + 2O_2 \rightarrow 4H_2O + H_2$, and its balanced reaction is $2H_2 + O_2 \rightarrow 2H_2O$. In the case of TMM_2, the reaction written directly out of the visual image is $6SO_2 + 6O_2 \rightarrow 6SO_3 + 3O_2$, its balanced reaction is $2SO_2 + O_2 \rightarrow 2SO_3$. In TMM_3, the balanced chemical equation is $2K + 2HCl \rightarrow 2KCl + H_2$. The

students' abilities to interpret sub-microscopic image indicate that learning through the exploration – imagination phase can grow the students' imagination, since they are constantly trained and familiarized with interpretation and transformation of chemical phenomena representation levels. With constant training, the students will be able to use their mental model to explain events through the use of visual model (Coll, 2008) and will encounter no difficulties in interpreting the sub-micro structure of a molecule (Devetak *et al.*, 2009), so that the students' creativity may grow and develop (Ogawa, *et al.*, 2009) as indicated by their ability to draw a sub-micro image of reaction result in questions TMM_1 and TMM_2 (Table 4 and Table 5).

Question on TMM_3 are questions that ask students to do the imagination of the macroscopic phenomena of reaction between potassium with excess HCl. In the experimental class students, students who are in the area and well once have been able to make a sub-microscopic description of the reaction between potassium with excess HCl with molecular images representing the reactants and products appropriately. Where the reactant HCl molecule not only represented 2 molecules as the reaction coefficient is written by students, but exceeded one, because the statements in question stated that it's excess HCl, so the product must also be there HCl remaining on sub-microscopic image made students (Figure4). However, students do not realize that the HCl in the solution will be in the form of H^+ and Cl^- ions, as well as KCl in the solution is also ionized into K^+ ion and Cl^- ion. Thus, students should have created images indicate the presence of H^+ ion, C^- ion, and K metal in the reactant, while the product showed a K^+ ion, Cl^- and H_2 gas as the reaction proceeds. However, the imagination of students with the depiction of the reacting molecules and the reaction product is better than before learning that involves three levels of chemical phenomenon.

Result of analysis of TMM_3 are consistent with those reported by Devetak, *et al* (2009) that through a more detailed analysis of the students who are just learning the stoichiometry was only 57.00% of respondents (students) understand that a strong acid (such as HCl) and salt (such as KCl) almost completely break down into ions in aqueous solution. Furthermore, BouJaoude & Barakat (2003) reported that not a few learners who are less conscientious and make mistakes in understanding the meaning of excess reactants, so that learners have difficulty in making the connection between moles with reaction coefficient.

In addition, student difficulties due to inability to perform interpretation and transformation of the sub-microscopic phenomena, especially in TMM_3. The inability of some students (<48.00%) in this study is likely due to the students not having a process-oriented thinking, so that in describing the reaction only focuses on changes in macro with only a few mechanisms of verbal information (Strickland, *et al.*, 2010). Another possibility is the ability to build a mental model of the third-level interconnect of chemical representation is not a natural talent, but it is a skill and should be studied seriously, because the ability to build a mental model associated with the ability of reasoning and mental models itself is dynamic (Chittleborough & Treagust, 2007).
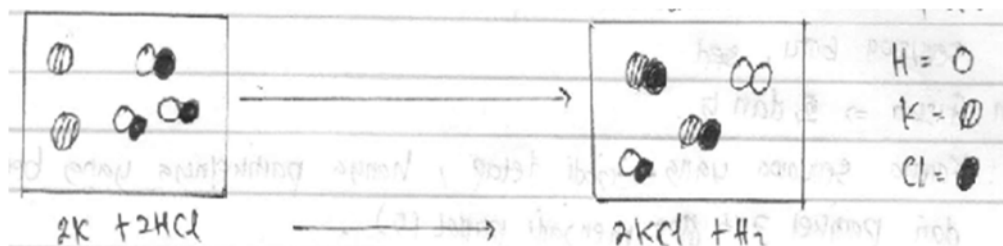
Figure4. Examples of students' answer in drawing a reaction between the metal K and excess HCl

Based on the data stated in Figure 1 to Figure 3 and the data in Table 2 to Table 5, it seems that even though the current learning method already emphasizes on the roles of multiple representation through the imagination phase, the majority of the students still encountered difficulties in interpreting the sub-microscopic representation and creating a sub-micro image of the reaction product at molecular level, since the students underwent the process of "forgetting". This suggests that an unstable mental models (Norman, 1983) among them. In this case, McBroom (2011) stated that the participants' difficulties in understanding the particular level which corresponds to its terminology might be connected to Norman's idea (1983) that a person's mental model is unstable and one can easily forget the detailed concept of a learned system.

However, based on some of the findings in this study can be said that the learning model based on multiple representation is effective in build mental models of students. These findings reinforce previous findings related to the learning based on multiple representations, for example: Yakmaci-Guzel & Adadan (2013) has utilized multiple representations in learning to develop an understanding of chemistry teacher candidates about the structure of matter; Jaber & BouJaoude (2012) has utilized the interaction between the three levels of representation of the macro – sub-micro –symbolic for increasing understanding of relational of chemical reactions; A research conducted by Abdurrahman (2010) who also uses learning based on multiple representations to improve the mastery of concepts, generic science skills, and critical thinking skills of students of physics; Eilam & Poyas (2010) has utilized external visual representations through the application of STS approaches to look at students' ability to identify the cellular system components and relations, and to construct new interrelations.

The findings in this study indicate that the chemistry lesson should involve several representatives at the first opportunity, since students in junior high school or even earlier, if possible. This study also provides information that the learning model based on multiple representation is an alternative learning model that can be used to construct mental models involving the three levels of chemical representation.

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REFERENCES

Abdurrahman. (2010). *The role of quantum physics multiple representations to enhance concept mastery, generic science skills, and critical thinking disposition for pre-service physics teacher students* (Doctoral dissertation, The study program of science education. University of Education Bandung, Indonesia.).

Ben-Zvi, R., Eylon, B., & Silberstein, J. (1987). Students' visualization of a chemical reaction. *Education in chemistry*, *24*(4), 117-120.

BouJaoude, S., & Barakat, H. (2003). Students' problem solving strategies in stoichiometry and their relationships to conceptual understanding and learning approaches. *Electronic Journal of Science Education*, *7*(3).

Chandrasegaran, A. L., Treagust, D. F., & Mocerino, M. (2007). Enhancing students' use of multiple levels of representation to describe and explain chemical reactions. *School Science Review*, *88*(325), 115.

Chittleborough, G. D. (2004). *The Role of Teaching Models and Chemical Representations in Developing Students' Mental Models of Chemical Phenomena*. Curtin University of Technology.

Chittleborough, G., & Treagust, D. F. (2007). The modelling ability of non-major chemistry students and their understanding of the sub-microscopic level. *Chem. Educ. Res. Pract.*, *8*(3), 274-292.

Chittleborough, G., & Treagust, D. (2008). Correct interpretation of chemical diagrams requires transforming from one level of representation to another. *Research in science education*, *38*(4), 463-482.

Coll, R. K. (2008). Chemistry Learners' Preferred Mental Models for Chemical Bonding. *Journal of Turkish Science Education (TUSED)*, *5*(1), 22 – 47.

Coll, R. K., & Treagust, D. F. (2003). Investigation of secondary school, undergraduate, and graduate learners' mental models of ionic bonding. *Journal of Research in Science Teaching*, *40*(5), 464-486.

Dahsah, C., & Coll, R. K. (2008). Thai grade 10 and 11 students' understanding of stoichiometry and related concepts. *International Journal of Science and Mathematics Education*, *6*(3), 573-600.

Davidowitz, B., Chittleborough, G., & Murray, E. (2010). Student-generated submicro diagrams: A useful tool for teaching and learning chemical equations and stoichiometry. *Chem. Educ. Res. Pract.*, *11*(3), 154-164.

Devetak, I., Lorber, E. D., Jurišević, M., & Glažar, S. A. (2009). Comparing Slovenian year 8 and year 9 elementary school pupils' knowledge of electrolyte chemistry and their intrinsic motivation. *Chem. Educ. Res. Pract.*, *10*(4), 281-290.

Eilam, B., & Poyas, Y. (2010). External Visual Representations in Science Learning: The case of relations among system components. *International Journal of Science Education*, *32*(17), 2335-2366.

Jack. R Fraenkel, & Wallen, N. E. (2000). *How to design and evaluate research in education*. McGraw-Hill.

Greca, I. M., & Moreira, M. A. (2000). Mental models, conceptual models, and modelling. *International Journal of Science Education*, *22*(1), 1-11.

Yakmaci-Guzel, B., & Adadan, E. (2013). Use of multiple representations in developing preservice chemistry teachers' understanding of the structure of matter. *International Journal of Environmental & Science Education*, *8*(1), 109 – 130.

Ogawa, H., Fujii, H., & Sumida, M. (2009). Development of a lesson model in chemistry through "Special Emphasis on Imagination leading to Creation"(SEIC). *The Chemical Education Journal (CEJ)*, *13*(1), 1 – 6.

Huddle, P. A., & Pillay, A. E. (1996). An in-depth study of misconceptions in stoichiometry and chemical equilibrium at a South African university. *Journal of Research in Science Teaching*, *33*(1), 65-77.

Jaber, L. Z., & BouJaoude, S. (2012). A Macro–Micro–Symbolic Teaching to Promote Relational Understanding of Chemical Reactions. *International Journal of Science Education*, *34*(7), 973-998.

Jansoon, N., Coll, R. K., & Somsook, E. (2009). Understanding Mental Models of Dilution in Thai Students. *International Journal of Environmental and Science Education*, *4*(2), 147-168.

Johnstone, A. H. (1991). Why is science difficult to learn? Things are seldom what they seem. *Journal of computer assisted learning*, *7*(2), 75-83.

Laugier, A. & Dumon, A. (2004). The equation of reaction: a cluster of obstacles which are difficult to overcome. *Chem. Educ. Res. Pract.*, *5*(3), 327-342.

McBroom, R.A., (2011). *Pre-Service Science Teachers' Mental Models Regarding Dissolution and Precipitation Reactions*. (Doctoral dissertation, North Carolina State University. Raleigh, North Carolina).

Mumford, M. D., Hester, K. S., Robledo, I. C., Peterson, D. R., Day, E. A., Hougen, D. F., & Barrett, J. D. (2012). Mental models and creative problem-solving: The relationship of objective and subjective model attributes. *Creativity Research Journal*, *24*(4), 311-330

Norman, D. (1983). Some observations on mental models. *In Gentner, D. & Stevens, A. L. (Eds.), Mental models, 7*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Park E.J., (2006). *Student Perception and Conceptual Development as Represented by Student Mental Models of Atomic Structure.* (Doctoral dissertation, Ohio State University. Columbus).

Prain, V., Tytler, R., & Peterson, S. (2009). Multiple representation in learning about evaporation. *International Journal of Science Education*, *31*(6), 787-808.

Sanger, M. J. (2005). Evaluating Students' Conceptual Understanding of Balanced Equations and Stoichiometric Ratios Using a Particulate Drawing. *Journal of Chemical Education*, *82*(1), 131–134.

Schönborn, K. J., & Anderson, T. R. (2009). A model of factors determining students' ability to interpret external representations in biochemistry. *International Journal of Science Education*, *31*(2), 193-232.

Strickland, A. M., Kraft, A., & Bhattacharyya, G. (2010). What happens when representations fail to represent? Graduate students' mental models of organic chemistry diagrams. *Chem. Educ. Res. Pract.*, *11*(4), 293-301.

Thomas, D. & Brown, J. S. (2011). *A new culture of learning: Cultivating the imagination for a world of constant change* (Vol. 219). Lexington, KY: CreateSpace.

Waldrip, B. (2008). Improving Learning through Use of Representations in Science. In *Makalah Kunci 2th International Seminar of Science Education*. Bandung.

Waldrip, B., Prain, V., & Carolan, J. (2010). Using multi-modal representations to improve learning in junior secondary science. *Research in Science Education*, *40*(1), 65-80.

Wang, C. Y. (2007). *The role of mental-modeling ability, content knowledge, and mental models in general chemistry students' understanding about molecular polarity* (Doctoral dissertation, University of Missouri--Columbia).

Wood, C. (2006). The development of creative problem solving in chemistry. *Chemistry Education Research and Practice*, *7*(2), 96-113.

Zumdahl, S.S. & Zumdahl, S.A. (2007). *Chemistry* (7th ed.). Houghton Mifflin Company. Boston. New York.
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Appendix:
Questions To Test Mental Models On The Concept Of The Reaction Stoichiometry (TMM 1, TMM 2, and TMM_3)

Question TMM_1: Pay attention to the following reaction diagram:

Note: O = H atom and $●$ = O atom
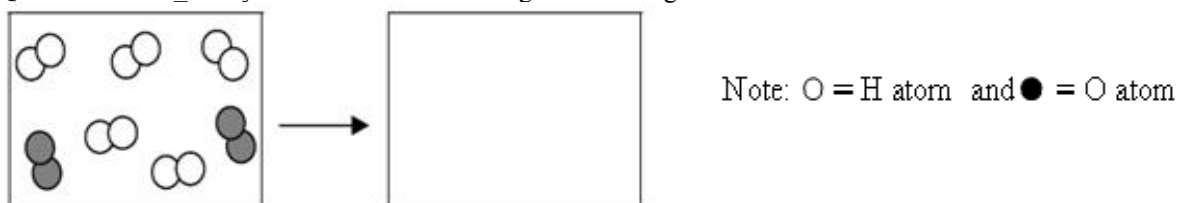
(Source: Davidowitz, *et al*., 2010).

a. Write a balanced reaction equation to produce gas, as shown in the above figure!
b. Use the available space to draw molecules in the reaction flask (the empty box) after the reactant is converted into product.
c. Based on the drawing you made, determine the limiting reactant!

Question TMM_2: Pay attention to the following molecular level diagram:

⬤⬤ = O_2 gas

⬤⬤ = SO_2 gas
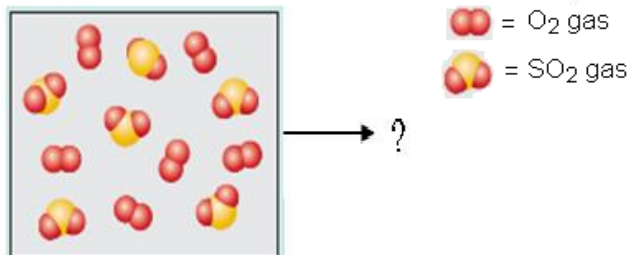
(Source: Zumdahl & Zumdahl, 2007)

If the mixture of both gas reacts with one another:
a. Describe all molecules in the container which indicate that a reaction has occurred in a closed container !
b. Indicate which reactant molecule acts as a limiting reactant?
c. Write a balanced reaction equation!
d. If 96.0 grams of SO_2 reacts with 32 grams of O_2 gas, count the mass of product from such reaction and the remaining reactant! (Ar. S=32, and O=16) !

Question TMM_3: A total of 3,9 grams of potassium metals reacted with excess hydrochloric acidin a room that has a temperature of 27°C and1 atm.
a. Write the balanced chemical equations of the reactions!
b. Draw your imagination results in a box about how the phenomena of chemical reactions, thus allowing other people can see each component separately !. Copy the box below and work on folio sheets provided!.
c. Describe your images and why this phenomena occurs?

Reactant	⟶	Product
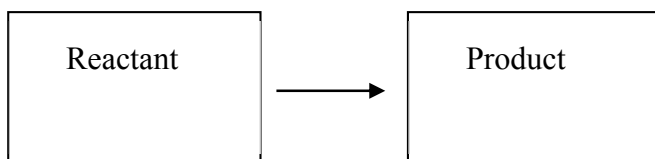
SOCIAL EXCLUSION, SCARCITY AND EDUCATION

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Abstract: The paper illustrated   social exclusion and deprivation in society. How social exclusion creates isolation and prevents people from taking part in the society. Education is the key instrument to bring positive changes and justice. Equity and social inclusion is prime for justice. Marginalized and deprive people bring in to the mainstream of development social justice. Fair policy of state and its proper implementation can reduce social exclusion. Formal and informal education empower marginalize people and push them for their basic right. Well being is not only that is valuable but also key for achievements, freedom and rights. Deprive people advantage is education awareness and the access to right followed by social inclusion.

Keywords: social exclusion, deprivation, marginalized, empowerment

Introduction

The social exclusions and the economic deprivation are the major factors to make an individual or community lagging behind from the access to decision –making process, benefits for their welfare. Social exclusion is a concept used in many parts of the world to characterize contemporary forms of social disadvantages in the different parts of the human being. The various literatures states that the social exclusion refers to processes in which individuals and entire communities of people are systematically banned to rights, opportunities and resources, position of decision making, socio-politics; for example; housing, employment, healthcare, civic engagement, democratic participation etc. and due process that are normally available to members of society and which are key to social integration to uplift their lives and the development of community.

Poverty is the outcome of multiple deprivations that prevent individuals or groups from participating fully in the economic, social, and political life of the society in which they live which caused generation to generation to the people and certain community. There are many examples globally; White people dominate Black people and there was struggle for the emancipation in Europe. In Nepalese context slavery system; bonded labours (Kamayas and Kamlaris) which were extremely exceed many parts of the country mainly in the Far and Mid Western Nepal was the outcome of the generation to generation discrimination and the social, economic deprivation. The social activist initiated the freedom of the colonized human being. However it is not easy work for them. Due to the constraint policy state cannot remove such deep-rooted system overnight.

Writer Amartya Sen describes that Agency and well being have greater connecting for personal success. A person may feel happier and better off as a result of achieving what he or she want. The agency inside person lead toward success and social inclusion plays role to raise agency inside an individual. Once the deprive people get chance to involve in education and economic activities they gradually move towards self-interest and welfare economic for individual and family. Social exclusion keep person playing with in such activities in society. Illiteracy and ignorance remains high in marginalized and deprived people so that they become indifference in right to information from very basic level. Other key agents in society tell them about what going on in society and they

will not in position to understand and realize it. Even if they forcefully literate they forgot once they get back to normal work if there is no self interest or readiness learning new things it is almost impossible to bring change which is the challenge to social inclusion. In the contest of least developed countries, the poor mainly landless, uneducated and the oppressed mass are excluded from getting a share of benefits. They have darkness lacking right information how to proceed to achieve basic right so that always follow leadership in society, elite always become leader of them and exploit them in terms of financial , social and political matter in society so that deprive people never take part in decision-making process rather follow leader. Exclusion from all dimension in society cause unemployment to them and left their children uneducated due to poverty. Even if they involve in some productive work, such as; agriculture, industries, skilled work their labour exploit by social leaders those are in front line and much elite and influencing people in society and market.

Social exclusion is a multidimensional process of progressive social rupture, detaching groups and individuals from social relations and institutions and preventing them from full participation in the normal, normatively prescribed activities of the society in which they live. The social exclusion terms widely use by the development practitioners, educationalist and the change agent in the society in South Asia but also in United Kigdom, Europe,France, Germany across the world various educational disciplines including education, sociology, psychology, politics , economic etc. Social exclusion adversely affects all dimensions of the live. Socially excluded communities and people always weak in social capital, networking due to limited access of information, political, power which always driven by the elite groups in community. Social exclusion obviously triggerd to the economic deprivation leave the people oppressive, suppressive with the burden of just hand to mouth problems. They even don't have time to think about their other basic rights health, education, shelter and entertainment searching the livelihoods for earning two time breads. Social exclusion relates to the alienation depriving the privilege legal and economic rights in the states due limited access to basic information, lack of empowerment and awareness. It is an often connected to an individual's educational status, social class, relationship in childhood or the living stander which obviously affect access to various other opportunities.

Education is the key instrument bringing change by creating level of awareness among the deprived and excluded people and community. Educated leaders of the states, academicians or the global change agents can apply the tools of education for the positive changes in the society. Education contributes a lot for democracy and democracies in society create justice with the full right over all the decision making process and control over resources. Learning aptitude is prime to apply education for the poor and marginalized community because they do not focus rather than food and shelter. So that awareness creation, empowerment to receive education is the first step and enrolling them into employment opportunities attract them for economic benefit. Once they start getting benefit they become habitual and there will be changes in their life . Only after that they will regularize sending their children to school for education knowing the benefit of education. Even though there are chances of layers exclusion inside family and community. Gender, age, caste, geography, culture and religion is the sources of discrimination unless they use all these as assets.

Awareness And Empowerment

Social exclusion is about the inability of our society keep all excluded groups deprive; lag behind to realize their full potential and the individual capacity. Whatever the criteria of social membership, socially excluded group

and individual always lack capacity and access to social opportunities and many other barriers to achieve dignity of life. To be excluded from society and deprive from the economic opportunities can have various other relative senses. However the social exclusion is usually defined as more than a simple economic phenomenon. It has also the consequences in other social symbolic field such as power and polity.

To overcome the exclusion, awareness creations to individual using the education as instrumental that change and leads people towards empowerment and raise the self-esteem, dignity and way forward to achieve their right with the increased level of agency within themselves. Education is the Key for empowering individual and community. In the context of Nepal there are explicit examples how education changed the life of marginalized and oppressed people during the people's war initiated by the Maoist. They have used the educational key creating awareness and arise the inner voice to fight for the right. Many illiterate people belong to marginalized and poor community joined the people war influencing with the principle to fight against the suppressive and oppressive situation. Not only the formal education in the school or in the universities, but also the practical education in the rural villages or in the community also can bring significant change in the life of excluded and deprive people.

Equity And Social Inclusion

It is obvious social exclusions always force the people from the main stream of secteral development in life. So that individual or the community doesn't have equal opportunity to participate in social, economic, political activities. It also applies to some extend to the people with disability to minority, marginalized men and women of all races and age groups in the society. Of course there are multiple exclusion in some cases for example woman form dominated class and cast and geographically underdeveloped area have various exclusion starting from the family, community, region up to the state level. Informal and formal education to them can create employment opportunities and teach them to seek their basic right with the service provider of the state, for example they can go to community health service center, education center and the authorized officials of the state demanding their basic right. The movement for right can only start with the light of education there is nothing stronger than educational instrument to start equality and equity in the society. On the other hand some marginalized community self-excluded by avoiding themselves attending the larger communities, for example some tribe and indigenous groups i.e Raute, Chepang , Tharu community in Nepal in which people are automatically excluded from most of the dimensions of the development. Creating awareness among them through education or the community moderation via informal coaching and consultation there are significant changes in the life of those peoples. For example the Tharu communities in the Western Terai have practicing selling their daughter to the owner as a bonded labour (*Kamlary*) of the land lords where they also work as bonded labours from the past number of decades eradicated with weapon of education which was initially started by the non-governmental organizations and fewer change agent personalities. They have not only advocated for the equity and justices but also changed the state policy in favors of those marginalized communities. The social structure: race, geographic location, class structure, globalization, social issues, personal habits and the discrimination on the basis of those areas are very common. The Karl Marks theory spell out that the class discrimination always creates tension between have and have not.

Economic Changes

The multi dimensionality of exclusions and economic deprivation resulted the economic crisis. Because of the exclusion in all level excluded people or the community face unemployment which is always correlated with the social exclusion. Especially in the modern societies, paid work is not only the principal sources of the income with which to buy basic services, but also the related to the identity of individuals, feeling of self –esteem, dignity and self-worth. Most of the peoples have social networks and senses of embeddedness in society also revolve around their work. Many of the indicators of extreme social exclusion, such as poverty and homelessness, depend on monetary income which is normally derived from work. Much policy to reduce exclusion thus focuses on the labor market. The education can bring change in the society due opening the door of the employment opportunities which can change the economic dimension of individual, family and the community. Once the economic pentagon of the individual start to other dimension of individual automatically and gradually bring the new positive changes. For example access to resources increase which also make closer to the social network with multiple social events. The economic empowerment enriches people to fight against the injustice and enhance their agency to bear more risk for better life options. Empowerment leads or encourages employers to be more inclusive in their employment policy and decide their own welfare. Education starts initiative to investigate the way for inclusiveness of the labour markets and create open spaces in all sectors of the states.

Access to Rights

Philosopher Axel Honneth; professor of philosophy at the University of Frankfurt, Germany and director of the Institut für Sozial forschung speaks about the struggle for 'recognition' which theorized through Hegal's philosophy sensing that to be socially excluded is to be deprived from social recognition and social value chain. Deprivation of the social exclusion connected to the capitalism which thorough individual enter in to political, social, economic sphere and can fully entertain the citizenship rights placing themselves in the top most position in the society and states. Education is the key source to empowerment which leads individual to the path of accessibility to achieve power and polity. Those who have access to education have pioneer to access over rights in all spheres in the society which lead them to first position in the society. Having access to economic, political and social sphere individual empower enough to be able to fully participate in the community and play vital role in the decision making roles in the key position. Such as at the from grass root level the community people can practice their right through Village Development Committee (VDC) , District Development Committee (DDC) and move towards the Regional and Central Level politics. For illiterate people, even the voting right is not accessible which is the ladder to ride up to the basic human right. So that to perform individuals' right formal, non formal or informal education play vital role for positive change. Social inclusion is the seed of crisis, poverty that leads to the marginalization from professional or skill work and block the sound income generation rather push individual to uncertainties the poor economic condition. Marginalized community does not have access to the rights and resources even though it provide by states. Education shows the path to mainstream the excluded in the development center point. For example marginalized people in Nepal have been seeking their customary rights after empowering about their rights over the natural, human, social, financial resources based on the point of the International Labor Organizations (ILO) convention act (169 –point) that describe about the indigenous people's Rights ratified by various underdeveloped countries (ILO Report).

Challenges

There are challenges caused by the social exclusion are obviously exist in any group or community caused by the different way of the discriminations towards the marginalized individual and groups as follows;

Social Discrimination

"Social exclusion is a major cause of crime and re-offending. Excluding people from their right and making them deprive creates the feeling of revenge to the dominating groups when the rule over them reached to the extreme stage. The examples of appraisal cause by racial, religious, economic class, geographical discrimination. Another example is removing the right to vote create a prejudice in to the heart and mind of the discriminated community one day or other. The people's war in Nepal started on the basis of class, caste and racial discrimination. Subordinate family from the marginalize community those oppressed by the elite in the same community start revel when they internalize the importance of their self-esteem.

Cultural discrimination

Socially excluded people or groups also face the cultural discrimination. Low or no income prevents people from taking part in cultural, social and supporting activities in community. Poor and unemployed people are the main victim of the social exclusion and marginalization. Both in poor and rich countries social exclusion means people lose their confident. Poverty forces people to isolation and exclude from all social and cultural networks and lag behind updating information in society that is force them behind from taking part in decision-making process. The rich and higher class people dominate their cultural practices. Culture itself an assets of the concern community. However, the cultural exclusion does not give any value to the culture of the marginalized and poor people. Elite community imposed their own culture to others using different sources; media, school, text books, cultural shows, national symbols. So that the history always write the about the winner or the imposer, minority group can not write their culture in the national history rather disappear in the time interval and encroach by dominating groups.

Geographical discrimination

Geography also barriers to the inclusion in development activities. In terms of basic rights; food, health, shelter, education, entertainment those people or group living in the under developed geographical areas always far behind from the services. Until the government do make favorable policy and its perfect application in ground. Many marginalized people are belonging to the unreachable geographical area and struggle their whole life for the survival only. We can see the example of least develop Karnali zone of Nepal. Many organizations separately and jointly with government of Nepal provide support for food in crisis, health services in the name of Karnali people , but there is no changes in the livelihoods of the people from that reason. In opposite, dependency theory applies as people expectation raise but their skill for the better livelihood options never develop. Until and unless the people from remote and least developed geographical region receive the new knowledge and sprite and aptitude to learn and do something for their better life, it is very difficult to bring change. In terms of education also the same rule applied, for the inclusive education from primary –secondary and higher level, people must have self realization and create learning attitude. Government have big role to create the understanding and make them ready for learning new knowledge and apply it for betterment of life. On the other hand the most vulnerable geographical areas; flood, land-slide affected, criminality-prone areas also affect the inclusion of children in that

area education as their have spend uncertain life surrounding with various threats. Most of them become displaced from their settlement and don't have suitable environment to continue their study in school in most of the cases.

Revolt. Social rejection occurs when an individual is deliberately excluded from a social relationship and social interaction. The social rejection from early stage to the adult stage have create the big gape between excluded groups and accessible groups who have over the rights, resources and the position in the society. There always a feeling of domination and clash tension among the groups that causes revolt. The interpersonal rejection in different matter in the society; social gathering, interaction, entertainments create humiliation to the oppressed groups that continue generation to generation. The class differences explicitly can be seen in the societies which have been prevailing from long time ago.   The social rejection can be seen in different form in various places of the world i.e. hate each other based on the religion or caste, racial discrimination, ridiculing the others cultures created tension in social harmony. Although human are social being, some level of rejection is inevitable part of life. Rejection can become a problem when it prolonged consistent when individual is highly sensitive to rejection that can have negative effect to the social harmony due to the isolation. The experience of rejection can lead to a number of adverse psychological consequences such as isolation, aggression, depression, low self esteem which leads towards violation and the social decay.

Step towards Social Justice through Inclusion in Education
Education plays a vital role to change society with justice, rights and knowledge transformation. As discussed above there is various issues influence by education and bring positive changes. Similarly, inclusion in Education to promote social justice is very important. Inclusion in education from the primary to higher level education is challenges in least developed countries where as there are higher level disparity among the groups.

State Policy
The government policy direction lead should emphasize on the access and participation creating suitable environment with the expansion of free education for the Early Child Development to Secondary Level. There must be opportunities for the equitable participation in all aspect of the education should be ensuring by state law. Similarly State should share responsibilities for quality and relevance of the education, participation of the people Social inclusion for social justice. Check and balance how the government provided facilities are being practice among the users. Ensure who benefited and who excluded from the practiced process. (SSRP Report Nepal, Aug 2009) Similarly, basic rights of Constitution, Fundamental principal and policy of the state should be considering while making objective of education (HLEC-Report Nepal).

Implementation of Policy
To implement the policy in to practice is challenging because there are various other influencing factors behind the socially excluded groups. Children and the family of the disadvantage groups' priority struggling for the food and shelter first. So that those need should be address to bring them in to the mainstream of educational system. To reduce dropout rate of poor family children, attractive scheme and regular mentoring help a lot for educational policy implementation. Similarly, National level campaigning of informal education to eradicate illiteracy. Policy for equal opportunity to women. Strategy for educational access to marginalized groups (Dalit, disable,

marginalized community. Regional balance for establishment of higher level academic institution in future. Define educational structure and establishment of education commission for holistic educational policy instruction. Suggestion for teachers training, improvement in curriculum, examination & evaluation system. Prioritization for non-governmental sector in educational policy formulation. Develop working procedure focusing national culture, art, languages and focus on mother tongs language. Provide opportunity for exchange of physical, mental, linguistic, and socialization is really important to create environment.

The marginalize should make habitual for school going habits, preparation for basic knowledge about the importance of education and motivation and attitude to join primary level and extend it until higher education. Balance diet and good health and educational practice are the key to create social justice through education.

Inclusion in Formal, Informal and Vocational Education

Marginalized peoples inclusion in formal, informal and vocational training create opportunity enhance their social capital and financial capital. Informal education is the key to bring changes in their livelihoods and create social justice. Because marginalize peoples involvement in such activities discourage them from doing crime and lit the light with the insight of education. Many literatures show that deprived people also face social vulnerability with the lack of access to resources for survival. In such condition, education can not be the prime focus for them. So that to bring them in the mainstream of the education system improve their economic condition government should ensure their basic rights providing them employment opportunity. The non formal education and vocational training can provide such opportunity to them. (World Disasters Report, 2006).

Opportunities and Challenges

Competency and knowledge learn through the formal , informal and vocational training plays vital role changing the life of exclude people though knowledge , employment opportunities and support to create social harmony and justice in the society.

To enable development of qualifications based on learning outcomes in all areas of work and on all demand levels from the secondary up to university education. The faster vocational education response to the needs of the labour market creating opportunity to the less educated people. Social inclusion policy incorporate marginalize group in the skill based activities through vocational training and non formal education. To advance social partnership and to actively include social partners in planning, organizing and implementing of vocational education at the grass root level which really result base for the income generation and life changing strategy. It enables accessibility for all to education and training and admission opportunities throughout the system (the youth and adults, persons who have early given up education, vulnerable groups, and persons without qualifications). Provide good-quality (initial and continuous) vocational education by specified education-quality indicators. Assist all students in developing vocational competencies necessary in the course of life and work and provide conditions for the adult learning and to enable mobility for students and individuals, to enable recognition of non-formal and informal learning and to connect formal education and non-formal learning. The vocational training and informal education enable, through the vocational education, personal, social and professional development

of each individual by encouraging fairness, social cohesion and active citizenship,(Ministry of Education and Science, 2010).

Equity as Justice

There must be equity for the marginalized people to increase their accessecibilty to the opportunities. Positive discrimination law should be there to attract them to get involved in the educational practice. Only the formulation of good policy does not work in such cases. There is one example- *In* an effort to control India's growing population; health officials west of New Delhi are offering incentives like TVs, a mini car, and food processors to the first sterilization participants. Others who get vasectomies will receive the American equivalent of $22.80 and around $4.50 for the person who referred them. That similar cash compensation plan is currently offered to poor men of Tagpur village in Western India. (Lois Rain, July 06 2011). The practical example shows that until and unless the socially excluded people do not test the direct benefit, it will be difficult to bring them in to policy practice by themselves.

Conclusion

Social exclusion is a process, not just a condition that is the outcome of a process. Obviously mainly dimension of social exclusion are interrelated over time. Economic and social aspects of exclusion have reciprocal effect. Even when disadvantage groups accumulate, a self-reinforcing for sustainable changes. Poverty produces unemployment by way of inadequate schooling that result unemployment which will produce poverty in the long run. It is like a vicious-circle entire life of the disadvantage group of people. In absence of family assistance, charity or welfare to others there is no value chain between the poor and rich people. So that poor and disadvantage lack of social contact that again lack of job and position in socio political status. Social exclusion is the poison for social harmony if it timely address there is chances of explosion oppressive groups with flame of dissatisfaction over the generation. Sometimes, exclusion dynamics exist at the collective – national, urban, neighborhood – as well as the individual level and fight against those excluded them from mainstream. For example peoples' war united huge population to revolt against the monarchy and abolished it with their joint effort.

The social change and the inclusion is the key challenge for the social transformation. Frequent changing demands in the market for education and the skill development are challenge in for the socially excluded groups to meet the target and compete to the advanced technology and education. However, the inclusion policy and practice create the new opportunities for those socially excluded groups to bring changes in their lives.

References

Amartya, S. (1998) On ethics and economics. India. Publisher Oxford.

Hillary, S. (2007). *Working paper on social exclusion, comparative analysis of Europe Middle East youth.* Location: Publisher.

Giddens, A., & Giddens, A. (2009). *Introduction to sociology.* New York, NY: Publisher.

Government of Nepal. (2009). *School sector reform plan 2009-2015*. Kathmandu: Author.

International Labours' Organization. (ILO), (2010) Annual report Kathmandu: Publisher ILO.

Government of Nepal. (1999). *Higher level education commission report*. Kathmandu: Author.

Government of Nepal. (2010). Action plan for implementing the strategy of vocational education. Kathmandu: Author.

UK Department for International Development. (2006) World disasters report. UK: Author.

Lois Rain, Mini Car, TV, $22 for Sterilization in India, online news, July 06 2011http://healthfreedoms.org.

THE CORRELATION BETWEEN LEADERSHIP, CULTURE, AND STUDENT ACHIEVEMENT

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Abstract: Educational institutions across the nation are being unsuccessful at meeting academic goals set by the states and preparing students to be college and career ready. Many schools around the globe are suffering from a shortage of experienced and competent school leaders that can bring about positive change and increase student achievement. Thus, the objective of this study was to determine the correlation between leadership practices, school culture, and student achievement in an effort to build the capacity of principal leaders. A correlational design was used to determine the relationship between principal leadership practices, culture, and achievement in elementary, middle, and high schools. A total of 216 teachers in 31 schools completed the Leadership Practices Inventory and School Culture Survey. A significant correlation was found between (a) leadership practices and school culture and (b) school culture and student achievement. No relationship was established between leadership practices and school culture. The results implied that school leaders who use transformational leadership practices indirectly impact student achievement through creating a positive school culture. It is recommended that principal preparation programs revamp leadership curriculum to develop leaders who can create positive school cultures and manage reform efforts.

INTRODUCTION

School leaders are confronted with a number of challenges on a daily basis. For instance, principals contend with staff issues, school improvement, structural changes, instructional matters, budgetary cuts, and parent concerns (Devos & Bouckenooghe, 2009; Johnson, 2008; Watkins & Moak, 2011). Furthermore, educational leaders are faced with improving the academic achievement of all students (Hildebrand, 2012; Hughes & Jones, 2010-2011). The accountability systems of the states and the nation require principals to lead organizations to high levels of academic achievement (Huff, Brockmeier, Leech, Martin, Pate, & Siegrist, 2011).

The No Child Left Behind (NCLB) Act was instituted to increase achievement for all students. However, educational institutions have been unsuccessful at meeting the academic goals set by the states (Dillon, 2010; Huff et al., 2011; Pepper, 2010). According to the National Assessment of Educational Progress, 62% of fourth and eighth grade students in American schools scored at the basic level on math assessments and 65% of fourth and eighth grade students scored at the basic level on reading assessments (Hanushek, Peterson, & Woessman, 2011; Peterson, Woessman, Hanushek, & Lastra-Anadon, 2011). Thus, it is vital that school organizations and leadership programs find approaches to raise achievement for all students.

One method to increase academic achievement is to improve school leadership. Leithwood, Harris, and Hopkins (2008) proposed that principals have a significant impact on student achievement. Successful leaders plan for systemic change and facilitate effective teaching and learning in the didactic organization (Hallinger, 2011; Maulding, Townsend, Leonard, Sparkman, Styron, & Styron, 2010). Transformational leaders create positive and healthy cultures, which motivates staff and improves teacher performance (Crum, Whitney, & Myran, 2009; Tajasom, 2011). Numerous researchers have indicated that effective principal leaders are fundamental to the success of educational institutions (Hallinger, 2011; Hallinger & Heck, 2010; Knab, 2009; Leithwood & Sun, 2012). However, there is a substantial shortage of qualified and competent educational leaders in schools throughout the nation (Maulding et al., 2010). In addition, principal preparation and certification programs are not preparing school leaders with the skills necessary to improve teaching and student learning (Huff et al., 2011). Thus, additional research is required to advance the leadership practices of principals.

Another approach to improve student achievement is through the creation of a positive school culture. The principal plays a crucial role in the development of a healthy culture (Lindahl, 2011). The culture of an organization impacts every aspect of the schooling process, especially student achievement (Kythreotis, Pashiardis, & Kyriakides, 2010; MacNeil, Prater, & Busch, 2009; Sahin, 2011). Researchers have indicated that school leadership and culture influence academic achievement (Hallinger & Heck, 2010; Kythreotis et al. 2010;

Leithwood & Sun, 2012; MacNeil et al., 2010; Sahin, 2011). However, the quantity of impact and the individual leadership and cultural practices required to increase student achievement is debatable (Gumuseli & Eryilmaz, 2011; Kythreotis et al., 2010). Thus, a deeper understanding of the relationship between leadership, culture, and student achievement is needed to assist principal certification programs in preparing school leaders to make positive change in the organization and improve student learning.

PURPOSE

The purpose of this investigation was to determine the relationship between leadership practices, school culture, and student achievement. Another objective of this study was to establish the leadership and cultural practices required to improve student achievement. The following questions guided the study:

RQ1. What is the relationship between leadership practices and school culture?

RQ2. What is the relationship between school culture and student achievement?

RQ3. What is the relationship between leadership practices and student achievement?

METHODOLOGY

Research Design

The study was quantitative in nature and was conducted with the use of an online survey. A correlational design was utilized to conduct the study. Regression techniques were appropriate for this investigation because the parametric test is functional at establishing correlations among variables (Yan, 2009). Multivariate multiple regression was employed to determine the association between the leadership practices and school culture variables. Multiple regression was utilized to establish the relationship among (a) leadership practices with student achievement and (b) school culture with student achievement.

Participants

An a priori power analysis was conducted to determine an appropriate sample size for the study. The sample size was calculated by assuming a power of 0.80, an effect size of 0.15, an alpha level of .05, and six predictors (Andersen, 2008; Coladarci et al., 2011; Yan, 2009). The required sample size was 98 subjects. The minimal sample size was met, since a total of 216 teachers participated in the study.

The participants were chosen with the use of a simple random sampling method. Various performing schools were chosen to participate in the study. A total of 310 participants from 31 elementary, middle, and high schools in Southwest Mississippi schools were selected to participate in the study. Two-hundred and sixteen participants successfully completed the online survey, which resulted in a 69.7% response rate. Approximately 79% of the teachers that participated in the study were Caucasian and 88% of the subjects were female.

Variables

The variables for this study included leadership practices, school culture, and student achievement. Transformational leadership was conceptualized in this study using the five leadership practices as identified by Kouzes and Posner (2007). The five leadership variables included modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart. School culture was conceptualized with the use of the six cultural factors as identified by Gruenert and Valentine (1998). The six cultural factors are collaborative leadership, teacher collaboration, professional development, collegial support, unity of purpose, and learning partnership. Leadership practices and school culture variables were independent variables and student achievement was the dependent variable. Student achievement data for the 2011-2012 school year was obtained from the Mississippi Department of Education website.

Instrumentation

The instrument used to measure leadership practices was the Leadership Practices Inventory (LPI) by Kouzes and Posner (2003). The LPI measures the following five transformational leadership practices: modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart. The LPI consists of a total of 30 questions and is based on a 10-point Likert-scale. A maximum score of 60 and a minimum score of 6 can be obtained for each leadership practice. High scores indicate that the leader employs the leadership practice regularly, while low scores signify that the principal rarely utilizes the leadership practice. The internal reliability of the instrument ranges from 0.85 to 0.92.

A definition for each of the leadership practices is provided below:

Modeling the way. Modeling the way is the extent to which the transformational leader sets the example for others to follow (Kouzes & Posner, 2007).

Inspiring a shared vision. Inspiring a shared vision is the degree to which the leader creates a shared vision with the stakeholders and nurtures a promise to fulfill the goals of the institution (Kouzes & Posner, 2007).
Challenging the process. Challenging the process is the extent to which the leader takes risks to make positive change to the organization (Kouzes & Posner, 2007).
Enabling others to act. Enabling others to act is the degree to which the principal empowers the staff to become leaders and includes the faculty in the decision-making process (Kouzes & Posner, 2007).
Encouraging the heart. Encouraging the heart is the extent to which the school leader encourages and recognizes the staff for achieving the goals of the organization (Kouzes & Posner, 2007).

The instrument used to measure the cultural factors was the School Culture Survey (SCS) by Gruenert and Valentine (1998). The SCS assesses the following six school culture factors: collaborative leadership, teacher collaboration, professional development, collegial support, unity of purpose, and learning partnership. The SCS consists of a total of 35 questions and is based on a 5-point Likert-scale. High scores signify that the principal utilizes the cultural practice frequently, while low scores indicate that the leader seldom employs the cultural practice. The internal reliability of the instrument is 0.96.

A definition for each of the school cultural variables is provided below:
Collaborative leadership. Collaborative leadership is the degree to which the principal develops mutual affiliations with the faculty (Gruenert & Valentine, 1998; Gumuseli & Eryilmaz, 2011).
Teacher collaboration. Teacher collaboration is the extent to which the teachers work together as a group to improve instructional practices and meet organizational goals (Gruenert & Valentine, 1998; Gumuseli & Eryilmaz, 2011).
Professional development. Professional development is the degree to which the educational staff engages in seminars and trainings to stay current with educational issues and improve instructional practices (Gruenert & Valentine, 1998; Gumuseli & Eryilmaz, 2011).
Collegial support. Collegial support is the extent to which teachers trust and work together to achieve the objectives of the school (Gruenert & Valentine, 1998; Gumuseli & Eryilmaz, 2011).
Unity of purpose. Unity of purpose is the degree to which stakeholders work towards the common mission of the school (Gruenert & Valentine, 1998; Gumuseli & Eryilmaz, 2011).
Learning partnership. Learning partnership is the extent to which the principal, teachers, and parents work together to improve the performance and achievement of the child (Gruenert & Valentine, 1998; Gumuseli & Eryilmaz, 2011).

Data Collection
First, permission from the superintendents, principals, and Northcentral University was obtained before collecting data. Second, a random sample of participants was attained with the use of a simple random sampling method. Third, the teachers were invited to participate in the study. Fourth, the online survey was sent to the participants through email. Data was collected for approximately one month.

Data Analysis and Assumptions
The data was analyzed with the use of inferential statistics. Multivariate multiple regression was employed to determine the relationship between leadership practices and school culture. This statistical test was appropriate for measuring the associations among multiple predictor and multiple dependent variables. Multiple regression was utilized to establish the correlation between leadership practices and student achievement and school culture and student achievement.

The assumption of normality, homoscedasticity, linearity, and multicollinearity were assessed before conducting the regression analyses. The assumption of normality, homoscedasticity, and linearity were evaluated through visual inspections of histograms and scatterplots. Each of the assumptions was met. The assumption of multicollinearity was assessed by calculating variance inflation factors (VIF) for each of the leadership practices and school culture variables. The VIF values were within the acceptable range, which indicated that the assumption of multicollinearity was satisfied.

RESULTS
The purpose of this study was to determine the relationship between leadership practices, school culture, and student achievement. The first question was concerned with determining the relationship between leadership practices and school culture. A multivariate multiple regression analysis was employed to answer Research Question 1. The results of the analysis between leadership practices and school culture are presented in Table 1.

Table 1:*Multivariate Test of the Contribution of Independent Variables to the Full Model*

Effect	Pillai's Trace[a]	F	p
Intercept	.586	41.17	<.001
Modeling the Way	.053	1.91	.081
Inspiring a Shared Vision	.066	2.41	.029
Challenging the Process	.077	2.84	.011
Enabling Others to Act	.122	4.74	<.001
Encouraging the Heart	.059	2.15	.050

Note. [a]Hypothesis df=6 and Error df=205. Collaborative Leadership: ($F_{(5, 210)}=30.12$, $p<.001$, $R^2=.363$), Teacher Collaboration: ($F_{(5, 210)}=15.10$, $p<.001$, $R^2=.223$), Professional Development: ($F_{(5, 210)}=19.95$, $p<.001$, $R^2=.274$), Unity of Purpose: ($F_{(5, 210)}=20.99$, $p<.001$, $R^2=.285$), Collegial Support: ($F_{(5, 210)}=16.46$, $p<.001$, $R^2=.238$), Learning Partnership: ($F_{(5, 210)}=9.50$, $p<.001$, $R^2=.153$).

Pillai's Trace was the multivariate statistic employed to establish the leadership practices that contributed to the regression model. Inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart were the four leadership practices that contributed to the model at the .05 significance level. The regression model with the four predictor variables accounted for 36% of the variation in collaborative leadership, 22% of the variance in teacher collaboration, 29% of the variation in unity of purpose, 27% of the variance in professional development, 24% of the variance in collegial support, and 15% of the variation in learning partnership. Furthermore, the regression analysis revealed that inspiring a shared vision and enabling others to act were significant predictors of school culture. Inspiring a shared vision was a significant predictor of collaborative leadership (p=.003), unity of purpose (p=.029), and professional development (p=.013). Enabling others to act was a significant predictor of teacher collaboration (p=.041). The findings indicated that a significant relationship existed between leadership practices and school culture.

The objective of Research Question 2 was to determine the correlation between school culture and student achievement. A multiple regression analysis was conducted to answer Research Question 2. Furthermore, multiple regression was employed to establish the relationship between the six cultural factors and student achievement. The results of the regression analysis are presented in Table 2. The analysis revealed a significant correlation between school culture and student achievement, ($F_{(6,209)}=3.294$, $p=.004$, $R^2=.086$). The full model accounted for approximately 9% of the variation in student achievement. As can be seen in Table 2, learning partnership was the only significant predictor of student achievement ($\beta=.223$, $p=.027$). The results of the regression analysis signified that a statistically significant association existed between school culture, especially learning partnership, and student achievement.

The objective of Research Question 3 was to establish the association between leadership practices and student achievement. A multiple regression analysis was conducted to answer this research question and to determine the relationship between the five leadership practices and student achievement. The results of the regression analysis are presented in Table 3. The regression analysis indicated that no significant correlation existed between the leadership practices and student achievement, ($F_{(5,210)}=2.176$, $p=.058$, $R^2=.049$). The full model revealed that the five leadership practices only accounted for 4.9% of the variation in student achievement. As can be seen in Table 3, no leadership practice was a significant predictor of student achievement. The findings of the multiple regression analysis signified that no relationship existed between leadership practices and student achievement.

Table 2:*Multiple Regression Analysis of School Culture and Student Achievement*

Variables	*B*	*SE*	β	*t*	*p*
Collaborative Leadership	.145	3.163	.006	.046	.963
Teacher Collaboration	-3.017	2.879	-.133	-1.048	.296
Professional Development	-.579	3.826	-.022	-.151	.880
Collegial Support	-1.218	2.710	-.051	-.449	.654
Unity of Purpose	6.202	3.626	.232	1.710	.089
Learning Partnership	4.683	2.099	.223	2.231	.027

Note. N=216. Full Model: $F_{(6, 209)} = 3.294$, p=.004, $R^2 = .086$; *SE*=Standard Error.

Table 3:*Multiple Regression Analysis of Leadership Practices and Student Achievement*

Variables	*B*	*SE*	β	*t*	*p*
Modeling the Way	-4.547	2.395	-.430	-1.899	.059
Inspiring a Shared Vision	.957	2.296	.086	.417	.677
Challenging the Process	1.982	2.534	.185	.782	.435
Enabling Others to Act .322		1.804	1.816	.158	.993
Encouraging the Heart	1.933	1.848	.194	1.046	.297

Note. N=216. Full Model: $F_{(5, 210)} = 2.176$, p=.058, $R^2 = .049$, *SE*=Standard Error

DISCUSSION
The relationship between leadership practices, school culture, and student achievement was investigated in this study. Kouzes and Posner's transformational leadership model and Gruenert and Valentine's cultural model was utilized to conceptualize the leadership practices and school culture variables. The findings are presented as follows: a) correlation of leadership practices and school culture, b) correlation of school culture and student achievement, and c) correlation of leadership practices and student achievement. The implications of the findings and recommendations for practice will also be presented in this section.

Correlation of Leadership Practices and School Culture
The results of this research indicated that a strong correlation existed between leadership practices and school culture in Southwest Mississippi. The findings of this study are supported by other researchers (Cemaloglu, 2011; Engels, Hotton, Devos, Bouckenooghe, & Aelterman, 2008; Kythreotis et al., 2010; Leithwood & Sun, 2012; MacNeil et al., 2009). This research and other studies have demonstrated that the principal leader plays a significant role in the development of a positive school culture (Hallinger, 2011, Sahin, 2011). A healthy and positive organizational culture improves the morale and motivation of the teaching staff in the school organization. Thus, it is imperative that school leaders improve the school culture in order to improve teacher performance and increase student achievement (Hallinger, 2011; MacNeil et al., 2009).

The findings of this study implied that school leaders who effectively utilize the Kouzes and Posner's leadership practices have a healthier and more positive school culture. However, it was established that inspiring a shared vision and enabling others to act were the only significant predictors of school culture. No literature was

discovered that examined the association among the five transformational leadership practices and the six cultural elements of school culture. The results of this study are similar to other studies conducted in the educational arena (Engels et al., 2008; Kythreotis et al., 2010; Sahin, 2011). One research team determined that creating a vision and building the competence of teachers were leadership practices that significantly impacted school culture (Leithwood & Sun, 2012).

Correlation of School Culture and Student Achievement
The findings of the study suggested that school culture significantly impacted student achievement. Learning partnership was the cultural factor that was a significant predictor of academic achievement in Southwest Mississippi Schools. The results of this research are supported by other correlational studies involving school culture and achievement (Demirtas, 2010; MacNeil et al., 2009; Ohlson, 2009). Gruenert (2005) discovered that learning partnership and unity of purpose were the cultural factors that correlated positively with academic achievement. Another researcher found that collaborative leadership and unity of purpose were significant determinants of student attainment (Demirtas, 2010). Based on the results of this study and the literature, it is recommended that school leaders improve their cultural practices, especially learning partnership, in order to increase academic achievement.

Correlation of Leadership Practices and Student Achievement
The results of this study indicated that no significant correlation existed among transformational leadership practices and student achievement. This research is supported by other educational scholars (Gieselmann, 2009; Siegrist et al., 2009). One research team found that the leadership practices of principal leaders had no impact on academic achievement (Siegrist et al., 2009). Another researcher established that principal leadership did not forecast academic achievement on state tests (Gieselmann, 2009).

It was concluded from this study that the leadership practices of school leaders, as identified by Kouzes and Posner, do not directly influence academic achievement. However, the findings suggested that principal leaders directly and positively impacted school culture. It is recommended that principals employ Kouzes and Posner's five transformational leadership practices in order to positively influence school culture. Furthermore, this study advocated that school leaders improve academic achievement indirectly through creating a positive school culture.

Conclusion
Multiple regression analysis was used in this study to ascertain the correlation among leadership practices, school culture, and student achievement. A significant relationship was established among the five leadership practices and six elements of school culture. Furthermore, a correlation was found to exist between school culture and student achievement. The results of this study revealed that no significant association existed between transformational leadership and academic achievement. The findings of this study implied that the impact of leadership practices is mediated through school culture. Therefore, it is imperative that school leaders work diligently to create a healthy school culture.

It is recommended that universities and principal preparation programs utilize the results of this study and other similar studies to improve their leadership programs. It is recommended that certification programs revamp their curriculum to better prepare principal candidates for the leadership role. Leadership preparation programs need to provide students with internships that are suitable to prospective principal candidates. In addition, school districts are advised to provide mentors to new and struggling principals in order to bring positive change to didactic institutions and increase student achievement.

REFERENCES
Andersen, R. (2008). *Modern methods for robust regression*. Thousand Oaks, CA: Sage Publications.
Cemaloglu, N. (2011). Primary principals' leadership styles, school organizational health, and workplace bullying. *Journal of Educational Administration*, *49*(5), 495-512. doi: 10.1108/09578231111159511.
Coladarci, T., Cobb, C., Minium, E., & Clark, R. (2011). *Fundamentals of statistical reasoning in education* (3rd ed.). Hoboken, NJ: John Wiley & Sons.
Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.
Demirtas, Z. (2010). The relationship between school culture and student achievement. *Education and Science*, *35*(158), 3-13.
Devos, G., & Bouckenooghe, D. (2009). An exploratory study on principals' conceptions about their role as school leaders. *Leadership and Policy in Schools*, *8*, 173-196. doi: 10.1080/15700760902737196

Dillon, S. (2010). Obama to seek sweeping change in no child law. *The New York Times*, p. A1. Retrieved from http://www.nytimes.com/2010/02/01/education/01child.html?ref=nochildleftbehindact

Engels, N., Hotton, G., Devos, G., Bouckenooghe, D., & Aelterman, A. (2008). Principals in schools with a positive school culture. *Educational Studies*, *34*(3), 159-174. doi: 10.1080/03055690701811263

Gieselmann, S. (2009). Principals and school factors that impact elementary school student achievement. *Mid-Western Educational Researcher*, *22*(2), 16-22.

Gruenert, S. (2005). Correlations of collaborative school cultures with student achievement. *NASSP Bulletin*, *89*(645), 43-55.

Gruenert, S., & Valentine, J. (1998). *School culture survey*. Retrieved from http://www.mllc.org

Gumuseli, A., & Eryilmaz, A. (2011). The measurement of collaborative school culture on Turkish schools. *New Horizons in Education*, *59*(2), 13-26.

Hallinger, P. (2011). Leadership for learning: Lessons from 40 years of empirical research. *Journal of Educational Administration*, *49*(2), 125-142. doi: 10.1108/09578231111116699

Hanushek, E., Peterson, P., & Woessman, L. (2011). Teaching math to the talented. *Education Next*, 11(1), 11-18.

Heck, R., & Hallinger, P. (2010). Collaborative leadership effects on school improvement. *Elementary School Journal*, *111*(2), 226-252.

Hildebrand, J. (2012). New ways to teach: Focused national standards are changing LI classrooms. *Newsday*, p. A02.

Huff, T., Brockmeier, L., Leech, D., Martin, E., Pate, J., & Siegrist, G. (2011). Principal and school-level effects on student achievement. *National Teacher Education Journal*, *4*(2), 67-76.

Hughes, C., & Jones, D. (2010-2011). A relationship among public school leadership, ethics, and student achievement. *National Forum of Educational Administration and Supervision Journal*, *27*(2), 50-73.

Johnson, J. (2008). The principal's priority 1. *Educational Leadership*, *66*(1), 72-76.

Knab, D. (2009). A comparison of the leadership practices of principals of high schools that work: Schools as measured by the leadership practices inventory. *Academic Leadership Journal*, *7*(2), 4.

Kouzes, J. M., & Posner, B. Z. (2007). *The leadership challenge* (4th ed.). San Francisco, CA: Jossey-Bass.

Kouzes, J., & Posner, B. (2003). *The leadership practices inventory (LPI): Self-and observer instruments* (3rd ed.). San Francisco, CA: Jossey-Bass.

Kythreotis, A., Pashiardis, P., & Kyriakides, L. (2010). The influence of school leadership styles and culture on students' achievement in Cyprus primary schools. *Journal of Educational Administration*, *48*(2), 218-240. doi: 10.1108/09578231011027860

Leithwood, K., Harris, A., & Hopkins, D. (2008). Seven strong claims about successful school leadership. *School Leadership and Management*, *28*(1), 27-42.

Leithwood, K., & Sun, J. (2012). The nature and effects of transformational school leadership: A meta-analytic review of unpublished research. *Educational Administration Quarterly*, *48*(3), 387-423. doi: 10.1177/0013161X11436268

Lindahl, R. (2011). The crucial role of assessing the school's climate in planning school improvement. *Educational Planning*, *20*(1), 16-30.

MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, *12*(1), 73-84. doi: 10.1080/13603120701576241

Maulding, W., Townsend, A., Leonard, E., Sparkman, L., Styron, J., & Styron, R. (2010). The relationship between emotional intelligence of principals and student performance in Mississippi public schools. *Academic Leadership*, *8*(4).

Ohlson, M. (2009). Examining instructional leadership: A study of school culture and teacher quality characteristics influencing student outcomes. *Florida Journal of Educational Administration and Policy*, *2*(2), 102-113.

Pepper, K. (2010). Effective principals skillfully balance leadership styles to facilitate student success: A focus for the reauthorization of ESEA. *Planning and Changing*, *41*(1/2), 42-56.

Peterson, P., Woessman, L., Hanushek, E., & Lastra-Anadon, C. (2011). Are U. S. students ready to compete: The latest on each state's international standing. *Education Next*, 11(4), 50-59.

Sahin, S. (2011). Instructional leadership in Turkey and the United States: Teachers' perspectives. *Problems of Education in the 21st Century*, *34*, 122-137.

Siegrist, G., Weeks, W., Pate, J., & Monetti, D. (2009). Principals' experience, educational level, and leadership practices as predictors of Georgia high school graduation test results. *Journal of Philosophy and History of Education*, *59*(1), 174-179.

Tajasom, A. (2011). Principals' leadership style and school climate: Teachers' perspective from Malaysia. *International Journal of Leadership in Public Services*, *7*(4), 314-333.

Watkins, P., & Moak, J. (2011). Elementary school principal: Dispositional, gender, and environmental predictors of student achievement success for the 21st century. *National Forum of Applied Educational Research*, *24*(1/2), 37-45.

Yan, X. (2009). *Linear regression analysis: Theory and computing*. Retrieved from http://site.ebrary.com/lib/ncent/Doc?id=10361753&ppg=22

THE "OBSERVATION" IN TEACHING/EDUCATIONAL CONTEST

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Abstract The aim of the paper is to discuss on the importance of the "observation" within the teaching/educational contest. The "observation", borrowed from the experimental science, represents an integral part of the action of the teachers/educators, being one of the milestone of the professionalism of the people working in the educational field. Starting from the general definition of "observation" the features of its relevant reference elements, such as typologies, technics, instruments and paradigms, were outlined. Within the teaching/educational procedure the peculiarity and criticality concerning to the use of the "observation" were discussed, as well as the key results, able to improve, by means of the "Observation", the teaching/learning process were highlighted. In conclusion the use of the "observation" as instrument to reduce the gap between theory and experience in order to create a virtuous network between experience and research is strongly recommended.

Key words: Observation, Observation research methodology, Educational context.

INTRODUCTION

The term "observation" indicates the ascertainment or the verification of a fact, either of an occasional nature or of a methodic or planned nature (N. Abbagnano, Dizionario di Filosofia, p.788).

If we refer to former meaning, we have to oppose to the observation the experience or the experience or the experiment, as a methodic and deliberated ascertainment. On the contrary, if to observation is attributed the latter meaning, we must oppose to it the occasional or common, or ingenuous experience, and the contemporary scientific thought usually adopts exactly this meaning.

Assuming that the ascertainment of any fact, or spontaneous and natural, or methodical and projected, implies any procedure which makes its knowledge possible, through the description, the calculation, or its controllable prevision, and assuming that we can mean any object as a fact, a phenomenon, a real thing, which can undergo any cognitive procedure ("Conoscenza", Abbagnano, ivi, p. 192), the observation can be conceived as one of these procedures, whose specific function is therefore to catch information on the considered fact, to describe its characteristics with the aim to know and comprehend it. Therefore, under the term, it is possible to comprehend both the meanings and distinguish: the natural observation, that is the one in which the conditions of the observation are not projected or able to be projected, and the experimental observation (or experiment) which is the projected observation, characterized by the variables.

In this second kind of observation, one can act on the independent variable and examine the behavioral correspondent of the dependent variable, that is connected variable.

As a consequence, the observation, if opposed to the methodical approach, a characteristic specific species of experimental research (study), can be defined a cognitive procedure directed to the only collection of data concerning the observed object and emerging from the observation, on the basis of the information collected by the object taken into consideration.

In this sense, the utilization of observation aims to describe the characteristics of an event, a behavior or a situation, in real life contexts (natural environment) and not artificially arranged.

On the contrary, if the observation has methodic and projected, systematic nature, it aims to get to know about it, to predictably modify it.

In these terms, the observation is backed up by scientific theories as reference paradigms on the basis of which the data collected by it are to be interpreted, insofar as it selects deliberately both the elaboration and the interpretation of the collected data.

In these terms, the observation can be defined as an instrument by which one can exert a function of knowledge and control towards the observed object, the purpose to intervene specifically for changing one more conditions surrounding the object in question, and assuming the peculiarity of the observative, systematic research (Magri, Rossi, 1998, p. 73).

As a consequence, the peculiar elements of observation can be defined the finality and the deliberatedness.

Whoever observes a fact, clearly knows the objective of the cognitive activity intrinsic of the observation, which is its finality, and is also a ware of the intentionality which induces her/him to observe a fact, in relation to her/his particular interest, or curiosity or motivation. The intentionality, together with the necessity to understand the nature of the fact, and therefore put in relation with the finality, makes of the observation a cognitive technique directed to a fact, since it tends to construct with the fact itself a relation from which the effective characteristics emerge.

It is in these terms that the observation has been utilized in the field of experimental sciences. The experimental method, carried out by Galileo and Bacone, defined inductive method, starts or with the occasional observation (in the case of Fleming, for example, and the Penicillin) or with the systematic and programmatic observation (as in the medicine experimentation). Once the facts have been observed (physical, chemical, biologic etc. facts, occasionally or systematically observed), an interpretative hypothesis proceeds (II step). Then , the interpretative hypothesis is experimentally applied (experimental verification, (III step), in order to verify the result.

If it proves the hypothesis, one can affirm that the natural law governing the phenomenon has been "caught".

In the field of experimental sciences, according this procedure, the scientific procedure is therefore conceived as the reconstruction in mathematical terms of the relations among the things, and through "the experiments", as active instruments, it can go on, examining the natural phenomena, gaining answers to attain the mathematical laws which govern it (Abbagnano, Fornero, "protagonisti e testi della filosofia" vol. B, Tomo 1, 1999, p. 61).

The experimental method consists in the systematic manipulation by who experiments (the researcher) of one more variables (called independent variables) in order to study how the other variables, which could depend from them (the so-called dependent variables) are modified (Gattico, Mantovani, 1998, p.22).

In these terms, the observation, rising to method of systematic investigation as a basic element in the scientific research progress.

DISCUSSION

The human sciences also utilize the experimental method, borrowed from experimental sciences and opportunely remodulated, in the field of educational research. It is articulated into some steps, described as follows:

- The observation;
- The formulation of the hypotheses;
- The experimentation;
- The elaboration of data and the interpretation.

Being the observation the initial step, it is a very complex phase since it also comprehends the previous works and other experimentations review, in order to find information which can help to solve the problem object of investigation and to prevent possible difficulties (Notti, 2012, p. 18).

The formulation of the hypotheses is the consequent phase, in which, established the work hypotheses, the plan of research is formulated.

The experiment concerns the operational of the research, and it provides proofs as well as the carring out of investigation.

The elaboration of the data and the interpretation is the phase of the validation and the possibility to generalize the data verified by the research.

According this procedure, in the field of the human sciences, the scientific knowledge as a knowledge of the facts and the means by which they have established themselves.

The experimentation in education analyzes the individual and environmental variables of the educational process in order to give information which allow the educational operators, to abandon improvisation and fortuitousness in favor of a behavior orientated to the research which, instead, has the objective to individuate, collect and analyze data, in order to verify hypotheses, on sound scientific bases (Notti, ivi, p. 11).

By this setting, the educational research has, in fact, individuated different approaches to the knowledge of the facts, traceable to two models:

- The subjectivist model, based on the examination of the case;
- The objective model, based on the objectives.

The former has an holistic approach in which subjects, actions, relations and contexts are examined as a whole, in an exploratory logic which comprehends contexts, inter-dependence system and dimensions of processes within which the centrality of the person and its behavior has the priority.

This model is defined "qualitative", since it enhances the value of intuition, the capacity to catch, the peculiarities of a fact in the various situations and behaviours, founding its study on the educational situation, on experience, utilizing different methods for the analysis of a single case.

The second model, has a technological-scientific approach, by which, besides the methodological rigour, it bases its action on all operations which utilize methods and instruments allowing the measurement of the variables under control, and on a statistical treatment of data. In this sense, this model is defined "quantitative".

Human sciences utilize both the models.

The former, as a form of qualitative expression, is used in descriptions, colloquies, in the ordinary pedagogical communication; the latter, as a form of quantitative expression, is used in psychotechnique in tests and school evaluation (Laeng, 1992, p.52).

Within these models, observation can be numbered among the investigation methods used in the qualitative research, and it is the initial moment of the experimental procedure, as previously put in evidence, by which one can get to know the phenomenon object of examination and individuate its specific variables.

In these terms, observation can be defined a method of investigation if it is:

- Used for precise purposes;
- Systematically programmed and with a delimitated field of investigation;
-Systematically recorded;
- Put in relation with the oretic and/or interpretative schemes.

In these terms, in the field of human sciences the first examples of observational research applied to the study of human behavior and development, in the field relating to educational psychology we find, authors such as Darwin, Pestalozzi, Strumpell, Tiedermann, Tayne, Preyer.

These authors, interested in their children' development, reported as in a diary, the changes in the growth of their children. These kinds of "infantile biographies", have not a scientific nature because they are not objective, being the result of non-systematical observations, therefore they cannot be generalized. Nevertheless, they are important documents for the research development, since they meet the purpose of identification and conservation of the progressive acquisition relating to human development.

Some aspects of infantile development, individuated by Darwin, have been confirmed by experimental researches one hundred later, proved to be surprisingly topical and accurate.

Afterwards, not-whitstanding the importance of this observational method was recognized, some authors, such as, for example, Anderson and Murchinson, got to keep their distance from it, in favour of the experimentation carried out in laboratory, of the measurement of the examined phenomena and of the utilization of standard instruments such as the tests.

Afterwards, and from the thirties to the fifties of the last century, the observational method loses importance, since, in the field of development psychology, some themes were abandoned as objects or research, as they were not subjectable to the experimental method. Binet, for example, thought that if a problem could not be dealt with the experimental method, it had to be left out because its study did not assure any certainty. With the support of comportamentist approach, the experimentation has been considered the principal methodology for the study of learning behavior, since it has been defined the only one capable of providing for certain, objective, quantifiable which can be generalized.

In this regard, Watson (1914), thought that for scientific psychology, the experimentation in laboratory were the only way to go.

Afterwards, also the cognitive approach reinforces experimental research so that the experimental project becomes the main method to study the changes taking place in the cognitive functions connected to the age.

The current of research based on observation even if has not completely worn out, remains marginal, therefore, for a long period of time, to the central themes discussed in the field of development.

These themes concern the development models and the studying methods and animate the theoretical debate. The criticism on the exclusive utilization of the experimental method affects the methods of study; after the fifties, this criticism, also given the dissatisfaction with research led in laboratory, attribute to result of laboratory experimentation, lacking of external validity and generalizableness, as well as artificiality.

Besides, criticism is supported by new theories about behavior (for example, the first generation cognitivism) which assert its intentionality and not simply its responsiveness to external stimula, which implies that the same

action can indicate different things as regard to different contexts, and it is possible to indicate the meaning of the behavior only in the context (Mantovani, 1988).

As regard to the behavior , many uncertainties cannot be dealt with, through an experimental research in which many variables, extremely relevant in the reality, for the explanation of human development, cannot be controlled. In order to explain the result of an experimental research, it is not possible to consider exclusively the experimental procedure, but even the interaction that it can have with the normal course of the development. Only a longitudinal approach, can indicate the characteristic of the individual development.

This approach is mainly used in the observational research, exactly in relation to the methodological and practical difficulties it implies (R. Trinchero-Appunti del corso di Pedagogia Sperimentale Facoltà di Scienze della Formazione, Università di Torino, 2001).

In this field, in fact, to carry out an observational procedure implies various phases, which arranged in a consequential accomplishment logic, going to the definition of the observation aims to their realization, recal different theoretical reference paradigms, specific techniques and methodologies various tipologies, times, modalities, different observation instruments and degrees of structuration.

TECHNIQUES, INSTRUMENTS AND PARADIGMS

Assuming that the choice of each of these parameters depends on the objective than one wants to achieve or the problem to face, we think it right to highlight the observer's role, her/his survey instruments, the main different paradigms and theories which she/he can refer to, the various observational methods and their peculiarities.

The observer must be neutral as regard to the observed object, in order to avoid waiting that can influence the data objectivity.

The observer must be capable to cut herself/himself off her/his subjectivity, to suspend her/his judgment in order to prevent his thought categories from affecting the analysis of the reality which is observed. The observer, moreover, must have a precise observational intention, to be observe the object more neutrally possible, in order to make it more objective possible. To attain this objectivity, the observer must utilize observation as an investigation method, and systematically, that is leading it following the three main conditions of the scientific method. They concern the communicability, relating to the precision that is indispensable to describe one's action in the course of research, to allow the other researchers to follow closely the steps taken; the repeatability correlated to communication, which concerns the possibility for other researchers, to attain the same result, in a equal research situation; and objectivity, which concerns the possibility to give an only and univocal meaning to the result achieved without subjective interpretations (Notti, 2012, p. 54).

Moreover, a different involvement level or a different participation to the observation, by the observer, originates two operative procedures generally defined "participating observation" and "not participating observation".

The participating observation implies an implicit sharing of a common table of reference within a kind of accordance is realized between the observer and the observed; therefore they both know that they are "object of observation", of a research. The participant observation implies an active observer's participation into the situation in progress, an interaction into the observed group and an interaction with the observed groups participating in their turn, in a dynamic, involving dimension.

The observer, as an active part in the life of the group, commits himself/herself in "seeing a behavioural activity from the point of view of who is within a situation" (Mc Burney, 2002, p. 16).

The non-participating observation, instead, implies an external observer's position, therefore he does not interact and does not influence the situational context.

In according Wright (1960), we can subdivide the system used in a research based on observation, into "open System" and "closed System".

The open systems are those which codify the data without pre-defining categories of analysis.

The closed system, on the contrary, use pre-defined categories of analysis.

We can include, in the open systems:

- The descriptive observation "on paper" based on the observer's ability to describe the complexity of her/his observation, in a narrative form, by detailed report of the events and their relation (P. Lucisano, 2012, p.181; M. Castoldi, 2012, p. 70).

- The "shadowing, or being beside (somebody) is an observative modality by means of which the observer acts as a shadow of the observed subject, side by side with her/him.

In her/him actions, within a stated period, making a note of his behavior (Castoldi, ivi, p.72).

- The "diary, a narrative and retrospective technique, consisting in the description, by means of the language habitually used, of one's own and other's activities.

- The "Journal" or "log-book" which, unlike the diary, is enriched with the observer's further notes, in form of comments on factual data.

- The "technique of critical episode" (anecdotal record), which makes notes as rapidly as possible of the critical actions considered significant for the case in question. For example: audio and video recording, which allows a smaller loss of information and more complex analyses, given the possibility to listen, to see, or read again (if written) the observation, for distinguishing shades of meanings and details (Lucisano, ivi, p. 182).

- "Photos" or "slide", which, as static images allow to observe non-verbal behaviours, such as the position and the posture.

- The "recording schedules" or "brief episodes", aiming to point out a specific behavior in its habitual carrying out. This instrument the observation aims to the description of an event, avoiding evaluation or interpretations, which, anyway, can be additional information. These schedules are used when we cannot anticipate a precise list of behaviours or when we want to record freely what happens, and then elaborate observation grids.

The instruments relating to closed system are:

- The "observation grids", a list of various aspects of a phenomenon, defined in operative terms. The observer has to take notes, by means of precise symbols as numbers, letters or defined signs, of the presence or absence of the phenomena-object of study, present in the list.

- The "check-list" are the most wide-spread observation-grids. For example, we can mention:

- the "system" or "categories grids", that is closed set of pre-defined categories relating to specific aspect of the behavior or the phenomenon object of observation;

- the "rating scales", which record or do not record not only or absence of the observed characteristic, but even to value its level.

In regard to the various observational theories which the researcher can refer to, as a theoretical, paradigmatic scheme, the most influential, for the research on human behavior and development, are:

the "ethological model", the "psychoanalytical model", centered on observation, the "clinical-experimental model, and the "ecological model.

According to the theory utilized, the observation will be defined ethological, psychoanalytical or almost experimental, clinical, ecological.

The ethological theory develops in the field of ethology, a science concerning the behavior or animals and its evolution.

Ethology, a naturalistic observational typology, implies an inductive observation aiming to point out the behavioral schemes both innate and genetically determined, which are characteristic of all the members of a determined species.

This theory, experimented and carried out by K. Lorenz and N. Tinbergen, was also to the human behavior analysis, with a special reference to the infantile behavior, and particularly used by the psychology of development.

In this field, the ethological observation provides for the study of the spontaneous behavior in habitual contexts of life without limits neither on the situation, nor on the response, without the utilization of instruments of survey, which can alter the spontaneous behavior.

As a consequence, the observer, using this kind of observation, must not interfere with the observed situation, but, rather, he must assume a non-participating, dissimulated observation.

If necessary, the observer, in fact, has to hide herself/himself, behind a one-way mirror or behind a screen which conceal her/him; if it is not possible, she-he must try to get into the environment in which she-he is interests. In this case, the observation starts only when the observer is aware to be ignored by subjects.

With this kind of observation, the description of the behaviours observed has to be carried out in the most precise and detailed way, without the conditioning of subjective interpretations. The final aim of this observation is the construction of the "etho-gram", that is an inventory of all behavioural schemes, rigorously defined, which makes this kind of observation purely analytical (M. Postic; J.M. De Keetele, 1993).

The instruments utilized for this kind of observation are the dictation on recording equipment, the video-recording, the behaviours check-list.

The psychoanalytic model centered on observation, though arisen from the need to observe the mother-baby relation (infant-observation), provides a precious contribution also to the observation of relationships not belonging to the sphere of infancy. This model, even though it is founded on psychology, can be utilized in any context which includes an educational interaction. The accent is on the attention that the observer pays to the behavioural aspects and the situations, for the problem analyzed, towards the exterior but, above all, on the emotional reaction of the observer, toward the inside.

Since this observational method pays a lot of attention to the relational dynamics which take place in a stated context, also from the emotional point of view, the context also has a preeminent role. The observer, who is physically and emotionally present, must be careful about the repressed affectivity of the protagonists of the observed relation.

The psychoanalytical observation can be based on three fundamental principles:

- The great attention to every details; analysis and description of all details in the child's behavior;
- Observation of the context within which the behavior, object of the research, takes place;
- The research on genetic continuity, since behaviours are considered of human evolution (Mantovani, 1998, p.106).

The instruments mainly used for this kind of data reporting are supported by recording techniques of non-structured type, that is by descriptive reports drawn up after every observational session.

The Piaget's theory, on which the almost experimental observation is based, has been carried out by Piaget in his research on pre-verbal intelligence.it is defined almost-experimental for three reasons:

- Some specific hypotheses lead this theory;
- The leading of the theory takes place in conditions which are from time to time modified by the researcher, as it happens in the classical experiment;
- The observation on which it is based are detailed continuative, and systematic as a diary.

In this kind of observation, set up by Piaget's research on babies, the subject who is observed is maintained in an habitual situation within which the researcher introduces a modification, as naturally possible, to examine the reactions that it provokes on the subject, and therefore the observer not-only examines the spontaneous behavior but also the behavior modified by some alteration.

The aim is to obtain an overall analysis of the case, in order to point out the external reality and allow the emerging of the processes characteristics, which lie below the observed behaviours.

The clinical method is used to analyze the internal logic of the "case "under examination, which is considered an individualized situation, with a story of its own, and not a "subject" with his peculiarities.

The aim of this method is the comprehension of the reasons, of the behaviours and the peculiarities of the "case", through the correlation between the collection of information of various genre and of the data obtained from it (Postic; De Ketele, 1993).

The ecological- theory at the basis of ocologic observation, centres its analysis on the relation among the living organism, and these and their environment also known as human ecology or behavioural ecology, it deals, in psychology, with the relation between the functioning of psychic apparatus and the characteristics in which the behavior is observed (D'Odorico, 1990, p.77).

By the expression "ecological perspective", we are used to indicate the dynamic interactions which occur among the researcher, the subject and the context of the research. Barker (1951), was the first to illustrate its these, by concentrating on the study of the behavior in concrete situations, persuaded that, in order to know the principles which stimulate the human behavior it is necessary to investigate the real situations of human life.

As the ethological approach, the ecological one limits itself to observe and measure the behavior without manipulation or intervention favouring the observation in natural conditions.

As regard to the structuring degree of the observation, we refer to the structured (or systematic) observation with a low degree of structuration 8or from experience).

The systematic observation has a precise objective defined "a-priori" and it is carried out on pre-designated subject, and it provides for the realization of a planned system of collection and classification of information, which, afterwards, allows the application of statistical techniques of analysis of the gathered data.

The data collected be means of this system are immediately annotated by the observer, which takes part in the situation, and catalogued, with the help of special grids, which allow to define behavioural categories analyzed in

their peculiarity. This observational method is used in the educational sphere to observe the effects of an educational proposal to verify the effectiveness of intervention, to test new didactic materials.

This type of observation falls under the competence of the classic experimental pedagogic current.

In this field, the researcher pays attention in defining accurately the variables involved in its object of study and to the construction of an observational device which makes use of a guarantee of repeatability for other researchers (Postic, De Ketele, 1993, p. 80)

.In order to be systematic, the following characteristics are requested:

- The pertinence, which represents the correlation degree between the behaviours that we want to observe and the objective of the research;

- The validity, corresponding to what we are really observing and what we want to observe;

- The variability, referred to the degree which the results obtained through the observation, can reconfirm, through other observers which utilize the same instruments, at the same moment and under the same conditions.;

- The transferability, referred to the degree in which the results can be generalized, transferred from a cultural context to another, (transcultural transferability), from an observational situation to another (trans-situational transferability) or from a period of time to another (trans temporal transferability) (Postic and De Ketele, 1993).

The experiential observation, instead, focuses on the analysis of the observed subjects' attitudes, perceptions and belief, giving preeminence to the behavioural experience. The observer's action is not orientated to record the events in the very moment in which they happen, but to get, subsequently, the needed information, by means of interviews, diaries, questionnaires.

The subjects involved in this kind of research, are aware of its purposes and collaborate (Magri, Rossi, 1998).

The observer, according to the collected materials, draws up a narrative description. The peculiarity of this observational method is that of the great amount of observational data can be subsequently used for opportune classification and codification.

This kind of observation, moreover, is utilized with exploratory purposes for the collection of information in the field, in order to define more precisely, the hypotheses for a more structured research plan.

The modality of observation can refer to instruments and procedures that the observer can use to distinguish the data he is interested in.

As we have already put into evidence. There are many techniques and related paradigms of reference, according to their starting objectives and their suitability.

The scheme proposed by Magri and Rossi puts into evidence the three constitutive of the observational procedure which form an unifying element characterizing the considered concept:

- The focalization, which concerns the circumscribing of the observed problem, making explicit what we know about it, and specifying what we cannot comprehend about it, in order to decide what are instruments to be used;

- The collection of the data, that is the phase which foresees the behaviours recording and their codification, their transcription and classification into wide units of analysis, in order to analyze and measure the characteristics, the frequency, the duration, the intensity of the phenomena under observation;

- The data analysis, both qualitative and quantitative. The former is utilizable when it is possible to measure, by means of special scales, the frequency, the intensity degrees or the duration with which stated events have been recorded; the latter is utilizable when one can infer on tries process by means of which the observer provides a meaning to collected data, through a subjective interpretation of categories of events or observed behaviours.

As regards to the "times" related to the observation, you need to establish "a-priori" the duration and the frequency of the observations.

According Mantovani (1995), for example, with reference to the parameter in question, you can put into evidence two types of sampling:

- The temporal sampling, defined as a method used when the observer wants to collect information related to the frequency of one or more behaviours. In this case, one can observe subjected to intermittent intervals and uniform duration, during which the observer tries all that she/he sees;

- The events sampling, which is used when the observer is orientated to catch the aspects concerning to the sequence and presentation modalities of a stated behavior (what happens first, after, how it is structured and the characteristic of its context).

METHOD IN EDUCATIONAL CONTEXT

Coming to the peculiarity of the educational method, and referring to the above, as regards to observation, we want to reason about the observational method in the didactic-educational context giving answers to questions such as: who/what to observe, and why to observe, at school or in the classroom, specifying instruments and typologies of observation.

As regard to the object of observation, it depends from the purpose of the research; outlining the object, it is possible to focus only on that given object and to obtain the most important data (De Monte, 2008).

The observation field has to be defined, or through the open techniques for example diary description, or events descriptions, when the objective is wide, the attentions is at long-range, and the times of observation are long; or through closed techniques, for example the observation by times or events sampling, used when the observation concerns one aim, the research field is limited, as regards to the time of observation and pre-selection of what one wants to observe.

In the educational field, the objectives of the research concern fundamentally the phenomena which arise from the teaching-learning process, that refer to the development areas of the pupil, such as the relational, communicative, self-awareness, cognitive, affective areas, and the context of the process.

In this sense, observation must provide information on the environmental circumstances, on the verification of physical and psychic development, on the development of the ego, on the affective state evolution.

To define the context/observational field related to the school setting, we need to consider the variables which come into play.

According the pattern for, the teaching process proposed by Dunkin/Biddle(1974), these variables can be distinguished into context/variables, process/variables and product variables.

The first variables concern the physical characteristics of school setting, the formation experiences of the teacher, as well as her7his capacities and motivations as regards teaching; the general characteristics of the pupil.

The other variables concern the teacher's behavior in the class, her/his relation with the class; the behavior of the students in the classroom, their learning, their relation with the teacher and the schoolfellows; the various contextual relations pupils/pupils, teachers/teachers, teachers/pupils, and, finally, the teaching-learning path, and all its variables, such as objectives, methods, instruments, space organizing.

The product variables concern the learning, the attitude towards school, the pupils development of relational capacities, the teachers' professionalism modification.

In order to describe completely the peculiarities of the setting of the teaching-learning process, you need to examine not only the school/class environment, but even the setting-cultural connotations which characterize the school and which are to be considered for the elaboration of specific formative paths.

In this way, an observational profile sets up; in fact the construction of an observational profile implies, the physical description of a subject, her/his way of presenting herself/himself her7his affective tone; (smiling, wary, taciturn, talkative) the description of the context of life, which must point out the environmental factors that can influence the subject's behavior as well as the familiar educational context and the educational context.

As regard to the verification of the psychophysical development, the observation concerns:

- The physical factors; for example sleep and hunger, in order to collect data about the instincts regulation and body functions;
- The kind and the level of affective relation that the subject has attained, in order to collect data on the development of social relations;
- The way the subject enhances her/his value or denigrates herself/himself, hes/his way to put all her/his energies and abilities, which make her/him more autonomous, in order to point out her/his levels of self-esteem;
- The presence or absence of aggressiveness, if it excessive or different, in order to as regards to the ascertainment of the development of the ego, the observation concerns:
- The memory the capacity of synthesis, the language, the regulation of one's own actions the reality exam, the motricity control, in order to collect data about the level of these abilities, which can be socially acceptable, or acceptable only for the fulfilment of the pupil's immediate need;
- On the capability to bring some tasks of daily life to an end, in order to point out the data concerning general autonomy;
- On the capacity of bringing news tasks to an end, or acquire new abilities, for the ascertainment of the data concerning specific autonomy;

- On the reactions carried out by the pupil in unpleasant situations caused by her/his inner drives or by environmental situations, or really menacing or perceived as threats, in order to point out data the modality of defense.

As regard to the evaluation of the affective states development, observation concerns:

- affection and emotion such as cheerfulness, sadness, fear, the situation which causes them, the intensity and the stimula which provoke them, in order to point out data concerning the relation between progressive and regressive tendencies.

As regards to the observer, in the specific case of the class setting, it is the teacher which plays the role of the observer. Assuming that she/he is adequately formed for the competences implied is this role, she-he must develop the principal competence of the subject, that is objectivity.

There is no doubt that the dichotomy objectivity/subjectivity of observations in school setting represents an important problem. In her/his observation, the teacher privileges the collection of data with a low degree of structuring.

In this sense, the teacher by using an observation of experiential kind, supported by survey techniques, prevalently manual, exposes herself/himself to the risk of an excessive personalization and individualization of observation modality. Nevertheless, it is right to remember that "only the collection of information with low degree of structure can aim to the comprehension of the collected information since: the scientific nature is not only the structure, but even strict intersubjective control of observational procedures; and this control, even if is more difficult trough a less structured information, is all the same possible" (R. Trinchero,2002) the choice of the involvement during the observation, follows up the characteristic of observation.

Assumed "ex-ante" the objective of observation, the teacher can decide consequently if she/he must assume the role of participating or non-participating observer.

If the objective of observation is that of comprehending the educational situation from a point of view internal to the teaching/learning process, she/he will be a participating observer. The focus of this kind of observation are the relations.

In the school setting, it is used to observe the dynamic-affective elements.

The teacher can make use of this kind of observation, in order to:

- Consider the existence of affective elements into a pupil's development;
- Consider if learning depends on affective, cognitive and motivational elements;
- Consider if the pupil establishes with the teacher and the other pupils relations which involve her/him from the emotional and affective point of view.

In the objective is, instead the relation between two pupils, the teacher will be the non-participating observer.

He/she, must catch useful elements as regards the situation in which the two pupils' relation takes place, before her/him, but which does not involve her/him.

The focus of this observation is on the behaviours. It is used in order to observe interactive and social behaviours, linguistic, logic, mathematical abilities, and functions concerning memory perception and language.

As regard "why" one observes, the reason are numerous; among them we can take into consideration, as concerns the observation at school:

- A descriptive function, used to describe the situation or the phenomenon in question;
- An euristic function/or diagnostic function: the observation aims to the emerging of pertaining hypotheses and then to their further control;
- A formative function (an observation to act, on the basis of what observed, and an action, in order to form);
- An evaluative function: in order to evaluate and decide the action. The action, then, will be, on turn, evaluated and observed, for a new decision (Lucisano, 2002, p. 176).

In the evaluation sphere, the observation aims above all to point out the dynamics of formative process, as much crucial for the pedagogical quality as demanding a direct examination, and the context of acting (Castoldi, 2012, p. 76).

The observation with conoscitive aims describes the characteristics of examined object and the conditions in which it shows itself without alternation, in order to provide all the information concerning it, on a qualitative and quantitative level.

For example, in the educational praxis of a classroom, a teacher can make use of the observation to point out the data concerning the teaching context, in order to get information on the environmental, cultural and social features, which condition positively or negatively the learning or the behavior of a stated pupil's group.

The observation used methodically and systematically, instead, performs the euristic and verifications, since it adds the pure knowledge of the observed object to the intervention on it, in order to modify, in a controlled way, the entities of some features or variables, or to introduce news ones, for obtaining predicted, and in advance effects. A teacher, after observing, in a class, numerous aggressive behaviours in the group of her/his pupils, can ask herself/himself the causes of this problem and hypothesize that it can depend on some aspects which can influence it as possible concomitant causes of the observed behaviours, for example one's own communication style, class activities spaces and times.

Concentrating on these aspects, he/she can make use of observation, to allow the emerging of the reason of aggressiveness. If, through observation, an example of aggressive behavior emerges, in correspondence with a cognitive pressure, the teacher's intervention can modify the activity times, corroborating her/his hypothesis.

The observation used in order to point out adequate and effective relational modalities, and to project educational intervention within which the person plays a central role in the learning process, has a formative function.

The observation utilized for the knowledge of capacities and behaviours, based on the collection of behavioral, social, cognitive and effective data, has an evaluation function. The collection of these data and their consequent codification allows to have basic measurement of students.

These measures can be a starting point of didactic activity, as well as the basis for the evaluation of learning, maturation and mental processes development.

CONCLUSION

In the educational praxis, observation allows to increase the level of knowledge of the pupils' behavior, following precise hypotheses; to comprehend the meaning of stated behaviours, to abandon randomness and improvisation in favour of an attitude towards research; to carry out more conscious, educational and didactic proposal as well as precise didactic and educational strategies of intervention; to avoid that personal expectations or preconceived ideas may condition the interpretation of events; to distinguish facts from comments, judgment, evaluation; to make use of more objective information, to have a confrontation with the colleagues on the research hypotheses, on what and why is to observe, on the sharing of data; to acquire or share an intellectual language.

And notwithstanding the great bulk of knowledge implied, the didactic-educational context cannot ignore observation.

Carrying out an observation in the didactic-educational context implies, in fact, the knowledge of the theoretical paradigms of reference, the capability to choose among them, a model to follow for each prearranged objective, techniques and methodologies for every chosen modes. For the formation of a teacher, the knowledge of a theoretic establishment and the acquisition of operational techniques for the work in the educational field cannot be set aside.

In these terms, observation occupies a fundamental role in the educational field, since it is also one of the aim elements of the educators' professionality.

With reference to presidential decree 8 March 1992 n. 275, about the accomplishment of didactic autonomy in the school field, teachers are, in fact, personally involved in the formation project, which implies a specific professionality of theirs, since, starting from the directions delineated in the phase of the central planning, they must interpret and adapt them to the subjective needs of pupils, and to the reality of the context in which they work, projecting didactic courses.

To their institutional task, traditionally conceived as "transmission of that given knowledge", indispensable for the personal and cultural formation of students (Capperucci, 2008), we must add the task to program, project and plan the didactic experience, in order to convert the educational aims into operational possibilities which are didactically controllable, measurable and conductible (R. Tammaro, 2011).

Projecting educational intervention, carrying them out by means of adequate instruments and methods, verifying the result achieved, and if necessary, re-project the works, with new hypotheses and objectives; these are the actions that a teacher/educator must perform concretely, nowadays, in order to guide the pupil in her/his growth. This implies the necessity to master the observational techniques, and the capability to apply them to the situations that teacher must face from time to time, when a choice is requested.

It is evident that, in a systematic research context, after establishing times and modalities for survey and codification, a plan of observation is drawn up, and after a training on the utilization of the more or less instruments for survey, we can foresee that the observational work will go on without great obstacles. On the contrary, it is also evident that carrying out a continuative, dynamic operation in the didactic context, implies a number of variables, many of them unpredictable, which have inevitable repercussion on recording procedures and data cataloguing, that escape often to scientific criteria. In fact, the object under observation is not inert, but, it has a life of her/his own, a mind of her/his own, an individuality in relation, in its turn, with the sociological context conceived as the whole of circumstances and actions into which the pedagogical action gets.

Nevertheless, in this context, a scientific method cannot be excluded and teacher and educators must come into possession of it.

It is self-evident, therefore, to propose the utilization of research-action protocol, in the didactic context.

If, on the one hand, the rigour and the systematic nature of the research lead to the certification of reliable data, on the other hand, the experience acquired by teaching, plays a fundamental role in education.

The knowledge of the main techniques and procedures for a formative intervention cannot be sufficient if they are not applicable to practice.

Therefore, insofar as the research-action is involved in the empiric knowledge of problems provided by the didactic-educational operators, as regards to what takes place in the context; and to involve the subjects protagonist acquainting them with an attitude which assumes the research as a professional approach, it is structured as an operational context where it is possible to bridge the distance between experimental research and didactic action.

In these terms, the research-action represents the practical and privileged place where one can apply the scientific knowledge. If, on the one hand, it maintains a classical scheme of pre-experimental research which justifies its legitimacy, on the other hand, its nature of applied research, which feeds on the relation among researchers, teachers and interaction environment, that are enriched, in this way, with a possibility of situations discovery, encourages the achievement of new result (A. Notti, 2012).

Following this perspective, we consider that the guarantee of the scientific nature of collected data is not given by a series of accurate and methodical information, denoting their statistics meaning, but we need to pay attention to the use of their results in a context which continually evolves.

It is again implied, the need to shorten the distance between theory and practice, remodulating their meaning for a context within which it is difficult to drawn their lines.

Therefore, observation can be a precious contribution insofar as it, carried out in the context, can refute scientific propositions and approach to the problems faced daily by those who operate in the field, so nourishing a virtuous circle between experience and research.

References

Abbagnano N. (1998). *Dizionario di filosofia,* Utet, Torino.

Abbagnano N., Fornero G., (1999). *Protagonisti e testi della filosofia,* Volume B, Tomo 1. Mondadori, Milano.

Capperucci D. (2008). *Dalla programmazione educative e didattica alla progettazione curricolare. Modelli teorici e proposte operative per la scuola delle competenze*. Franco Angeli, Milano.

Castoldi M.(2012). *Valutare a scuola*. Carrocci, Roma.

D'odorico L. (1990). *L'osservazione del comportamento infantile.* Cortina, Milano.

Gattico E., Mantovani S. (a cura di), (1998). *La ricerca sul campo in educazione. I metodi quantitativi*. Mondadori, Milano.

Laeng M. (1992). *Pedagogia Sperimentale.* La nuova Italia, Firenze.

Lucisano P. (2002). *Metodologia della ricerca in educazione e formazione.* Carrocci, Roma.

Mantovani S. (1998). *La ricerca sul campo in educazione. I metodi quantitativi.* Bruno Mondadori, Milano.

Magri P., Rossi L. (1998). *L'osservazione nella scuola.* Paravia, Torino.

Mc Burney D.H. (2002). *Metodologia della ricerca in psicologia*. Il Mulino, Bologna.

Notti A. (2012). *La ricerca empirica in educazione.* Pensa, Lecce.

Postic M., De Ketele M., (1993). *Osservare le situazioni educative. I metodi osservativi nella ricerca e nella valutazione. SEI*, Torino.

Tammaro R., Marzano A., (2011). *Progettazione ed organizzazione dei processi formativi.* Pensa, Lecce.

Trinchero R. (2001). *Appunti del corso di Pedagogia Sperimentale, Facoltà di Scienze della formazione, Università degli studi di Torino.*

Trinchero R. (2002). *Manuale di ricerca educativa*. Angeli, Milano.

THE ROLE OF THE TEACHER IN THE EDUCATIONAL PROCESS

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Abstract: Realization of educational work in schools is complex activity. The difficulties of achieving educational work in schools stand in the fact that education is a category that refers to human - individuals. Starting from the fact that each individual has its own peculiarities which differ from one another then, the educational approach is different for everyone and is implemented differently. The teacher is the one who has the leading role in the realization of educational work in school. The teacher as an important factor in the realization of educational work is analyzed in several dimensions. From his professional development in relation of individual change as professional and educational protagonist also in the dimension of changing the schools as an organized educational institution. This makes us know that our problems or attention focuses on: the teacher as personality, teacher to student attitude, style and his way of working, strategies and methodology that everages teaching or teacher selects his educational work education ....Therefore his professional and moral preparation level should be pleasurable so that he can successfully accomplishes its work. If we could look at the development of the school and the teacher's role in historical terms, we see that the function and the role of the teacher has changed as society has changed, along with the running of the school.

The teacher with his professional ability is a relevant factor in training and preparation of didactic and methodical plans, organizes and carries out work on student learning. Educational process and people as social beings reciprocally is related to one another from the existence of man or mankind and so will continue to remain.This reveals that human and society development depends on education and education as processes which enable the development of knowledge, skills and human experience. To achieve this development we necessarily must have a leader of the educational process that will plan, manage and evaluate his and others work to educate, teach them there is no doubt that this is the teacher.

Historically, the notion of a teacher is found very early. So we can mention the Athenians who teachers in private schools call the Didascalia, whereas in gramatist schools - gramatist. In other hand old Chinese with the notion teacher understood god of hell, referring to the importance and the being rigorous teacher. Ancient Romans called them paidagogos- lecturer saying that the Greek word ie. pais-paidos - child and ago-AGEIA - leads. In the Middle Ages in civic schools teachers called magister - that ie. master. (M.Cindric, 1995, V.Strugar, 1993).

To clarify and better understand the meaning of the word teacher think we should emphasize some definitions or explanations of the concepts that we encounter in various literature, including:

➢ Teacher's in general refers to the person who conducts classes
(Enciklopedijski recnik pedagogije, 1963, p. 534).

➢ The teacher is the person whom society and the education authority have been accepted as eligible for education and upbringing of children, youth and adults. He realizes social goals and tasks of education, offering students the skills and theoretical and practical knowledge. (Pedagoska enciklopedija, 1989, p. 103).

➢ The teacher is the leader and organizer of the educational process, because he knows pedagogy, didactics and teaching methods which are sistemated human experiences and art of education. (L.Bognar and M.Matijevic, 1993, p. 17).

I will highlight some prominent philosopher and pedagogue their expressions regarding the issue of the role of the teacher. Initially we will emphasize the old Greek philosopher Plato who says: "The state shall not be impaired if shoemakers are not so good, but if new generation educators do not fullfill their obligations properly then it will form the generation of ignorance and that will destroy the future of the motherland ".

On the other hand Wolfgang Ratke the authority of the teacher had treated as a precondition for the successful operation of educational support in mainstream culture and the methodical, intertwined with love, humane and optimistic attitude towards children.

Jan Amos Komenski in "Rules for teachers" from teacher requires innocence, skills to be hard working, to have virtues that will serve children as example of education.

Anton Semjonovic Makarenko says educational work requires energy, physical and spiritual devotion, sincerity, courage and trust in the children's development.

Adolf Friedrich Disterveg requires that teacher should love the profession of educator, courteous treat students and their parents, to cooperate and to honor colleagues. (Brada, R., 1994 p. 129).

Marcus Fabius Quintilianus states that the teacher must be a good person and to students presents parental attitude.

Comenius besides what is mentioned above is not only the founder of organizing learning system but he also emphasizes the importance of the teacher in the realization of educational process. So he thinks the teacher is the best choice, smart, wise (wise) and soul (spirit) practical. He should be honest, with good will and desire to work. Johann Heinrich Pestalozzi states that the teacher must respect the personality of the child, and the teacher to student ratio should be based on love. (V.Strugar, 1999, pp.404).

Based on extensive research regarding teacher personal character can highlight some as follows:

¬ teacher helps students to work and encourage students' interest;

¬ It is cheerful, with good mood, loving, approachable;

¬ Social Report to students, patience, serenity;

¬ interest to students, understands, respects the personality of students, avoid sarcasm and bad words;

¬ nice view, stable, balanced, consistent;

¬ The impartial, fair, honest, authority and example;

¬ Sense of humor and understanding, broad interests, shows enthusiasm;

¬ express affection towards children, confidential, loyal, set to a prime position students (empathy), believes in the abilities of students;

¬ objective, realistic, self-critical, natural;

¬ control his feelings, is appropriate;

¬ Maintain democratic relations, good collaborator. (V. Strugar, 1991, pp. 31-33).

When talking about the role of the teacher as the educator we must realize that now days requirements and conditions everyday more and more to act as a teacher, friend, advisory, mediator, demonstrator, coordinator, model, observer, stimulant, reliable ... .. certainly associate with children.

The teacher is the one who plans the learning process, he manages, partner in his educational work and in some time valuer of skills and knowledge of students.

The teacher education work is based on sincerity, passion, love to students but also in practicing the profession. Therefore he must have formed personality to result with elegance, attractiveness, modesty and kindness, courtesy and attention to students. In the teacher education program, there should be no prejudice, insecurity and lack of confidence. The education program to gain success from teacher requires patience, thoroughness, skill and professionalism. Despite numerous commitments of teachers in the implementation of the teaching and educational component, the main role of the teacher is education. To successfully realize its educational work, the teacher should reflect the quality work that ie. to have the verified intellectual capacity, considerable pedagogical knowledge, have complaisant practical realization of pedagogical work and commitment to proper teaching. Duty and moral obligation of teacher is the preservation of national and civic values.

For the tasks, duties and responsibilities of the professional preparation of the teacher, to successfully realize his work could be more clearly presented in the figure below. From there we can conclude that a good teacher itself must possess sufficient professional knowledge combined with considerable pedagogical practice and professional commitment.

The teacher once was the pride of the people.
For this there are several reasons:

♣ teacher once considered knowledgeable and proud man, had strength and aspiration,

♣ he was a perfectionist at work, at school in behavior,

♣ he fought every day to build the pyramid of knowledge.

Today is a different situation, he is caught by a false idea of symmetry, perhaps he has short-terms ambitions. (Murati, Xh., (2002), pp. 20).

CONCLUSION

From all what was mentioned above, also we can find in other available literature on the issue of the role of the teacher as a relevant factor in achieving educational process, we can conclude that the teacher starting from way back till so far has been, is and will remain important figure in the education of society and younger generations.

No doubt the teacher's personality has always been an example of positivity and human pride, since he is considered the most valuable man in society, different from others. He's role and importance of education and raising new generations is undeniable. He is the designer, the same as a sculptor, carpenter who gives proper shape and pattern of figures that he creates, so the teacher is the one who gives proper education to students.

Even thought that now days society and contemporary learning seek from teacher be a partner, associate well with his students that does not mean disrespect and outrage the authority of the teacher.

Therefore I believe that important task of the teacher, should not be just fulfillment of his profession, but it should exceed it and become a realization of his mission as a distributor of knowledge and education of new generations. Anyone who has determined the role of the teacher should perform with pride, because it is an important task not only professional but also national.

The teacher as one of the key factors in education must act with professionalism and humanity, not to traumatize children, so they do not feel inferior or superior to the educational process.

REFERENCES

Brada, R., (1994), Pedagogjia shkollore, Pejë

Bognar. L., Matijevic, M., (1993), Didaktika, Skolska knjiga, Zagreb

Cindric, M., (1995), Profesija ucitelj u svijetu i u Hrvatskoj, Persona, Velika Gorica – Zagreb

Glasser, W., (1994), Kvalitetna skola, Educa Zagreb

Gudjons, H., (1994), Pedagogija-temeljna znanja, Educa Zagreb

Enciklopedijski recnik pedagogije, (1963), Matica Hrvatska, Zagreb

Murati, Xh., (2013), Didaktika e suksesit, Luma grafik, Tetovë

Pedagoska enciklopedija, (1989), Zavod za udžbenike i nastavna sredstva, Beograd

Strugar, V., (1991), Opce i pedagoske osobine nastavnike kao determinante efikasnosti obrazovanja (Doktorska disertacija), Pedagoski fakultet Rijeka, Rijeka

Strugar, V., (1993), Biti ucitelj, Hrvatski pedagosko-knjizevni zbor, Zagreb

Strugar, V.,Bezic., K., (1999),Ucitelj za trece tisucljece, Hrvatski pedagosko-knjizevni zbor, Zagreb

UNDERSTANDING CHILD POVERTY AND ITS IMPACT ON THE HOLISTIC WELLBEING AND EDUCATION OF CHILDREN IN NEW ZEALAND: WHAT EVERY EARLY CHILDHOOD TEACHER SHOULD KNOW.

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Abstract: This paper critically reflects on the issue of child poverty and its impact on the holistic wellbeing of children in New Zealand. It highlights the importance of looking into the diverse educational needs of children in early childhood education. It explains how social inequality, oppression, hegemony and discourse of power contribute to child poverty in New Zealand. Furthermore, possible effects of poverty are identified and discussed in relation to the tenets of hauora through Durie's (1994) Whare Tapa Wha model of mental health.

Keywords: child poverty, deprivation, inequality, identity, stress, exclusion, hauora

Introduction

The issue of poverty is an economic, political and social one and therefore several complexities are associated with its definition. In the context of New Zealand, poverty is in the form of relative or material disadvantage, which is mostly measured through the availability of resources to an individual in comparison with others in the population (see Children's Commissioner, 2011). In 1982, 14% of New Zealand children lived in poverty but in 2014, 22 % of New Zealand children daily live in poverty (UNICEF, 2014). The EU and OECD define poverty for more economically developed countries as an exclusion from the "minimum acceptable way of life in one's own society due to inadequate resources" (Children's Commissioner, 2011, p. 8). The United Nations Development Programme has ranked developed countries with high income inequality and New Zealand is ranked as sixth in the world (OECD, 2011).

Poverty is generally linked with low income which hugely limits the future opportunities for young children by exposing them to material deprivation and greater risk of poor health, social circumstances (abuse) and lack of educational opportunities especially access to early childhood education. In New Zealand 230,000 children are living in deprivation, most of them are living in Auckland (Keating, 2011, November 18). According to Child Poverty Monitor (2013), 285,000 (27%) of kiwi kids live in income poverty, 180,000 (17%) of kiwi kids face material hardships where they are raised without the things they need however 10 percent of kiwi kids are faced with severe hardships. Child Poverty Monitor has also documented that 3 out of 5 children in New Zealand live in persistent poverty for a long period of time. The severity of the poverty issue had also been highlighted in Collins (2012, January 18) article on wealth gap problems, based on a long-term study of 1265 children born in Christchurch in 1977, it was found that those whose families were poor in their first 10 years of life earned about $20,000 a year less by the age of 30 than those who grew up in rich families. To this end it was found that those from the poor families were more likely to leave school without qualification, had babies before they turned 20,

commit crimes, had welfare, addiction and other mental health problems in adulthood. The findings also showed that in 2010, 26 percent of children lived in poor families that earned under 60 percent of the net median income.

Effects on Education

Collins (2012) study showed a greater link on the effects of childhood income on later educational and career achievement of young children in New Zealand. When reflecting on Bourdieu's (1977) theory of cultural reproduction and systematic exclusion the case study strongly depicts that education systems favour the cultural capital and habitus of the upper class those already in possession of forms of knowledge required for successful schooling. It also shows that children coming up through economically advantaged families have "role models" that positively impact on their lives and overall wellbeing but those children raised in poverty miss out on these important opportunities in life which hugely impacts on their success at school. New Zealand's overall school dropout rate is amongst the highest in the developed world (OECD, 2013).

Viewpoints on Poverty and Inequality

Poverty in New Zealand stems from both the colonial history of the country and migration of minority ethnic groups into the country. The distribution and ownership of resources, settlement choices and nature of jobs in terms of skills had significantly framed the ideology of dominant and subordinate groups in New Zealand, which heightened the wealth gap and later lead to classifications between rich and poor suburbs based on the standard of living of people (see Nash, 2000). The divisions in society created oppression and social inequality through market forces. According to Marx (1848) the class of 'dominant material force' in society turns to be the 'dominant intellectual force', since they own the production and distribution ideas and use ideologies to preserve their own interests by setting up levels (status) to administer society, reflecting bourgeoisie identity.

Bell (1997) argued that oppression restricts self development and self-determination based on prejudice ideas of the dominant group. Dominant groups have easy access to social power and privilege that turns to exhibit hierarchical relationship which disempower the subordinate group. Reason being symbols of power become institutionalized as "sovereign power" and operates as "disciplinary power" at the macro-level of the society and these symbols of power through its "discursive elements" negatively affect resource acquisition for minority groups by limiting access (See Bell, 1997; Hall, 1992).

Nutrition and poverty

According to Perry (2011) child poverty rate in New Zealand sharply rose from late 1980s and 1990s due to unemployment, low income and state benefit cuts. The main indicators of poverty that affects hauora (wellbeing) of children in New Zealand are; low income, unemployment, poor housing, high cost of nutritious food and access to health services (Children's Commissioner, 2011). Poor social and economic circumstances directly affect physical and mental health of people and the longer people live in stressful conditions the greater psychological and physiological risk they suffer (Wilkinson & Marmot, 2003). It becomes crucial to link poverty with access to nutritious food which has been a topic of interest in the media recently. Healthy food has become a topic of political debate with the rising food prices driving low wage families into poverty. Statistics show that prices for fruit and vegetables recorded the highest increase of 12.2 percent, with 9 percent increase in milk price and the general cost

of food recorded a 7.5 percent increase from 2011, which puts one in five children living in poverty in New Zealand (Mackenzie, 2012, January 17).

Resorting to cheaper substitutes heightens the risk of malnutrition and diseases in children and deteriorating health conditions might lower the life expectancy of adults living in poverty. It is crucial to note that in 2010-2000 more Maori, Pasefika and children of jobless immigrants were faced with child poverty (Otago Daily Times, 2011, August 17). One should note the ways in which unemployment, low wage and rising cost of food frame the issue of poverty for minority disadvantaged groups in New Zealand. These socio-ecological determinants of hauora/wellbeing lead to social exclusion resulting from racism, discrimination and stigmatization which hinders participation in society thus contributing to premature death (Wilkinson & Marmot, 2003). The effects of socio-ecological determinants through poverty on holistic wellbeing of children will be discussed in depth further in the writing.

Effects of Poverty on Wellbeing

Coming back to the main question on how poverty affects wellbeing of children in New Zealand? Living in poverty limits access to nutritious food which has detrimental effects on young children's development and wellbeing (Donnell, 2011, July, 27). A definition of wellbeing for most indigenous societies will reflect on the holistic nature of being in peace with social and environmental forces. Poverty puts disadvantage groups from diverse cultures into a disequilibrium state of life which fragments the interconnectedness between the dimensions of wellbeing that provided complete meaning and value into people's life (Durie, 1994). It puts people into conflict and disturbs their spiritual wellbeing which is of fundamental value to many indigenous cultures. This writing will utilize the Maori model of holistic wellbeing which shows connectedness between the five dimensions (physical, social, psychological, spiritual and roots) of hauora/wellbeing depicting Maori life (Moeau, 1997). It is important to look at how poverty affects hauora of children in New Zealand.

Identity

The concept of identity formation is multidimensional, which is dependent upon several factors such as history, social context and culture (Tatum, 2000). Children in poverty face an identity crisis which is mostly defined through two view points; on the basis of individual shortcomings and moral deficiencies and as socio-economic status and class. It is possible that poor children's identity is shaped around the disparaging societal messages about the poor, either coming to see himself or herself as morally deficient or personally flawed in some way or adopting what Erikson (1980) referred to as a negative identity (i.e., an identity based on everything that has been presented to one as undesirable, dangerous, wrong, or "bad"). Consequently, most children get trapped into "targeted identities" imposed by others which turn to shape their construction of the self concept. The construction of self concept as such leads to lowering self esteem, stability and self efficacy in adulthood, which prohibits exploring ones full potential due to doubts about self, which makes the child trapped in the cycle of poverty thus significantly impacting on all five tenets of hauora. Therefore it is important for early childhood teachers to provide "inclusive pedagogy" for learning so that the learning needs of "diverse learners" are well catered for in developing "resilience" to adversity (Wendt-Samu, 2005; Lyons, 2005; Atwool, 2006).

Stress

Poverty involves exposure to multiple stressors that can have an undesirable influence on children's development. Economic deprivation often leads to stressful life events and chronic strains when compared to their non-poor counterparts. Poor children in New Zealand encounter more family turmoil, violence, instability/unpredictability in routines of daily living, chaos, and surroundings that are noisier, more crowded, and more frenetic (Donnell, 2011, July, 27). Much of the stress associated with poverty is manifested in family dynamics. Financial stress is associated with decreased family, marital conflict, discord, separation and divorce (Bennett, 2011, April, 17). Children may face lower-quality parent-child interaction leading to neglect and abuse. 52 percent of all children in states care are from abusive neglectful Maori parents (Collins, 2012, January, 26). Basically, financial stress is related to family and/or relationship stress which, ultimately, is experienced as individual stress (Bennett, 2011, April, 17). Multiple stresses is not conducive to psychological well-being or healthy child development and might be anticipated to result in a depletion of the poor child's motivational resources over time, as well as the emergence of various manifestations of socio-emotional maladjustment such as depression, anxiety, and self-medication in the form of substance abuse (Children's Commissioner, 2011).

Stigmatization and schooling

Poor children are at increased risk of receiving disparaging self-relevant information from the social environment, with poverty being viewed by many as the product of individual shortcomings and moral deficiencies rather than societal factors (Chafel, 1997). Living in poverty involves being stigmatized, marginalized, stereotyped negatively and excluded by the non-poor segment of society (McIntosh, 2005). Children living in poverty are quite cognizant of the unflattering nature of societal messages regarding the poor (Weinger, 1998). Consequently, poor children may experience feelings of shame and embarrassment and have trouble viewing themselves in a positive light (Weinger, 1998). Schools also play a central role in the stigmatization and marginalization of the poor due to "deficit theorizing" by teachers based on the images of historical, social, cultural and ideological views (Openshaw, 2007). Therefore early childhood educators need to build reciprocal relationship with disadvantaged children by employing culturally specific lens to form interaction with children (Rockel, 2002). Stigmatization affects mental and spiritual health of children and their families causing a disequilibrium state of life.

Physical Health

Poverty leads to poor health. The likelihood of a poor child being sick is 3 times higher than the rich child (Shaw, Blakely, Crampton and Atkinson, 2005).The negative impact of low income on children's health is well established. In New Zealand, a child growing up in a low-income household has on average 1.4 times higher risk of dying during childhood than a child from a high-income household (Shaw, Blakely, Crampton and Atkinson, 2005). Children born into poverty are more likely to be born prematurely, to have a low birth weight and to die before the age of one (Fletcher & Dwyer, 2008).

Children in poverty face developmental delays and illnesses such as gastroenteritis, ear infections and rheumatic fever. Cold housing also contributes to a wide range of illnesses and diseases including respiratory infections, asthma, rheumatic fever, tuberculosis, skin diseases, depression and other mental illness. As well as contributing

to the spread of infection including tuberculosis and meningococcal disease (Fletcher & Dwyer, 2008). Physical fitness is detrimental to active participation in social activities which in turn helps create positive identities in children.

Wellbeing and Belonging

The effects of poverty discussed above clearly shows detrimental outcomes on children's personal and holistic wellbeing in New Zealand. It is evident that a well self is vital for wellbeing and a safe and conducive environment that protects rights of children and families and nurtures partnership between members of the society through reciprocal relationships, and where people's culture and customs are valued, staying connected to one's roots and participation in society is appreciated, provides a sense of belonging. (Te Whariki, 1996). However, poverty possess a big challenge in fulfilling the conditions for holistic wellbeing and belonging of children of many minority groups living in improvised conditions in New Zealand today.

Conclusion

The significance of hauora was at the heart of the discussion using Whare Tapa Wha model. The severity of the issue of poverty provides an in-depth analysis on how it affects children's wellbeing and education in New Zealand. It elaborates on the complexities that persist for those children living in deprivation. The writing links different theoretical perspectives in justifying the arguments being put forward and it also highlights the importance of understanding diversity and inclusiveness so that better pedagogical practices are identified. Recent New Zealand statistics on poverty has been used to frame the discussion in this paper.

References

Atwool, N. (2006). Attachment and resilience: implications for children in care. *Child Care in Practice, 12*:4, 315-330.

Bell, L. (1997). Theoretical foundations for social justice education. In M. Adam, L. Bell, & P. Griffin (Eds.). *Teaching for diversity and social justice* (pp. 3-11). New York; Routledge.

Bennett, P. (2011, April, 17). *Green Paper puts priority on children*. Retrieved from http://beehive.govt.nz/release/green-paper-puts-priority-children

Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge: Cambridge University Press. Retrieved from http://www.cambridge.org/catalogue/catalogue.asp?isbn=9780521291644

Chafel, J. A. (1997). Societal images of poverty: Child and adult beliefs. *Youth and Society, 28*, 432-463.

Children's Commissioner. (2011). *Children and poverty: moving beyond rhetoric*. Retrieved from http://www.occ.org.nz/__data/assets/pdf_file/0012/9201/CC_CHILDREN79.pdf

Child Poverty Monitor. (2013). Technical Report. Retrieved November 22, 2014 from http://www.childpoverty.co.nz/

Collins, S. (2012, January, 18). Poverty trap set at birth. *New Zealand Herald*. Retrieved from http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10779433

Collins, S. (2012, January, 26). Maori child abuse linked to poverty and discrimination. *New Zealand Herald*. Retrieved from http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10781130

Donnell, H. (2011, July 27). Tough talk needed over child abuse. *New Zealand Herald*. Retrieved from http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10741109

Durie, M. (1994). *Whaiora, Maori health development* (pp. 67-81). Auckland: Oxford University Press.

Erikson, E. H. (1980). *Identity and the life cycle*. New York: W.W. Norton and Company.

Fletcher, M. & Dwyer, M. (2008). *A fair go for all children*. Retrieved from http://www.occ.org.nz/home/childpoverty/the_report

Hall, S. (1992). The West and the Rest: Discourse and Power in Hall, S. and Gieben, B. (eds). *Formations of Modernity* (pp. 276-295). Cambridge: Open University Press.

Keating, G. (2011, November 18). Let's have a champion for children. *New Zealand Herald*. Retrieved from http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10766734

Lyons, L. (2005). A place for everybody? Challenges in providing inclusive early childhood education for children with disability in Aotearoa/New Zealand. The First Years: Nga Tau Tuatahi. *New Zealand Journal of Infant and Toddler Education, 7*, (1), 16-20.

Machenzie, D. (2012, January 12). 2011 food prices rise 2.9%. *Otago Daily times*. Retrieved from http://www.odt.co.nz/news/national/194602/2011-food-prices-rise-29

Macpherson, C. (2001). One trunk sends out many branches: Pacific cultures and cultural identities. In C. Macpherson, P. Spoonley, M. Anae, (Eds.), *Tangata o te moana nui: The evolving identities of pacific peoples in Aotearoa/New Zealand* (pp. 66-80). Palmerston North: Dunmore Press.

Marx, K. (1848). *The Communist Manifesto*, http://www.marxists,org/archive/marx/work/1848/communist-manifesto/indexhtm

McIntosh, T. (2005). Maori identities: fixed, fluid, forced. In J. Liu, T. McCreanor, T. McIntosh, & T. Teaiwa (Eds.), *New Zealand Identities, Departures and Destinations* (pp. 38-51). Wellington: Victoria University Press.

Ministry of Education. (1996). *Te Whāriki/He whāriki matauranga mō ngā mokopuna o Aotearoa: Early childhood curriculum*. Wellington: Learning Media.

Moeau, P. (1997). *Hauora*. Paper presented at the NZ Conference on Health and Physical Education, Auckland College of Education: Auckland, New Zealand.

Nash, R. (2000). Educational Inequality: the special Case of pacific Students. *Social Policy Journal of New Zealand, 15*, 69-86.

OECD. (2011). *An overview of growing income inequalities in OECD countries: main findings*. Retrieved from www.oecd.org/els/social/inequality

OECD. (2013). *Education at a glance 2013*. Retrieved November 22, 2014 from http://www.oecd.org/edu/eag2013%20%28eng%29--FINAL%2020%20June%202013.pdf

Openshaw, R. (2007). *Evaluation of Te-Kotahitanga Project-Phase 3*. Wellington, PPTA.

Otago Daily Times, (2011, August 17). *Auckland expensive, cost of living explodes, poverty increasing*. Retrieved from http://emigratetonewzealand.wordpress.com/2011/08/17/auckland-expensive-cost-of-living-explodes-poverty-increasing/

Perry, B. (2011). *Household Incomes in New Zealand: Trends in Indicators of Inequality and Hardship 1982 to 2010*. Wellington: Ministry of Social Development.

Rockel, J. (2002). Images of the child: An historical view. The First Years: Nga Tau Tuatahi. *New Zealand Journal of Infant and Toddler Education, 4*(2), 8-12.

Shaw, C., Blakely, T., Crampton, P., & Atkinson, J. (2005). The contribution of causes of death to socioeconomic inequalities in child mortality: New Zealand 1981-1999. *New Zealand Medical Journal, 118*, 1227.

Tatum, B. D. (2000). The complexity of identity: "who am I?. In M. Adams, W. Blumenfeld, R. Castaneda, H. Hackmen, M. Peters, & X. Zuniga (Eds.). *Diversity and social justice: an anthology on racism, anti-Semitism, sexism, heterosexism, ableism and classism* (pp. 9-14). New York: Routledge.

Weinger, S. (1998). Poor children "Know Their Place": Perceptions of poverty, class, and public messages. *Journal of Sociology and Social Welfare, 25*, 100-118.

Wendt-Samu, T. (2005). T*he Diversity Dilemma: the need to prioritise learner diversities. TLRI Summary Reading Series, Pulse Point 5.* Auckland: University of Auckland.

Wilkinson, R., & Marmot, M. (2003). *The solid facts* (2nd Edn). World Health Organisation.