

Female Teachers and Girls' Academic Achievement: a Case of Pokhara Sub Metropolitan in Nepal

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Abstract

Nepalese schools have overwhelmingly more male teachers in public schools that do not align with the growing concern of developed countries with fewer males. The impetus to recruiting more female teachers in primary schools has been emphasized to bring more girls to schools, reduce their dropouts and have better academic performance. This survey was carried out in 37 community schools through census method in Pokhara sub metropolitan municipality of Kaski district. Descriptive analysis and t-test were applied to the annual examination records of 5965 students over the five years (2008 – 2012) period. Results from the survey show the girls have outperformed boys in the five years of trend. The findings of the study show that there is no statistical relationship between the gender of a teacher and academic scores of the students. It means that when a female teacher is recruited, it necessarily do not increase the academic performance of girls.

Keywords: female teachers, girls' education, academic achievement, outperformance

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Introduction

There have been debates on reducing gender gap in education sector. The gap is more challenging in developing countries like Nepal (Chege & Sifuna, 2006). However, research suggests that the increasing participation of women in the teaching workforce has been one of the major factors for reducing the gender gap especially in primary schooling (Shtrii Shakti, 2011). Recruiting more female teachers can promote girls' education and reinforce gender equality in schools in terms of achievement level (Francis & Skelton, 2005). The same sex role model can positively influence girls' education by increasing enrollment, encouraging them and improving educational achievement.

Female teachers have a huge influence on the well-being of the students, particularly on girls in Nepal (Duwadi, 2009; Aaronson, Barrow, & Sander, 2006; Guarino, Santibanez, & Daley, 2007). The presence of women teachers in schools has a number of positive impacts on promotion of girls' education such as enhanced intake, retention, regularity, and reduced dropouts, sexual abuses and exploitation against girls in schools (UNESCO, 2006). The logic behind the policy to hire female teachers is that they would contribute not only to increase enrollment (MoE, 1997), motivate for regular attendance but also to improve the academic achievement of girls which would reduce the high rate of retention and dropouts (Bista, 2004, as cited in Bista, 2006). Therefore, Nepal National Education Planning Commission (NNEPC) has recognized the need for recruiting women in teaching profession as early as 1956 (Bista, 2006). The government of Nepal has also realized the need of women teachers for enhancing girl's education and hence given the priority on recruiting them in schools especially at primary level.

Promoting girls' education has been prioritized by national and international multilateral agencies and donor communities (Chitrakar, 2009). According to Chitrakar (2009), one of the reasons behind this is that the investment in girls' education contributes to achieving several socio-economic development goals. Advantages of returns to female education are higher than that of male education as female education improves children's health and reduces the number of unwanted births and causes women to want smaller families (UNESCO, 2002).

In 1997, Education and Development Service center (EDSC) conducted a study on "National Achievement of Grade 3 Students. Likewise in 1997, Basic and Primary Education Master Plan (BPEP)

conducted a study to investigate the impact of the new curriculum on the achievement of grade 4 students in five core subjects (BPEP 1997). With the help of Research Centre for Educational Innovation and Development (CERID), in 1998, the level of learning of grade 5 students was studied by Primary Education Development Project. The findings of these assessments were that there was hardly any improvement in the overall students' achievement (DOE, 2008). Regarding sex-wise performance of grade 5 students in the study, girls outperformed boys in many subjects. The increased girls' scores show that gender gap in learning achievement in grade 5 slowly reduced while compared to boys'. Another assessment study in Nepal for academic achievement of class 8 in three core subjects found that boys had higher scores than girls (Education Review Office, 2013). So the student's performance in particular with gender has been the focus of education policies.

The need of appointing female teachers was recognized as early as 1956 through Nepal National Education Planning Commission (NNEPC). This concept was previously advocated by western academics and policy makers. The idea of bringing more female teachers to schools was reaffirmed in 1961 when All Round National Education Committee was formed. National Education System Plan (NESP) which was established in 1971 which marked the beginning of the expansion of girls' education in Nepal through the production and recruitment of female teachers (Bista, 2006). Since the NESP carried along the spirit of promoting female education in the country, it adopted the policy of conducting innovative projects such as *Equal Access of Girls and Women to Education* in 1971.

After ratifying The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1991, it was mandatory for the country to provide equal access to women in education. Education For All (2004 – 2009) and School Sector Reform Plan (SSRP) (2009 – 2015) have made special provisions for females for entry into teaching profession. In addition, Nepal has executed many initiatives in other dimensions or goals of Millennium Development Goal (MDG) including the promotion through increase in female teacher's presence. School Sector Reform Plan (SSRP) came up with many positive aspirations in order to promote women and girl's education.

The national development plans formulated various policies for the promotion of girls and women education in Nepal. The considerable efforts were made from the fifth five year plan to promote the girls and women in education system of Nepal. The tenth five year plan targeted at 30% of female teachers at the primary level. First Three Year Interim

plan (2007-2010) which appeared after people's movement (Jana Andolan II) in 2006, had much expectations from people of the country.

The educational policy of Nepal is in favor to increase the number of female teachers in schools mostly in primary level. Education Regulation (1992) has ensured to recruit at least one woman teacher in every primary school. Further, it has made mandatory to have at least 2 female teachers in schools with more than 4 teachers and at least 3 female teachers in schools with more than seven teachers.

Various efforts have been made to increase women's participation in teaching profession. The government policies (Education Regulation, 1992; Girl's Education Strategy, 2006) have made the provision to recruit at least one female teacher in primary schools but in reality still many public schools lack female teachers. Various efforts made for the expansion of girls' education have built the knowledge that women need equal status in society (Thapa, 2012). Despite various initiatives, their educational status is still low due to less favorable attitude of society towards women education (Thapa, 2012). Nevertheless, Nepal has not recruited adequate female teachers in schools. Out of 2, 62,508 teachers, females are 90,395 and male 1,72,113 (DOE, 2012). This number accounts for 34.4 percent of female teachers' representation in teaching workforce in schools. This percentage demands for more efforts to bring females in schools.

Role of a Female Teacher in Improving Academic Achievement

There has been worldwide realization of the gender disparity in education. There is gender disparity in access, opportunities, achievement, perception and assessment as well. Despite calls for equality world-wide, and despite Nepal's multiparty democracy, women remain marginalized in education. In our Nepalese context, education is thought more important for men than for women as men play the role of a breadwinner and women are engaged in household work within the boundaries of their house (Thapa, 2012). There are differences between men and women's educational achievements. These differences are a result of socially constructed knowledge about the gender roles rather than of biological difference (Bhasin, 2000). With regard to gender disparities, increasing the number of female teachers is often recommended as a strategy for raising achievement as well as attainment among girls and women (Chege & Sifuna, 2006). The female teachers are the role models for girls as well as for their safety but the largest

gender-gaps in enrolment exist where the percentage of female teachers is low (World Bank, 1992, as cited in UNESCO, 2002).

The programs undertaken by the government which aimed to promote girl's education through involvement of more female teachers in primary schools simultaneously benefitted women in teaching profession. There were numerous initiatives of the government of Nepal which emphasized particularly for female teachers. The Non-Governmental Organizations (NGOs), in collaboration with the government of Nepal has been making significant effort on promoting the participation of girls and women in education in Nepal. There were projects such as 'Education of Girls and Women in Nepal (EGWN)' in 1971, Basic and Primary Education Master Plan (BPEP) 1997-2002, Free and Compulsory Primary Education Program, Equal Access of Women to Education Project (EAWEP), Chel Beti Program, Feeder Hostels, Community Owned Primary Education Program and various scholarship programme.

Student achievement is the product of teaching learning activities which gives to know the amount of exposure students have had to the content of the assessment (Suter, 2000). The conceptions of educational achievements have critically important effects on educational practice and nature of schooling (Cole, 1990). Student's achievement is affected by various factors such as parental involvement, socio-economic status (Juma, Simatwa, & Ayodo, 2012), government policy, school resources, teacher's perception, and gender. Various studies have illustrated how constructions of gendered behavior constitute a key explanation for a 'gender gap' in achievement (Francis & Skeleton, 2005). 'Gender gap' is the differences between men and women based on their sexes which are reflected in social, cultural, economic, psychological, political and intellectual aspects. Program for International Student Assessment (PISA) has suggested that the 'gender gap' in attainment is a global issue. It has been the focus of the educational policies (Sadovnik, Cookson, & Semel, 2013). In most subjects, the average performance of girls now exceeds that of boys at all levels of education (Machin & McNally, 2005). Many explanations have been put forward for the existence of a gender gap in achievement. However, one possibility is that the gender gap at a point in time (or changes over time) might be explained by differences between schools in terms of resources, gender mix, teachers (and gender of teacher), etc. (Machin & McNally, 2005).

Female teachers have crucial role to increase enrollment and retention of girl children. Female teachers are viewed both as role models

and caretakers. Their presence partly makes parents feel secured, though this is not applicable to all parts of the country but the respect for the profession in the society is decreasing (Paudyal, 2012; UNESCO, 2000). Thus it is assumed that girls benefit academically more than boys with having more number of female teachers teaching them. In fact the presence of female teachers is necessary in all level of formal education for equal representation of girls and better academic performance. Female teachers by virtue of their own experience of subordination in society are expected to be more kind to students and more understanding and therefore less inclined to use physical punishment when exerting discipline in the class (CERID, 2000). The effect of the teachers' gender on boys and girls has long been suspected (Arnold, 1968) especially to find the relation of female teachers' role in promotion of girls' education.

Teaching is one of the caring professions and many evidences indicate that women are involved caring for children in their teaching profession too. It shows that caring of children is highly gender stereotyped. The absence of female teachers also makes schools unsafe places (Bista, 2004; Paudyal, 2012) Parents do not feel safe sending their girls to male-dominated environments. They may be concerned that sending girls to school will expose them to physical or sexual abuse from teachers or boys. Moreover, female teachers know the problems of female students better than male teachers do, they could understand better (Wudu & Getahun, 2009). The psychology of the girls', their needs and household problems can make the female teachers understand better than male teachers due to the sharing of same gender.

Teacher influences student's learning achievement more than the school environment, home environment or the availability of the educational materials do (ERO, 2013). One of the most compelling arguments for increasing the number of women teachers in school relates to the positive impact on girls' education. Girls' association with the female teachers has contributed to some extent to increasing girls' access to and retention at primary level but failed to ensure their continuation in higher grades as expected (Koirala & Acharya, 2005). In countries where there are more female primary teachers, there is close to gender parity in student intake. In contrast, in countries where women constitute only 20% of teachers, there are far more boys than girls entering school (UNESCO, 2003).

A study carried out by CERID (2004), on "Female teachers in primary schools' found that the presence of female teachers was much more important to retain the young girls in the school as they could give

motherly affection to their students. The study further found out that the female teachers in the rural areas are mostly perceived as housewives and mothers rather in the role of a professional teacher. It gives us a perplexed picture that does female teachers' professionalism is the major reason or just sharing the same experience of subordinate position attracts girl students by default. Thus purely scientific inquiry with statistical data was necessary to prove it. This paper aims to explore the relationship of female teacher with girl students' academic performance based on the statistical analysis. This research intended to answer the two major specific questions;

- (a) How is the trend of academic achievement of boys and girls?
- (b) How significant is the subject-wise achievement of girls when taught by female teachers?

Methodological Section

The study upon which this paper is based, aimed at finding the directional relationship between two variables. The dependent variable was girl students' academic achievement while female teachers was considered as independent variable. Further, the research was analytical to show the trend of the student's performance of five years, comparative analysis between boys' and girls' performance and girl's achievement in relation to female teacher teaching them. A survey method was carried out as a major research method.

Kaski district was the sampled district in the study. Kaski district generally has better performance in Human Development Index and Gender Development Index and other development measures in comparison to other districts. This district has better representation of female teachers and girls students in public school. Pokhara Sub-Metropolitan Municipality was further sampled for primary data collection. There were 39 community schools in Pokhara Sub-metropolitan municipality of Kaski district. Since the study focused for grade 5 of primary level, a primary school that was conducted up to grade three was not considered eligible for the study. So the data was collected from 38 public schools of the municipality. Thus census method was applied under the clustered sampling. Further the test scores of five years of five core subjects were collected from 37 schools (1 excluded due to unavailability of data). Altogether 5965 students' test scores were entered in SPSS program and t-test was applied to make

further analysis. Based on the analysis and interpretation of quantitative data, the findings were extracted. A pilot survey was undertaken in two secondary public schools of Lalitpur district.

Here, the achievement scores were not based on any standardized tests. The scores were the final scores achieved by grade five students in exit examination of corresponding academic years taken by the schools. These scores were recorded in the school records, some in electronic and some in their ledgers. So the data was collected from the school administration. The achievements, in this study, were based on examinations irrespective of continuous assessment systems. I have taken five major subjects for analysis which is same in public and private (institutional) schools.

Trend of academic achievement of grade five students

The learning achievement of students is measured through various examinations. There are many international test assessments such as PISA (Programme for International Student Assessment), TIMSS (Trends in International Mathematics and Science Study) or PIRLS (Progress in International Reading Literacy Study), etc. Many countries of the world have participated in these assessment tests. The following table shows the average achievements and standard deviations secured by male and female students of grade five from 2008 to 2012 A.D in public schools of Nepal.

Table 1
Trend of Mean and Standard Deviation of Achievements of Boys and Girl Students

Year	Boys (N=2573)		Girls (N=3383)	
	Mean	SD	Mean	SD
2008	46.7	16.3	50.3	16.7
2009	43	17.7	42.8	16.7
2010	39.7	16.6	38.3	15.4
2011	44.1	16.9	45.7	17.3
2012	43.8	15.8	45.1	15.4

Source: Field Survey, 2013

The average scores were the aggregated scores of five core subjects as Nepali, English, Math, Science and Social Studies. The trends

show that the average achievements of female students were slightly higher in 2008 (boys-46.7 and girls-50.3), 2011 (boys-44.1 and girls-45.7), and 2012 (boys-43.8 and girls-45.1). However, the average achievements were equal in 2009 (boys-43 and girls-42.8). But the average achievements of female students was slightly less than male students in 2010 (boys-39.7 and girls-38.3).

Overall average scores of the female students were better than the male students in the majority of years. The average scores were found fluctuated but in the latest two years the average scores of girls were slightly better than the boys. Also, the highest average mark was scored by female students in 2008. Moreover, in the table there seems that there is not much differences in standard deviations in all five years. Therefore, the scores obtained by the male and female students were consistent or uniform. This further makes reliable average scores of the students. The female students outperformed in terms of trends observation of five years. The following table analyzes the achievements of male and female students more rigorously on each subject.

Table 2
Mean and Standard Deviation of Subject Wise Achievement of Boys and Girls

Subject→	Nepali		English		Math		Science		Social Std.	
Year↓	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
2008										
Boys (N=516)	48.2	15.5	42.9	16.2	39.9	15.9	47.5	16	45.9	16.3
Girls (N=706)	50.5	15.3	42.3	15.5	38.9	14.5	48.2	16	47.3	15.3
2009										
Boys (N=476)	45.6	15.6	40.1	16.1	38.7	17.1	46.5	14.9	42.5	13.7
Girls (N=619)	50.4	16	41.3	15.8	38.2	16.3	49.2	16.4	44.2	13.7
2010										
Boys (N=594)	45.3	15.6	42.6	17.6	37.7	15.9	45.1	16.4	42.7	15.5
Girls (N=751)	48.8	16.4	43.9	16.7	37.5	15.1	48.5	16.2	44.4	14.6
2011										
Boys (N=507)	47.2	17.3	41.6	18.3	39	16.7	40.8	17.9	43	16.4
Girls (N=679)	50	17.6	41.7	17.4	36.9	15.1	42.2	17.7	44.3	16.1
2012										
Boys (N=80)	49.5	17	48	19.3	43.6	16.8	40.6	18.2	45.3	16.5
Girls (N=628)	52.1	18.3	45.9	17.7	40.3	16.3	41.5	18.2	45.4	17

Source: Field Survey, 2013

Table 2 sums up the achievement of male and female students in core five different subjects: Nepali, English, Math, Science and Social studies over the period of five years. The mean achievements of female students in Nepali in each year from 2008 to 2012 were slightly more than the achievements of male students of the corresponding each year. The achievements of male and female students in English were approximately equal in most of the years except in 2012. Similar pattern was in mathematics. However, the female students' achievements in mathematics were slightly less than that of male students in the later years (boys-39, girls-36.9 in 2011 and boys-43.6, girls-40.3 in 2012). Likewise, in Science, female students achieved better in almost all years than male students. In addition, similar pattern could be observed in the case of achievements in Social Studies. The trend shows that the achievements of female students in Nepali, Science, and Social Studies were better than male students in all the years. But, the average achievement scores of male students were better in Math in most of the years except 2008. It shows that there is gender gap in the achievement favoring girls. Girls out-performance over boys in schools was strongly connected to their overwhelmingly higher achievement at language subjects (Francis & Skelton, 2005), Science and Social Studies. This was in line with the feminist apprehension for their greater focus on girls' achievement raising the gender gap with boy's underachievement (Francis & Skelton, 2005). As argued by the feminist, male domination of the classroom leads to the under-achievement of girls, particularly in Math and Sciences (Acker, 1994 as cited in Wright, 2001).

Teacher's Gender and Performance of the Students

Table 3 presents the summary of t-test results on mean difference of the sex-wise academic performance of grade five students over 5 years when taught by female teacher. These mean differences of scores is sex specific of the teacher especially when taught by the female teachers.

Table 3
T-Test Results of Grade 5 Students When Taught by Female Teachers

Mean Differences of Achievement Scores of Grade 5 Boys and Girls in					
Year	Nepali	English	Math	Science	Social
2008	3.7**	-0.8	0.1	2.1*	1.4
2009	4.9**	2.4*	-0.4	3.0**	0.8
2010	3.6**	-1.1	1.6	3.7**	2.1*
2011	1.3	0.2	-1.4	0.8	1.5
2012	2.4*	-1.7	-3.0*	-1.3	0.8

Source: Field Survey, 2013

Here, in Nepali subject, the mean difference of the scores of girls is relatively more and highly significant ($p = .000$). It shows that there is a significant relationship between the scores of students in Nepali and the female teachers teaching the subject. It means in overall, female teachers can make difference to teach in Nepali subject. In English and Maths the mean difference is negative in three different years and not statistically significant. In science it is similar as in Nepali subject which demonstrates that female teachers' have positive impact in scores of students in science. Out of five major subjects, three subjects had no significant relationship and it implies that the presence of female teachers is not responsible to the improving of scores. Similarly to have the comparative analysis Table 4 presents the result of t-test with the male teachers' presence while teaching the same subject with same students.

Table 4
T-Test Results of Grade 5 Students When Taught by Male Teachers

Year	Mean Difference of Boy and Girl students in				
	Nepali	English	Math	Science	Social
2008	4.6**	-1.4	-1.7	-3.1	-0.5
2009	3.3*	-1.1	-0.2	1.6	5.1**
2010	3.5*	3.6*	-1.8	2.7	-1.1
2011	5.1**	0.4	-2.4	3.4	-0.5
2012	3.6	-1.6	-3.2*	2.7	-7.3

Source: Field Survey, 2013

Table 4 presents the similar result as in Table 3. Here, the significant relationship is clearly observed in Nepali subject whereas the rest of the four subjects have no significant result. However the negative mean difference implies that less performance by girls in the subjects taught by male teachers especially Maths and Social Science. Besides that if we analyze the p-value of the t-test in the table, we see that the scores are highly significant in Nepali subjects in most of the years than in other rest of the subjects.

Comparing the two results, it has been observed that the girl students' have scored better scores in Nepali when taught by both female and male teacher. In English there has been a mixed and result of the teacher's sex-wise influence. In Math, it shows that girls get low scores when taught by male teachers. There is a positive relation in Science

between female teacher and girls. In Social studies too, girls' academic achievement is better when taught by female teacher than by male teachers. Overall, we can draw the conclusion that female teachers can contribute significantly for the better academic achievement of girls in class 5. The above results indicate that the gender interactions between teachers and students have statistically significant effects on a diverse set of educational outcomes such as test scores. It indicates that opposite-gender teacher lowers the achievement of students.

Findings

Comparing the achievement of students' scores in different subjects from Basic and Primary Education Master Plan (BPEP) 1998 to Education and Development Service Center (EDSC) 2003, according to Khaniya (2007), there was not much improvement in the scores and the performance of the students. The average marks of the students are comparatively not so high (it ranges between 40 – 50 scores) and not satisfactory. In contrast to the findings of Khaniya, this study found that there was improvement in students' average scores from 2008 to 2012 A.D. The national assessment of learning achievement of grade 5 students, carried out by Department of Education (2008), had similar result to support my research finding. It found that girls outperformed boys when comparing the academic achievement of grade 5 students. The gender inequality that existed between boys' and girls' achievement has now seems to have reduced to some extent in terms of scoring marks in their final examination. These results believe the stereotypical belief that girls underachievement is not the burning issue in developing countries too. This was in line with the feminist apprehension for their greater focus on girls' achievement raising the gender gap with boy's underachievement (Francis & Skelton, 2005). But girls' lower achievement in Math in this study confirmed the stereotyped debate of underachievement of girl students in mathematics. The trend of academic achievement showed that girls were good in literary subjects than with numerical subjects.

Female teachers definitely contribute to the environment for better learning and increased level of learning among their female students. But this has not been proved statistically. The comparative result showing that there is not highly significant relationship in subjects taught by male or female teachers. In Nepali subject, there showed significant relationship in both cases as it was not the same in rest of the four

subjects. In public schools of Nepal, Nepali language is the medium of instruction and the scripts in other subjects excluding English is Nepali. So Nepali subject is the most comfortable subject for students in terms of their own daily used language. So irrespective of the gender of teacher, their scores showed the highly significant result. In other subjects, the cases were just the opposite. There was no significant result. This also implies that whatever subjects do male or female teachers teach, it had no specific impact of their gender on students. The finding of the result therefore confirms that the gender of a teacher has no impact on the student's scores. While the previous studies showed that there was positive relation between the gender of the teacher and scores, this study does not imply the similar result. There have been various reasons presented in earlier researches emphasizing for more female teachers in schools for better girl's education. This could be true to various narratives but this quantitative research does not confirm the exact and explicit reason that increasing of female teachers in school and indeed increase to the exam scores of female students statistically.

Conclusion

The study suggests for further researches to be carried out from the qualitative perspective and the impact of teacher's professional development with the scores of students. It shows that students do/do not get motivated to learn just from the gender of the teachers. If the scores of the students have to be improved then we need to look for other factors such as professional development of teacher. So the social, psychological and cultural aspects are also important for better learning of students than just the gender of the teacher simply. A female teacher may listen to the girls' problem in schools and be helpful towards them but if she is not professionally sound teacher, she may not help student in improving their scores in exams.

The gender roles may not be substantial for the achievement of students. The roles of male and female teachers particularly in teaching learning activities have been blurring in the later years. One of the key factors of such changing teachers' engagement (irrespective of the gender) with students is due to the fact that almost all teachers have been trained. They may have been developed awareness on non-discriminatory classroom practices in their professional milieu. On the other hand, the achievement of students is largely the matter of learning activities rather than gender issues. The meaningfulness of pedagogical practices that can link the context based actuality enhances the performance of students. Thus the gender of a teacher is very minimal in

influencing the learning abilities of children. Hence the quality education and girl's education can be promoted by recruiting qualified, dedicated, content sound, enthusiastic and pedagogically innovative teacher than just prioritizing females for the sake of fulfilling the quota.

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