
Does teacher's disability matter? A case from students' preference decision between teachers with and without visual impairments teaching in Nepal's regular mainstream schools

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Abstract: Utilising the unique dataset of teachers with or without visual impairments and students in Nepal's mainstream schools, we estimate students teacher preference decision. Results show significant difference on visually impaired teachers based upon whether students have opportunity to interact with disabled friends at schools or in communities. Additionally, longer the period of students to learn with blind teachers, greater the likelihood of increasing their preference decision: it is possible that this finding has causal effect. Our findings suggest that inclusion and visibility of disability in communities helps reduce discrimination and increase positive attitude on disability.

Keywords: blind and visual impairments; disability; discrimination; education policy; employment; gender; inclusive education; mainstream school; Nepal; preference decision; students; teachers.

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1 Introduction

Inclusive education and labour market participation of people with disabilities (PwDs) is one of the effective strategies to reduce discrimination and to achieve their social inclusion as well as economic independence. However, PwDs still face challenges in access to education and jobs in developing countries despite them representing the 15% of the world's population globally (WHO, 2011). Amongst them, 80% are likely to live in low and middle income countries (ILO, 2007).

On the other hand, right to education and employment for PwDs is enshrined, respectively, in Article 24 and 27 of the United Nations convention on the rights of persons with disabilities (UNCRPD). Article 27 further emphasises the opportunity to gain a living by work freely chosen or accepted in a labour market and work environment that is open, inclusive and accessible to PwDs (UN, 2006). However, in most countries, these provisions are yet to be implemented. Thus, the employment of PwDs in formal sectors in developing countries still remains largely untapped (Lamichhane, 2015b). Perceived productivity differential between PwDs and people without disabilities, labour market imperfections related to discrimination and prejudice and perverse disincentives arising from disability benefits are some of the factors affecting negatively their labour market participation (Lamichhane, 2015b). Additionally, discrimination towards PwDs is widespread and views on disability are often inflected by religious teachings which regard it as a punishment for the prior misdeeds of the parents. For example in Nepal, more than one-third of their respondents misperceived disability as the result of various supernatural factors such as fate, punishment of the gods, evil eye curses or punishment for parents' sins (NPC/UNICEF, 2001). Almost similar cases for some developing countries were reported by Yeo and Moore (2003) stating that disability is considered to be associated with evil, witchcraft, bad omens or infidelity. Whilst reasons behind the

lower level of access to education and labour markets amongst them are multiple, lack of affirmative action can be regarded one of the serious issues for combating disability-based discrimination and promoting inclusion and full participation of them in the society.

As a part of promoting inclusion and increasing their labour market participation, government of Nepal has been providing opportunities to individuals with visual impairments for teaching jobs in regular mainstream schools, that is, in schools which serve mainly students without disabilities (Lamichhane, 2012, 2015a). Compared to other developed countries, Nepal is still lagging behind towards achieving the quality of life of PwDs. Low level of access to education and labour market are still a great challenge. In this sense, teaching by individuals with visual impairments in local mainstream schools in Nepal can be regarded as an unprecedented and remarkable change, given the circumstances that disability-based discrimination especially in developing countries is still a major challenge (Lamichhane, 2015a).

Therefore, it is important to study this affirmative labour and education policy of Nepal that enables individuals with visual impairments to involve in teaching jobs. As a preliminary attempt to study this affirmative policy, in this paper, we examine students' preference decision between two groups of teachers: teachers with and without visual impairments who teach in the same mainstream schools. In this study, we define students' preference as the degree to which a student likes a specific group of teachers in this case either teachers with or without visual impairments.

When PwDs suffer with attitudinal discrimination in societies, examining students' preference decision over two groups of teachers helps us understand if inclusion and visibility of disability in schools and communities can help reduce discrimination on disability.

The central research question posed in this paper thus is empirical: can inclusion and familiarity with PwDs reduce discrimination against PwDs? To answer this question, we examine the socio-economic background of both students and teachers on students' preference decision. By this study, it is the author's intention to first bring Nepal's affirmative policy of making teaching jobs inclusive to individuals with visual impairments in regular mainstream schools into the global attention and second to assist policy makers, governments and development agencies to further expand such policies in other sectors of jobs.

There are two novelties in this study. To begin with, the first author has collected unique data from nearly 3000 students and more than 120 teachers of seven different schools in four districts of Nepal: Chitwan, Kashki, Palpa and Kapilbastu, using carefully structured questionnaires. The size and coverage of this survey are large in Nepal, where only few studies on disability issues are available. Second, the topic of the study itself is new and not researched both in developed and developing countries. So, we intend to address very important policy issue that can at least partially contribute in the existing knowledge on the importance of making teaching and learning inclusive and accessible to PwDs. The structure of the paper is as follows: Section 1.2 presents literature review and study context; Section 2 explains the dataset from Nepal; Section 3 describes the empirical strategy; in Section 4, results and findings are presented; the last section presents concluding remarks.

1.2 Study context and literature on students' preference of teachers

In Nepal, before 1964, people with visual impairments had no real access to education, as there were no schools either in special or inclusive settings that could accommodate their individual needs. In 1964, however, education for persons with visual impairments was formally begun in an inclusive setting in the Laboratory School in Kathmandu. Three years later, the first special school for persons with hearing impairments was also established in Kathmandu (UNICEF, 2003). Similarly, special schools for persons with intellectual impairments were established in the 1960s.

There are three educational options for persons with disabilities in Nepal: inclusive schools which are used to be called as integrated schools, special schools and local schools. Integrated schools are nowadays referred as inclusive schools, which has been offering education for children with visual impairments since the time their education formally started in 1964. Inclusive schools, equipped with separate resource classes with specialised teachers to prepare students with disabilities for the placement in mainstream classes, are able to offer specific resources and facilities to their disabled students. Special schools are basically for students who are deaf and hard of hearing and who are with severe intellectual disabilities that have appropriate equipment and training to match the students' educational needs. Local mainstream schools are facilities that offer no special resources or support for students with disabilities. Even though education of children with visual impairments are provided in inclusive educational setting, such schools are not available locally. In other words, there are certain designated inclusive education offering schools, where these students have to enrol.

As people with visual impairments from the beginning have been studying with their non-disabled peers in an inclusive educational setting, their desire to teach in regular mainstream schools in line with people without disabilities can be considered natural. However, until 1989, they were not allowed to teach in regular mainstream schools. As a result, they launched a demonstration after the restoration of democracy in 1989 demanding that they be provided teaching jobs in mainstream schools claiming that they obtained same credentials equivalent to their non-disabled counterparts (Lamichhane, 2012). Due to the political activism on the part of these people, government of Nepal for the first time implemented a pilot project by allowing 21 quotas for those with visual impairments. (Lamichhane, 2012). Since then, teaching in mainstream schools has been the major source of employment of educated visually impaired individuals. At present, nationwide nearly 400 individuals are reported to teach in mainstream schools (Lamichhane, 2015a). Similarly, in the second amendment of Civil Service Act 1993 in 2007 (GON, 2007), the government implemented a reservation quota system for people who are marginalised, including those with disabilities. The provision set in this amended act ensures that 45% quotas are reserved for people who are marginalised. According to the provision in this act, the reserved 45% quotas are converted into 100%, and 5% from this 100% is allocated for PwDs. This recent legal provision of reservation system is a significant accomplishment and can be regarded as an affirmative action taken by the government of Nepal to increase the access to public services by qualified individuals who are marginalised including those with disabilities (Lamichhane, 2015b). Because of this newly set legal provision, it is expected that the labour supply of individuals with visual impairments as a teacher in mainstream schools will further increase.

As to the related literature is concerned, not on disability but in general, there have been some studies on students' preference of teachers and vice versa. For example, a

study by Hull and Hull (1988) analysed students' preference between male and female teachers and found that students generally preferred female teachers based on the supportive style and material provided to them. Similarly, Feldman (1992, 1993) found that sex of teachers sometimes matters for students' preference of teachers. Additionally, there are some research on the effectiveness of minority teachers in educating minority students (Falch et al., 2005).

In contrast to the numerous studies on students' preference over teachers in general, to the authors' best knowledge, there is no study examining students' preference on teachers with and without visual impairments who teach in the same mainstream schools. The only descriptive study we found on teachers with visual impairments (TVIs) is Lamichhane (2015a). With the interviews of teachers and school principals as well as students' information in Nepal, in his study, Lamichhane explored the strengths and challenges of these teachers whilst teaching students without disabilities in mainstream schools. His study found that TVIs tend not to teach subjects such as science and mathematics that require frequent use of a black or white board or illustrations of formulas. Additionally, compared to teachers without visual impairments (non-TVIs), his study reported positive attitudes and good communication skills as well as giving more social and moral lessons as particular strengths of TVIs. However, the same study also found that due to the lack of an adequate support system, educational materials and resources in schools, these teachers faced challenges in lesson preparation, marking students' examination papers or teaching picture-based contents.

One of the possible reasons why studies on students' preference decision on TVIs are not available might be attributed to the lack of dataset given the fact that countries providing opportunity for them to teach in regular mainstream schools are rare. The global historical trend of TVIs is primarily to teach students with visual impairments mainly in special schools for blind and visually impaired. However, as stated earlier, teaching students without disabilities in mainstream schools by this group is common in Nepal. They were found basically teaching subjects such as social studies, history, Nepali language, population and environmental sciences (Lamichhane, 2015a).

2 Dataset from Nepal

Students and teachers in seven mainstream schools from grade 6 to 9 were the participants for the survey. These schools from the four different districts of Nepal: Chitwan, Kapilbastu, Palpa and Kashki districts represent the central and western part of the country. At the time of implementing the survey, the size of the students in these schools was ranged from 1200 to 1500. All of these schools were major schools in the respective districts and had been providing teaching opportunity for individuals with visual impairments. In these schools, 15 individuals with visual impairments were teaching. Also, all these teachers were Braille users. The first author administered structured questionnaires to all students from grade 6 to 9 as these teachers were mostly teaching in these grades. Total students surveyed were 3022.

Additionally, teachers were also surveyed with the structured questionnaires. The survey was conducted in six-week sessions from January to February of 2011. The survey covers a wide variety of socio-economic information including students' demographic characteristics, educational background and information on parents together with the

hypothetical question on their preference decision whether to choose TVIs or non-TVIs next year, given the condition that the content of the classes will be same.

All required procedures were completed from the University of Tokyo before administering the survey. The study was carried out with informed consent from the participants, who were aware that they could withdraw from the study at any time, during or after, without incurring any personal consequences. Before administering the surveys to the students and teachers, a requesting letter from the Graduate School of Economics of the University of Tokyo was submitted to each school administrations for their approval of surveys.

3 Empirical strategy

3.1. Operationalisation of main concept

In these schools, students are assigned into different sections of the same grades through their annual test scores. In each grades of these schools, there were two sections, A and B. Students who get odd number of places, i.e. with the 1st, 3rd, 5th, 7th ... roll numbers are assigned to one section and the remaining students are assigned to the other. This is for mixing both talented and average students in both sections. The class reassignment occurs annually before the start of academic year. Since students cannot manipulate their test scores and thus cannot decide in which section to be enrolled and which teacher's class for example TVIs or non-TVIs to be taken, it can be said that students' assignment into different sections is random and occurs exogenously. This was the system of assigning students into different sections in these schools. Additionally, if same subjects were taught by TVIs in one and non-TVIs in other section of the same grade, students were administered the same questions in the exams, jointly prepared by both groups of teachers. So, regardless of which teacher teaches, students have to follow the same trend of teaching. The first author verified these issues through school principals before the survey implementation.

Based on the aforementioned background, a hypothetical and subjective question was included in the survey to reveal students' preferences whether to take classes taught by TVIs or non-TVIs next year, given the condition that the contents of the classes will be exactly same no matter which teacher they would prefer. They were given three choices: taking classes taught by TVIs; taking classes taught by non-TVIs and do not care which teacher teaches. So, the responses are operationalised as multinomial and it takes three values.

3.2. Specification of the variables

We basically focus on three factors to investigate the correlation between inclusion and teacher preference. First factor is inclusive environment denoting that a student sees PwDs at his/her house or neighbourhood. Second factor is inclusive education denoting that a student has been learning at the inclusive class and third factor is experience of learning with TVIs.

In order to specify the inclusive environment, we construct three variables: $Home_i$, which takes the value of one if i th respondent has PwDs at family or community and zero otherwise; $Family_i$, which takes the value of one if i th respondent has PwDs at family and zero otherwise; $Community_i$, which takes the value of one if i th respondent has PwDs at community and zero otherwise. Likewise, to specify the inclusive education, we also construct three variables: $Classmate_i$, which takes the value of one, if i th respondent has any interaction with classmate who has disabilities and zero otherwise; $Spoken_i$, which takes the value of one, if i th respondent has spoken with classmate who has disabilities and zero otherwise; $Friend_i$, which takes the value of one, if i th respondent has friends who has disabilities and zero otherwise. Moreover, in order to specify experience of learning with TVIs, we construct two variables: $WithTVIs_i$, which takes the value of one, if i th respondent has learned with TVIs and zero otherwise and $YearTVIs_i$, which is the number of total years i th respondent learned with TVIs.

Table 1 shows the descriptive statistics of the dependent variable used in the study. Columns 1, 2 and 3, respectively, show the results for male, female and full samples. Majority of students (83.8%) were indifferent between choosing TVIs or non-TVIs, whereas 7.4 and 8.1%, respectively, chose TVIs and non-TVIs. As stated by Lamichhane (2015a), reasons why students choose TVIs might be connected to explaining more, doing more interaction in the classroom and adopting different techniques on the part of these teachers, whereas non-TVIs in occasions simply write on the board. On the other hand, vast majority of the students being indifferent on their preference decision indicates the likelihood of them being more concerned on their educational utility than teachers' physical conditions. In other words, students being indifferent over both groups of teachers is the reflection of their evaluation, which may indicate that for qualified individuals, their impairment does not hinder them to enter teaching jobs.

Table 1 Descriptive statistics for dependent variable

<i>Variable</i>	<i>Male</i> (<i>N</i> = 1046)	<i>Female</i> (<i>N</i> = 1399)	<i>Full</i> (<i>N</i> = 2445)
Dependent variable			
Choice of teacher			
0: Indifferent between TVIs vs. non-TVIs	0.819 (0.385)	0.853 (0.354)	0.838 (0.368)
1: Prefer TVIs	0.0717 (0.258)	0.0765 (0.266)	0.0744 (0.263)
2: Prefer Non-TVIs	0.109 (0.312)	0.0708 (0.257)	0.0871 (0.282)
<i>N</i>	1046	1399	2445

Table 2 shows the results for the independent variables. Columns 1, 2, 3 and 4, respectively, show the results for respondents being in-different, prefer TVIs, prefer non-TVIs and results for full samples. The results for other variables are shown in Appendix Table 1. With regard to the disability-specific variables, mean value of having PwDs at family or community was 56.7% in Column (4) suggesting that more than half of

students have PwDs at family or neighbourhood. Likewise, respectively, the mean value of respondents' interaction with classmate who has disabilities, respondents who have ever spoken with classmate with disabilities and respondents who have friend with disabilities was 86.8, 78.9 and 44.9%. Additionally, mean value of student who has been learning with TVIs was about 9%. Regarding the individual characteristics, mean value of student who has any disabilities was about 7% and female respondents was about 57% (see Column 4).

Table 2 Descriptive statistics for key variables

Variable	(1)	(2)	(3)	(4)
	<i>Indifferent between TVIs vs. Non-TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>	<i>Full sample</i>
	($y = 0$)	($y = 1$)	($y = 2$)	
<i>Disability specific variables</i>				
Having PwDs at family or community	0.560 (0.497)	0.665 (0.473)	0.549 (0.499)	0.567 (0.496)
In family	0.210 (0.408)	0.308 (0.463)	0.268 (0.444)	0.222 (0.416)
In community	0.469 (0.499)	0.560 (0.498)	0.413 (0.494)	0.471 (0.499)
Interaction with classmate with disability	0.874 (0.332)	0.885 (0.320)	0.798 (0.402)	0.868 (0.339)
Has spoken with classmate with disability	0.794 (0.405)	0.819 (0.386)	0.714 (0.453)	0.789 (0.408)
Has friend who has disability	0.455 (0.498)	0.407 (0.493)	0.427 (0.496)	0.449 (0.497)
Has been learning with TVIs	0.907 (0.290)	0.912 (0.284)	0.817 (0.388)	0.900 (0.300)
Total years of learning with TVIs	1.593 (1.191)	1.582 (1.231)	1.230 (1.209)	1.561 (1.200)
<i>Individual characteristics</i>				
Respondent has any disabilities	0.0693 (0.254)	0.0989 (0.299)	0.0423 (0.202)	0.0691 (0.254)
Respondent is female	0.582 (0.493)	0.588 (0.494)	0.468 (0.500)	0.572 (0.495)
<i>Teacher characteristics</i>				
Age of TVIs	32.66 (5.058)	33.14 (5.065)	29.64 (4.902)	32.43 (5.118)
Age of Non-TVIs	38.66 (11.63)	37.35 (12.13)	41.54 (12.43)	38.81 (11.77)

Table 2 Descriptive statistics for key variables (continued)

Variable	(1)	(2)	(3)	(4)
	<i>Indifferent between TVIs vs. Non-TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>	<i>Full sample</i>
	($y = 0$)	($y = 1$)	($y = 2$)	
Years of schooling of TVIs	15.37 (1.933)	15.56 (1.861)	14.30 (2.260)	15.29 (1.982)
Years of schooling of Non-TVIs	14.80 (2.234)	14.92 (2.268)	14.70 (2.322)	14.80 (2.243)
Teaching years of TVIs	7.171 (5.434)	7.676 (5.753)	5.141 (5.191)	7.032 (5.468)
Teaching years of Non-TVIs	16.34 (11.76)	15.46 (11.61)	20.01 (13.57)	16.59 (11.97)
Training of TVIs	0.235 (0.424)	0.247 (0.433)	0.244 (0.431)	0.237 (0.425)
Training of Non-TVIs	0.379 (0.485)	0.418 (0.495)	0.329 (0.471)	0.377 (0.485)
Salary of TVIs	12.56 (2.378)	12.73 (2.401)	11.77 (2.360)	12.50 (2.389)
Salary of Non-TVIs	11.69 (2.377)	11.70 (2.467)	12.04 (2.237)	11.72 (2.373)
<i>N</i>	2050	182	213	2445

Note: Standard deviation in parenthesis. Results of other variables are shown in Appendix Table 1.

Likewise, Column 4 shows that the average age of TVI (32.43) is lower than their counterparts (38.81) but compared to the age of non-TVIs who are preferred by students, the age of TVIs is higher by 4 years (see Columns 2 and 3). Moreover, average years of schooling of TVIs were slightly higher (15.29 years) than that of their counterparts (14.80 years). However, in terms of teaching experiences, non-TVIs were in dominating position with 16.59 years of average teaching which was only 7.032 years for TVIs (see Column 4). This gap can be explained by the fact that teaching by individuals with visual impairments in local mainstream schools in Nepal was possible only after 1990. Furthermore, the data revealed that 37.7% of non-TVIs received at least one training, whilst that percentage is again decreased for TVIs by 14 percentage points.

3.3. Estimation model

The correlations of the inclusion on teacher preference are analysed using multinomial logistic regression. The base outcome is "Indifferent between TVIs vs. Non-TVIs" ($y = 0$). The estimation models are as follows:

$$y_i = \alpha + \beta_1 Home_i + \beta_2 Classmate_i + \beta_3 WithTVIs_i + \gamma_1 X_i + \varepsilon_i, \quad (1)$$

$$y_i = \alpha + \beta_4 \text{Family}_i + \beta_5 \text{Community}_i + \beta_6 \text{Spoken}_i + \beta_7 \text{Friend}_i + \beta_8 \text{YearTVIs}_i + \gamma_2 X_i + \varepsilon_i \quad (2)$$

where subscript i indicates respondent student. y_i is the teacher preference choice, X_i is a vector of teacher characteristics (Age of TVI, Age of non-TVIs, Years of schooling of TVIs, Years of schooling of non-TVIs, Teaching years of TVIs, Teaching years of non-TVIs, Training of TVIs, Training of non-TVIs, Salary of TVIs, Salary of non-TVIs) and Individual/household characteristics (female dummy, disability dummy, years of schooling of father, years of schooling of mother, father's white collar job dummy, mother's white collar job dummy, family size, poor dummy). $\beta_1 \dots \beta_8$ and γ are parameters to be estimated. ε_i is an error term.

4 Results and findings

Results for the estimation Model 1 are presented in Table 3. In Columns 1 and 5, we can observe that the coefficients for having PwDs at family or community are positively significant, suggesting that students having members with disabilities at his/her family or community are more likely to choose visually impaired teachers, and these coefficients are stronger especially for female students. This finding supports that higher preference over TVIs might be an antecedent to peer effect of disability. The presence of disability at home or in the community as well as in school as peer may influence students' preference over TVIs. This is consistent with the hypothesis that being familiar on disability issues through the opportunity to study or work together increases the greater understanding of disability.

Table 3 Marginal effects on students' preference decision (Model 1)

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Full</i>		<i>Male</i>		<i>Female</i>	
	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>
	($y = 1$)	($y = 2$)	($y = 1$)	($y = 2$)	($y = 1$)	($y = 2$)
Having PwDs at family or community	0.029** [0.012]	0.004 [0.012]	-0.002 [0.017]	0.007 [0.020]	0.049*** [0.016]	0.004 [0.014]
Interaction to classmate with disability	-0.001 [0.018]	-0.048*** [0.016]	-0.020 [0.026]	-0.055** [0.027]	0.013 [0.023]	-0.043** [0.018]
Has been learning with TVIs	0.015 [0.021]	-0.040** [0.016]	0.023 [0.027]	-0.021 [0.028]	0.006 [0.027]	-0.045** [0.020]
Respondent has disability	0.015 [0.019]	-0.040 [0.027]	0.030 [0.027]	-0.041 [0.040]	0.007 [0.026]	-0.045 [0.040]
Respondent is female	0.003 [0.010]	-0.034*** [0.011]	-	-	-	-
Age of TVIs	0.003 [0.002]	-0.010*** [0.002]	0.002 [0.003]	-0.015*** [0.004]	0.005 [0.004]	-0.006** [0.003]

Table 3 Marginal effects on students' preference decision (Model 1) (continued)

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Full</i>		<i>Male</i>		<i>Female</i>	
	<i>Prefer TVIs</i>	<i>Prefer Non- TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>
	(<i>y</i> = 1)	(<i>y</i> = 2)	(<i>y</i> = 1)	(<i>y</i> = 2)	(<i>y</i> = 1)	(<i>y</i> = 2)
Age of Non-TVIs	−0.003** [0.002]	−0.001 [0.002]	−0.004* [0.002]	−0.004 [0.004]	−0.002 [0.002]	0.001 [0.002]
Years of schooling of TVIs	0.002 [0.008]	−0.011 [0.007]	0.016 [0.011]	−0.030** [0.013]	−0.021 [0.014]	0.003 [0.009]
Years of schooling of Non-TVIs	0.002 [0.003]	−0.000 [0.003]	0.001 [0.005]	−0.001 [0.005]	0.005 [0.005]	0.002 [0.004]
Teaching years of TVIs	−0.000 [0.002]	0.002 [0.002]	−0.004* [0.003]	0.008** [0.004]	0.005* [0.003]	−0.002 [0.002]
Teaching years of Non-TVIs	0.002 [0.002]	0.002 [0.002]	0.005* [0.002]	0.005 [0.004]	−0.003 [0.002]	0.001 [0.002]
Training of TVIs	0.012 [0.024]	−0.013 [0.022]	0.036 [0.030]	−0.046 [0.041]	−0.015 [0.033]	0.003 [0.024]
Training of Non-TVIs	0.016 [0.014]	0.003 [0.016]	−0.027 [0.022]	0.001 [0.029]	0.048** [0.020]	0.009 [0.018]
Salary of TVIs	−0.006 [0.006]	0.010 [0.006]	−0.012 [0.007]	0.028** [0.011]	0.006 [0.009]	−0.002 [0.007]
Salary of Non-TVIs	0.002 [0.004]	−0.002 [0.004]	0.005 [0.006]	0.003 [0.006]	0.001 [0.006]	−0.004 [0.004]
Family member size	0.001 [0.003]	0.004* [0.003]	−0.006 [0.004]	0.011*** [0.004]	0.005 [0.004]	−0.001 [0.004]
Poor	0.023* [0.013]	−0.007 [0.014]	−0.000 [0.018]	−0.018 [0.023]	0.044** [0.019]	0.002 [0.018]
Years of schooling of father	−0.003* [0.001]	−0.002 [0.002]	−0.001 [0.002]	−0.002 [0.003]	−0.004* [0.002]	−0.002 [0.002]
Years of schooling of mother	0.002 [0.002]	0.002 [0.002]	0.000 [0.002]	−0.000 [0.003]	0.003 [0.002]	0.002 [0.002]
Father's white job	−0.022 [0.022]	0.021 [0.023]	−0.030 [0.035]	−0.015 [0.041]	−0.007 [0.027]	0.045 [0.028]
Mother's white job	0.057** [0.027]	−0.006 [0.041]	0.066* [0.039]	0.010 [0.067]	0.052 [0.035]	−0.036 [0.049]
Number of observations	2445		1046		1399	
Pseudo R-squared	0.058		0.080		0.081	

***, ** and * mean significant level at 1, 5 and 10%.

Note: Robust standard errors in brackets.

Additionally, as shown in Columns 1 and 5, students from poor groups are statistically significant to prefer TVIs. This finding is also consistent with the casual observation that people facing discrimination and possible exclusion from the mainstream of development perceive positively the other groups who are also considered facing similar pattern of discriminatory behaviour in society. Also in Columns 1 and 5, the results further indicate that those respondents whose mother does a white-collar job are statistically significant to choose these teachers, suggesting that the example set by women's empowerment and success in work environment can enable their family members towards greater acceptance of diversity. When women, who are believed to face discrimination compared to their male counterparts, are empowered and engaged in jobs, they may educate their children not to be discriminatory to others.

In the case of preference decision over non-TVIs ($\gamma = 2$), the coefficients for interaction with classmate with disabilities are negatively significant (see Columns 2, 4 and 6) and are 0.043 and to 0.055 for females and males, respectively. Complimenting this finding, students having interaction with friends with disabilities and the students who have been learning with TVIs are also negative to prefer the class of non-TVIs.

Additionally, whilst male students from larger household size are more likely to choose non-TVIs, same is not the case for female students. This is an interesting finding, suggesting that the impact of empowerment of male and female appears to be opposite with regard to the preference decision. This might reflect the possibility of males being prejudiced over PwDs compared to their women counterparts.

In order to further specify the effects of inclusion, we show the results for Model 2 in Table 4. As observed in Model 1 Table 3, we find similar correlation between preference for TVIs and having PwDs in community. However, we obtain slightly different but interesting results for interaction with PwDs at family. For the preference of both TVIs and non-TVIs, the coefficients for having PwDs at family are positively significant. These findings indicate some possibilities of differences in perceiving the role of PwDs within and outside the family. If a person lives in a family with a disabled member and PwDs are not encountered in the community, then it is easy for misperceptions, stigma and even fear of PwDs to develop. Therefore, it is not surprising that when such people have more encounters with PwDs that these negative attitudes dissipate as they get a clearer understanding of the humanity and capabilities of disabled people. So students from such families are more likely to prefer a TVI when PwDs are included in their communities. However, if a child comes from a family with a disabled member, the impact of that on their preference for a TVI or non-TVIs is more complicated. On the one hand, greater familiarity would make it more likely for them to prefer a TVI. However, it could be that added responsibilities in the home (e.g. having to care for a disabled grandparent) or the shift of attention and resources to a disabled sibling (Meyer, 2009) might lead children to want to take a break from issues they are dealing with on a daily basis at home. So it is not surprising that they have strong feelings one way or the other (for or against a TVI or a non-TVIs) and are less likely to be indifferent.

Table 4 Marginal effects on students' preference decision (Model 2)

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Full</i>		<i>Male</i>		<i>Female</i>	
	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>
	(<i>y</i> = 1)	(<i>y</i> = 2)	(<i>y</i> = 1)	(<i>y</i> = 2)	(<i>y</i> = 1)	(<i>y</i> = 2)
Having PwDs at family	0.028** [0.012]	0.033** [0.014]	0.029 [0.018]	0.009 [0.025]	0.027* [0.016]	0.049*** [0.015]
Having PwDs at community	0.024** [0.011]	-0.013 [0.012]	-0.009 [0.016]	0.017 [0.020]	0.044*** [0.015]	-0.036** [0.015]
Has spoken with PwDs in classroom	0.001 [0.014]	-0.029** [0.014]	-0.015 [0.020]	-0.051** [0.024]	0.012 [0.020]	-0.014 [0.016]
Has Friend with disability	-0.019 [0.014]	-0.018 [0.013]	-0.009 [0.020]	-0.021 [0.022]	-0.027 [0.018]	-0.017 [0.016]
Years of learning with TVIs	0.001 [0.005]	-0.016* [0.008]	0.004 [0.007]	-0.011 [0.013]	-0.001 [0.008]	-0.017 [0.010]
Respondent has disability	0.010 [0.018]	-0.045 [0.028]	0.019 [0.026]	-0.035 [0.041]	0.005 [0.026]	-0.058 [0.042]
Respondent is female	0.002 [0.011]	-0.036*** [0.011]	-	-	-	-
Age of TVIs	0.002 [0.002]	-0.010*** [0.002]	0.003 [0.003]	-0.016*** [0.004]	0.002 [0.004]	-0.005* [0.003]
Age of Non-TVIs	-0.004** [0.002]	-0.002 [0.002]	-0.004 [0.002]	-0.005 [0.004]	-0.002 [0.003]	-0.001 [0.002]
Years of schooling of TVIs	0.004 [0.008]	-0.008 [0.008]	0.017 [0.012]	-0.027** [0.013]	-0.017 [0.014]	0.006 [0.009]
Years of schooling of Non-TVIs	0.002 [0.003]	0.000 [0.003]	0.001 [0.005]	-0.001 [0.005]	0.004 [0.004]	0.003 [0.004]
Teaching years of TVIs	0.000 [0.002]	0.003 [0.002]	-0.005* [0.003]	0.009** [0.004]	0.006** [0.003]	-0.002 [0.003]
Teaching years of Non-TVIs	0.002 [0.002]	0.003 [0.002]	0.005* [0.003]	0.005 [0.004]	-0.002 [0.002]	0.003 [0.002]
Training of TVIs	0.019 [0.024]	-0.006 [0.024]	0.046 [0.032]	-0.039 [0.045]	-0.016 [0.032]	0.010 [0.026]
Training of Non-TVIs	0.012 [0.014]	0.005 [0.017]	-0.030 [0.023]	0.003 [0.030]	0.041* [0.021]	0.013 [0.019]
Salary of TVIs	-0.009 [0.006]	0.005 [0.007]	-0.014* [0.008]	0.025** [0.012]	0.003 [0.009]	-0.008 [0.008]

Table 4 Marginal effects on students' preference decision (Model 2) (continued)

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Full</i>		<i>Male</i>		<i>Female</i>	
	<i>Prefer TVIs</i>	<i>Prefer Non- TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>
	(<i>y</i> = 1)	(<i>y</i> = 2)	(<i>y</i> = 1)	(<i>y</i> = 2)	(<i>y</i> = 1)	(<i>y</i> = 2)
Salary of Non-TVIs	0.001 [0.004]	−0.001 [0.004]	0.004 [0.006]	0.004 [0.006]	−0.000 [0.006]	−0.004 [0.004]
Family member size	0.001 [0.003]	0.004 [0.003]	−0.006 [0.004]	0.011*** [0.004]	0.005 [0.004]	−0.002 [0.003]
Poor	0.022* [0.013]	−0.010 [0.014]	−0.003 [0.019]	−0.020 [0.022]	0.044** [0.019]	0.004 [0.017]
Years of schooling of father	−0.003* [0.001]	−0.003 [0.002]	−0.001 [0.002]	−0.002 [0.002]	−0.003 [0.002]	−0.003 [0.002]
Years of schooling of mother	0.002 [0.002]	0.002 [0.002]	0.001 [0.003]	0.000 [0.003]	0.003 [0.002]	0.003 [0.002]
Father's white job	−0.020 [0.022]	0.025 [0.022]	−0.031 [0.035]	−0.013 [0.040]	−0.008 [0.027]	0.049* [0.028]
Mother's white job	0.058** [0.027]	−0.007 [0.041]	0.067* [0.038]	0.004 [0.070]	0.052 [0.035]	−0.034 [0.048]
Number of observations	2445		1046		1399	
Pseudo R-squared	0.064		0.085		0.094	

***, ** and * mean significant level at 1, 5 and 10%.

Note: Robust standard errors in brackets.

Table 5 Marginal effects on students' preference decision using fixed effects (Model 1)

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Full</i>		<i>Male</i>		<i>Female</i>	
	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non-TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non- TVIs</i>
	(<i>y</i> = 1)	(<i>y</i> = 2)	(<i>y</i> = 1)	(<i>y</i> = 2)	(<i>y</i> = 1)	(<i>y</i> = 2)
<i>Panel A: School fixed effect</i>						
Having PwDs at family or community	0.027** [0.012]	0.002 [0.012]	−0.002 [0.017]	0.001 [0.020]	0.046*** [0.016]	0.003 [0.014]
Interaction to classmate with disability	0.009 [0.018]	−0.044*** [0.016]	−0.018 [0.027]	−0.055** [0.027]	0.027 [0.023]	−0.044** [0.020]
Has been learning with TVIs	0.019 [0.020]	−0.034* [0.018]	0.026 [0.028]	−0.003 [0.030]	0.012 [0.027]	−0.056*** [0.021]
Pseudo R-squared	0.072		0.102		0.104	

Table 5 Marginal effects on students' preference decision using fixed effects (Model 1) (continued)

	(1)	(2)	(3)	(4)	(5)	(6)
	Full		Male		Female	
	Prefer TVIs	Prefer Non-TVIs	Prefer TVIs	Prefer Non-TVIs	Prefer TVIs	Prefer Non-TVIs
	(y = 1)	(y = 2)	(y = 1)	(y = 2)	(y = 1)	(y = 2)
Panel B: Grade fixed effect						
Having PwDs at family or community	0.030** [0.012]	0.004 [0.012]	−0.001 [0.017]	0.009 [0.020]	0.051*** [0.016]	0.003 [0.014]
Interaction to classmate with disability	0.000 [0.017]	−0.046*** [0.015]	−0.021 [0.027]	−0.053* [0.028]	0.012 [0.023]	−0.045** [0.019]
Has been learning with TVIs	0.017 [0.021]	−0.036** [0.016]	0.024 [0.028]	−0.017 [0.028]	0.014 [0.027]	−0.043** [0.019]
Pseudo R-squared	0.072		0.101		0.107	
Panel C: Section fixed effect						
Having PwDs at family or community	0.028** [0.012]	0.002 [0.012]	−0.002 [0.017]	0.003 [0.020]	0.048*** [0.016]	0.003 [0.014]
Interaction to classmate with disability	0.008 [0.018]	−0.044*** [0.016]	−0.017 [0.027]	−0.054** [0.027]	0.025 [0.023]	−0.044** [0.020]
Has been learning with TVIs	0.020 [0.020]	−0.032* [0.017]	0.025 [0.028]	−0.001 [0.030]	0.016 [0.027]	−0.051** [0.021]
Pseudo R-squared	0.077		0.110		0.117	
Number of observations	2445		1046		1399	

***, ** and * mean significant level at 1, 5 and 10%.

Note: Robust standard errors in brackets. All equation include Age of TVIs / Non-TVIs, Years of schooling of TVIs/Non-TVIs, Teaching years of TVIs/non-TVIs, Training of TVIs/Non-TVIs, Salary of TVIs/Non-TVIs, family member size, poor, years of schooling of father, years of schooling of mother, father's white color job. In order to test the robustness of the main results (Tables 3 and 4), all equation also include high-caste, rural, ethnicity dummies, religion fixed effects. Estimation results for above equations using grade fixed effects is showed in Panel A, the ones using section fixed effects is in Panel B and the ones using school fixed effects is in Panel C.

Furthermore, there is an opposite correlation between the preference for non-TVIs and students having opportunity to speak with PwDs in classroom. We observe similar tendency in the results for Model 1 (see Columns 2, 4 and 6 in Table 3). Moreover, in Column (2), the coefficients for years of learning with TVIs is negatively significant at 10% significance level suggesting that student's experience of learning with TVIs increases the probability of preference for TVIs. This is a causal effect rather than a correlation, since the variable is affected from the classification that is randomised and not inverse causality (see Section 3.1).

From these results, we can suggest three implications. First, we can observe the correlation between student's home environment to the preference decision over teachers. Furthermore, our findings suggest that there exists difference between the roles of PwDs at family and community as visibility of disability in communities seems increasing students' preference over TVIs. Second, we also find the correlation between inclusive education and teacher preference: especially the opportunity to speak with classmate with disabilities is associated to their preference decisions. Third, longer the period of students to learn with TVIs greater the likelihood of increasing their preference over TVIs. As mentioned earlier, it is possible that this finding has causality as the relationship has a clear causal direction of years of learning with TVIs to preference. This finding denotes that learning with TVIs affects student's consciousness of interaction with adults with disabilities.

4.2. Robustness check

In order to test the robustness of our results, we test two methods. First, we estimate the Models 1 and 2 using fixed effects. It is possible that the estimation results depend on school environment at the survey's time or unobserved factors. In order to control these factors, we use three types of fixed effects: school fixed effect, grade fixed effect and section fixed effect. The results are shown in Tables 5 and 6, respectively, for Models 1 and 2. We can observe the similar tendency as in Table 3 (results for Model 1) and Table 6 (results for Model 2 in Table 4).

Table 6 Marginal effects on students' preference decision using fixed effects (Model 2)

	(1)	(2)	(3)	(4)	(5)	(6)
	Full		Male		Female	
	Prefer TVIs	Prefer Non-TVIs	Prefer TVIs	Prefer Non-TVIs	Prefer TVIs	Prefer Non-TVIs
	(y = 1)	(y = 2)	(y = 1)	(y = 2)	(y = 1)	(y = 2)
<i>Panel A: School fixed effect</i>						
Having PwDs at family	0.027** [0.012]	0.032** [0.014]	0.029* [0.018]	0.007 [0.025]	0.026 [0.016]	0.047*** [0.015]
Having PwDs at Community	0.025** [0.011]	-0.014 [0.012]	-0.008 [0.017]	0.010 [0.020]	0.043*** [0.015]	-0.036** [0.015]
Has spoken with PwDs in classroom	0.005 [0.014]	-0.026* [0.014]	-0.015 [0.021]	-0.046* [0.024]	0.017 [0.020]	-0.015 [0.016]
Has Friend with disability	-0.010 [0.014]	-0.022* [0.013]	-0.002 [0.020]	-0.029 [0.022]	-0.014 [0.020]	-0.025 [0.017]
Years of learning with TVIs	0.002 [0.005]	-0.014 [0.008]	0.005 [0.006]	-0.005 [0.011]	0.003 [0.007]	-0.020* [0.012]
Pseudo R-squared	0.077		0.106		0.116	
<i>Panel B: Grade fixed effect</i>						
Having PwDs at family	0.029** [0.012]	0.031** [0.014]	0.033* [0.018]	0.004 [0.025]	0.029* [0.016]	0.048*** [0.015]
Having PwDs at community	0.025** [0.011]	-0.013 [0.012]	-0.010 [0.017]	0.020 [0.021]	0.044*** [0.015]	-0.036** [0.015]

Table 6 Marginal effects on students' preference decision using fixed effects (Model 2) (continued)

	(1)	(2)	(3)	(4)	(5)	(6)
	Full		Male		Female	
	Prefer TVIs	Prefer Non-TVIs	Prefer TVIs	Prefer Non-TVIs	Prefer TVIs	Prefer Non-TVIs
	(<i>y</i> = 1)	(<i>y</i> = 2)	(<i>y</i> = 1)	(<i>y</i> = 2)	(<i>y</i> = 1)	(<i>y</i> = 2)
Has spoken with PwDs in classroom	0.004 [0.014]	−0.028** [0.014]	−0.017 [0.021]	−0.048** [0.024]	0.017 [0.020]	−0.014 [0.016]
Has Friend with disability	−0.020 [0.014]	−0.020 [0.013]	−0.003 [0.021]	−0.022 [0.022]	−0.036** [0.017]	−0.023 [0.016]
Years of learning with TVIs	0.001 [0.005]	−0.015* [0.008]	0.004 [0.006]	−0.007 [0.012]	−0.000 [0.007]	−0.017* [0.010]
Pseudo R-squared	0.077		0.106		0.122	
<i>Panel C: Section fixed effect</i>						
Having PwDs at family	0.027** [0.012]	0.030** [0.014]	0.032* [0.018]	0.001 [0.025]	0.027* [0.016]	0.045*** [0.016]
Having PwDs at Community	0.025** [0.011]	−0.013 [0.012]	−0.009 [0.017]	0.015 [0.020]	0.043*** [0.015]	−0.035** [0.015]
Has spoken with PwDs in classroom	0.005 [0.014]	−0.026* [0.014]	−0.016 [0.021]	−0.046** [0.023]	0.019 [0.020]	−0.014 [0.016]
Has Friend with disability	−0.011 [0.015]	−0.024* [0.013]	0.003 [0.021]	−0.027 [0.022]	−0.021 [0.020]	−0.028* [0.016]
Years of learning with TVIs	0.002 [0.005]	−0.013 [0.008]	0.005 [0.006]	−0.004 [0.011]	0.002 [0.007]	−0.019* [0.012]
Pseudo R-squared	0.082		0.114		0.130	
Number of Observations	2445	1046	1399			

***, ** and * mean significant level at 1, 5 and 10%.

Note: Robust standard errors in brackets. All equation include family member size, poor, years of schooling of father, years of schooling of mother, father's white color job. In order to test the robustness of the main results, all equation also include high-caste, rural, ethnicity dummies, religion fixed effects, grade fixed effects, section fixed effects and school fixed effects to test the robustness of the main results.

Additionally, we test the independence from irrelevant alternatives (IIA) assumption: an assumption that lies at the centre of the multinomial logit model is the IIA assumption (Domencich and McFadden, 1975), which implies that the odds between any two categories remain unchanged whether we add a new category or eliminate in the existing one. For example, assume that we limit the student's choice of teacher by eliminating the possibility of having a non-TVI in the classroom with a probability of 100%, which leaves the student with only two alternatives: being assigned a TVI with 100% probability, or a lottery where any of both types of teachers are assigned with a probability of 50% (which is equivalent as being indifferent between both types of teachers). It could be the case that all the students who would have chosen a non-TVI

would then pick the lottery and have at least some chance of being assigned their preferred teacher type, rather than being assigned a TVI (for example, under the existence of discriminatory attitudes against TVI). Such a change would alter the relative odds of the two remaining options, constituting a violation to the IIA assumption. In order to test the validity of this assumption, we estimated, for each model in Tables 3 and 4 with two additional logit models: one by omitting the ‘Prefer TVI’ alternative and another omitting the ‘Prefer non-TVI’ alternative (being indifferent between both types of teachers remains the base category in all the models). A Hausman-type test of the equivalence of the corresponding variable coefficient between the three models was performed. The results are presented in Table 7. None of the tests rejects the null hypothesis of equivalence of the coefficients, implying that there is no evidence of violations to the IIA assumption. From these checks, we can conclude that our results are not spurious.

Table 7 Hausman-type specification tests for the IIA assumption

	<i>All students</i>	<i>Male students</i>	<i>Female students</i>
Model 1			
Chi2	11.05	8.50	11.78
Prob > Chi2	0.962	0.996	0.923
Degrees of freedom	21	22	20
Model 2			
Chi2	8.73	8.50	13.43
Prob > Chi2	0.966	0.996	0.921
Degrees of freedom	18	22	22

Note: The IIA assumption of the Model 1, 2 is tested using Hausman-type specification test. See Section 3.2.

5 Conclusion

In this study, we have examined Nepal’s education policy of providing teaching jobs for individuals with visual impairments in mainstream schools through students’ preference decision between TVIs and non-TVIs. Throughout the analysis, we find correlation of student’s environment with teacher preference followed by having the opportunity to interact with classmate with disabilities. Additionally, experience of students learning with TVIs affects teacher preference positively. Similarly, the correlation of having members with disabilities at home being positive over the preference of both group of teachers and the positive correlation of having members with disabilities at communities only to the preference over TVIs allow us to argue that when such people have more encounters with PwDs, their possible negative attitudes dissipate as they get a clearer understanding of the humanity and capabilities of disabled people. So students from such families are more likely to prefer a TVI when PwDs are included in their communities. However, we also cannot reject the possibility that if a child comes from a family with a disabled member, the impact of that on their preference for a TVI or non-TVIs is more complicated. As stated in the previous section, on the one hand, greater familiarity would make it more likely for them to prefer a TVI. However, it could be that added

responsibilities in the home (e.g. having to care for a disabled member) might lead children to want to take a break from issues they are dealing with on a daily basis at home. So it is not surprising that they have strong feelings one way or the other (for or against a TVI or a non-TVI) and are less likely to be indifferent.

Despite such possibilities, this finding indicates the importance of visibility of PwDs in society. Likewise, we find that the correlation between children's behaviour towards classmate with disabilities and preference for TVIs being positive. Moreover, years of learning with TVIs affect teacher preference.

Additionally, we find that the effect of being familiar with disability is stronger for females, suggesting a gender bias in the students' decision to prefer TVIs. Probably, this may be attributed to a better understanding of disability issues on the part of women, who, historically, have been exposed to a similar discrimination in societies, especially in developing countries.

Overall, these findings suggest that policies promoting the inclusive participation of PwDs are likely to be instrumental to increase positive attitude towards disability on the part of non-disabled people. For example, students having friends with disabilities showing higher probability of choosing TVIs indicate that interaction with each other is crucial to understand disability issues. Frequent interaction is possible through inclusive education and inclusive labour market in which one can learn and work together. Together with the implementation of inclusive education, Nepal's policy to recruit individuals with visual impairments in local mainstream schools can be regarded as an effective strategy. One of the implications of this study therefore, would be that the policy Nepal has implemented in providing opportunity to qualified individuals with visual impairments to teach in mainstream schools can be widened for different sectors of jobs and considered for other parts of the world which have similar situations as Nepal. These policies of hiring qualified people with visual impairments not only help them achieve economic independence but also make labour market more inclusive and accessible for all which ultimately affect positively in reducing discrimination, mitigating poverty and making societies inclusive to all.

Finally, in order to evaluate the teaching qualities, examining the effect of TVIs on students' performance would be important area of future study. Moreover, though our study could partially demonstrate the impact of inclusion related certain variables on students' preference between TVIs and non-TVIs, one of the limitations is that due to not having a panel survey, we have analysed only cross-sectional relationships and therefore, it will be useful to collect panel data to further verify these results. Studies like this will shed light on a very important but relatively unexplored area and help governments develop disability inclusive policies towards their social, economic and political participation.

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References

- Domencich, T.A., McFadden, D. and Charles River Associates. (1975) *Urban Travel Demand: A Behavioral Analysis: A Charles River Associates Research Study*, North-Holland Pub. Co., American Elsevier, Amsterdam, New York.
- Falch, T., Bonesrønning, H. and Strøm, B. (2005) 'Teacher sorting, teacher quality, and student composition', *European Economic Review*, Vol. 49, No. 2, pp.457–483.
- Feldman, K.A. (1992) 'College students' views on male and female college teachers: Part I- evidence from the social laboratory and experiments', *Research in Higher Education*, Vol. 33, No. 3, pp.317–375.
- Feldman, K.A. (1993) 'College students' views on male and female college teachers: Part II- evidence from the social laboratory and experiments', *Research in Higher Education*, Vol. 34, No. 2, pp.151–211.
- GON. (2007) *Civil Service Act of Nepal 1993, Chapter 3, Article 7, sub article 7*, pp.5–6.
- Hull, D.B. and Hull, J.H. (1988) 'Effects of lecture style on learning and preferences for a teacher', *Sex Roles: A Journal of Research*, Vol. 18, Nos. 7–8, pp.489–496.
- International Labour Organization (2007) 'Facts on Disability in the World of Work', Public fact sheet, accessed November 27, 2009: http://www.ilo.org/wcmsp5/groups/public/-dgreports/-dcomm/documents/publication/wcms_087707.pdf
- Lamichhane, K. (2012) 'Employment situation and life changes for people with disabilities: evidence from Nepal', *Disability and Society*, Vol. 27, No. 4, pp.471–485.
- Lamichhane, K. (2015a) 'Individuals with visual impairments teaching in Nepal's mainstream schools: a model for inclusion', *International Journal of Inclusive Education*, Vol. 20, No. 1, pp.16–31.
- Lamichhane, K. (2015b) *Disability, Education and Employment in Developing Countries: From Charity to Investment*. Cambridge University Press, Cambridge.
- Meyer, D.J. (2009) *Thicker than Water: Essays by Adult Siblings of People with Disabilities*. Woodbine House, Bethesda, MD.
- NPC/UNICEF/New Era (2001) 'A situation analysis of disability', *National Planning Commission, UNICEF and New Era*, Kathmandu, Nepal.
- The United Nations Children's Fund (2003) *Examples of Inclusive Education: Nepal*.
- United Nations (2006) *Convention on the Rights of Persons with Disabilities*, United Nations, New York, USA.
- World Health Organization (2011) *World report on disability*, World Health Organization.
- Yeo, R., Moore, K. (2003) 'Including disabled people in poverty reduction work: nothing about us, without us', *World Development*, Vol. 31, No. 3, pp.571–591.

Appendix

Table 1 Descriptive statistics for Individual characteristics

	<i>Indifferent between TVIs and Non-TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non- TVIs</i>	
<i>Variable</i>	<i>(y = 0)</i>	<i>(y = 1)</i>	<i>(y = 2)</i>	<i>Full sample</i>
<i>Individual/family characteristics</i>				
Respondent is female	0.582 (0.493)	0.588 (0.494)	0.465 (0.500)	0.572 (0.495)
Number of household member	6.235 (1.933)	6.363 (1.895)	6.629 (1.764)	6.279 (1.918)
Years of schooling of Father	0.702 (0.458)	0.764 (0.426)	0.746 (0.436)	0.710 (0.454)
Years of schooling of Mother	5.721 (4.353)	5.110 (4.083)	4.962 (3.980)	5.610 (4.308)
Father’s white color job	3.410 (4.010)	3.495 (3.826)	2.873 (3.726)	3.370 (3.974)
Mother’s white color job	0.0824 (0.275)	0.0604 (0.239)	0.0798 (0.272)	0.0806 (0.272)
Poor	0.0259 (0.159)	0.0495 (0.217)	0.0188 (0.136)	0.0270 (0.162)
Rural	0.378 (0.485)	0.286 (0.453)	0.244 (0.431)	0.359 (0.480)
High caste	0.520 (0.500)	0.610 (0.489)	0.638 (0.482)	0.537 (0.499)
Indegeneous others	0.812 (0.391)	0.753 (0.433)	0.883 (0.323)	0.813 (0.390)
<i>Religion</i>				
Hindu	0.864 (0.342)	0.852 (0.356)	0.869 (0.339)	0.864 (0.343)
Buddha	0.0883 (0.284)	0.115 (0.320)	0.0892 (0.286)	0.0904 (0.287)
Christian	0.0405 (0.197)	0.0275 (0.164)	0.0329 (0.179)	0.0389 (0.193)
Others*	0.007 (0.0824)	0.005 (0.0741)	0.009 (0.0967)	0.007 (0.0831)
<i>Grade</i>				
6*	0.229 (0.420)	0.286 (0.453)	0.305 (0.462)	0.240 (0.427)
7	0.239 (0.427)	0.176 (0.382)	0.197 (0.399)	0.231 (0.421)
8	0.249 (0.432)	0.231 (0.422)	0.277 (0.449)	0.250 (0.433)
9	0.283 (0.451)	0.308 (0.463)	0.221 (0.416)	0.280 (0.449)

Table 1 Descriptive statistics for Individual characteristics (continued)

<i>Variable</i>	<i>Indifferent between TVIs and Non-TVIs</i>	<i>Prefer TVIs</i>	<i>Prefer Non- TVIs</i>	<i>Full sample</i>
	<i>(y = 0)</i>	<i>(y = 1)</i>	<i>(y = 2)</i>	
<i>Section</i>				
A	0.358 (0.479)	0.324 (0.469)	0.446 (0.498)	0.363 (0.481)
B	0.448 (0.497)	0.440 (0.498)	0.371 (0.484)	0.440 (0.497)
C	0.186 (0.389)	0.220 (0.415)	0.183 (0.388)	0.189 (0.391)
D*	0.00829 (0.0907)	0.0165 (0.128)	0	0.00818 (0.0901)
<i>N</i>	2050	182	213	2445

*denotes reference group.

Note: Standard deviation in parenthesis.