

## KNOWLEDGE AND PRACTICES OF INTERNET AMONG TEACHERS: A CASE STUDY OF TIKAPUR MUNICIPALITY

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### Abstract

*This study was conducted to explore teachers' skills, perceptions, and practices about the use of computer and internet technology in campus of Tikapur Municipality. Questionnaires were distributed to 52 teachers in different departments of TMC and BMC with response rate of 100%. The validity of the questionnaire was approved by a panel of experts at campus. Descriptive statistics and correlation were used to analyze the data. Of the 52 teachers, 96.2% were males and 3.8% were females. Majority of the respondents were between the ages 30-40 years. Further, teachers' perceptions in terms of using computer and internet technology were found to be positive. Finally, the study revealed inverse correlations among internet use, age, and teaching experience. The descriptive results indicated that teachers' knowledge in basic ICT applications as well as integrating computer and internet technology into teaching and learning processes was confounded to web search for information, communication and file handling. These results provide evidence that the introduction of computer and internet technology in teaching and learning has not brought any major changes in the delivery of education in campus of Tikapur Municipality. This also implies that teachers have not shifted from teacher-centered instruction to student-centered learning. From the findings of the study, it is recommended that courses such as computer-supported learning, internet and designing instructional materials should be introduced in initial teacher training programs to improve teachers' level of confidence and perceptions towards the use of ICT.*

### Key words

*Integration of internet; Teachers' knowledge and perceptions of ICT; Practices of ICT as teaching material; Issues related to ICT use.*

### Introduction

The rapid growth in computer and internet technology has brought remarkable changes in the twenty- first century and affected demands of the modern society. The computer and internet technology is becoming increasingly important in our daily lives as well as in educational systems. Therefore, there is a growing demand on educational institutions to use computer and internet technology to teach the skills and knowledge that students need for the 21st century.

The computer and internet technology has great potential for knowledge dissemination, effective learning, and the development of more efficient educational services. Moreover, the adoption of computer and internet technology by education has been seen as a powerful way to contribute to educational change, better prepare students for the information age, improve learning outcomes and

competencies of learners, and equip students with survival skills for the information society. Therefore, teachers are expected to integrate computer and internet technology into their teaching and learning processes.

To successfully initiate and implement educational technology in the school program depends strongly on the teachers' support and attitudes. It is believed that if teachers perceived technology programs as neither fulfilling their own needs nor their students' needs, it is likely that they will not integrate the technology into teaching and learning. Evidence suggests that teachers' attitudes and beliefs influence successful integration of ICT into teaching (Hew & Brush, 2007; Keengwe & Onchwari, 2008). If teachers' attitudes are positive toward the use of educational technology, then they can easily provide useful insight about the adoption and integration of computer and internet technology into teaching and learning processes.

Some researchers studied the relationship between teachers' perceptions of the use of ICT and their actual integration of ICT into teaching and learning processes. Eugene (2006) explored the effect of teachers' beliefs and attitudes towards the use of ICT in classrooms. An observation method was used to collect data on teachers' beliefs and attitudes. The study revealed that there was inconsistency between teachers' beliefs and their actual use of technology in the classroom. Teachers' beliefs and teaching practices were found not to match. Similarly, Simonson (2004) used a quantitative study to explore the beliefs of primary school teachers on the use of ICT in teaching. The result revealed that teachers' beliefs and attitudes were related to their use of technology. Also, Drent and Meelissen (2008) conducted a study about factors which influence the innovative use of ICT by teacher educators in the Netherlands. A sample of 210 teachers was used for the study. Their study revealed that student-oriented pedagogical approach, positive attitude towards computers, computer experience, and personal entrepreneurship of the teacher educator have a direct positive influence on the innovative use of ICT by the teacher.

Teachers' computer experience relates positively to their computer attitudes. The more experience teachers have with computers, the more likely that they will show positive attitudes towards computers (Rozell & Gardner, 1999). Positive computer attitudes are expected to foster computer integration in the classroom (van Braak, Tondeur, & Valcke, 2004). According to Woodrow (1992) for successful transformation in educational practice, user needs to develop positive attitudes toward the innovation.

### **Statement of the Problem**

Nepal, at present has a limited market for the Internet. Although its use is increasing steadily, it is still a luxury to most of the Nepalese. Most of the developments occurring in the Internet are restricted to Kathmandu and to a handful of cities. Because of several factors like lack of basic infrastructure, illiteracy and poverty, internet service is unable to reach or access to other regions of the country. In fact, there are very few universities or colleges who have integrated the internet in learning and teaching skills. So, teachers are unable to access internet resources to modify the teaching method and techniques in order to increase the students' interest.

Thus, there are very few research has been done on knowledge and practices of internet in Nepal, particularly on teachers; however researcher are more devoted, in general, on practices of information

and Communication Technologies (ICTs) in specified learning subject. So, it is necessary to examine the teachers' perceptions and the challenges that they face in using internet services. The study will also explore the existing knowledge and practices of internet among teachers.

### **Objectives**

The main objectives of the study are:

- To analyze the perceptions towards internet among the teachers of various academic streams viz: Management, Education and Humanities with regard to knowledge toward the utilization of Internet services.
- To ascertain the teachers' practices of using internet resources in the teaching arena.
- To address the issues related to the practices of the teachers toward the use of Internet resources in different sectors.

### **Research Questions**

The following research questions will guide this study:

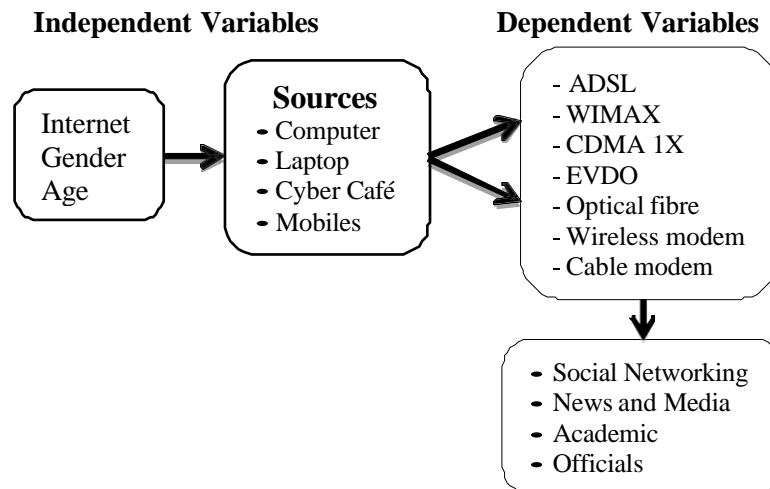
- Does the teachers' of Tikapur Municipality have any knowledge of internet services?
- What type of knowledge or perceptions do the teachers' have about internet?
- What types of internet services are used by the teachers?
- How do the teachers use internet services in different sectors?
- How do teachers themselves feel about the availability of internet resources in particular, which may require the acquisition of new skills to be utilized effectively?
- What are the barriers to the use of ICTs among teachers of higher education?
- Is there any correlation between the teacher's actual use of internet with their age, teaching experience and computer experience?

### **Rationale of the Study**

Internet is generally accepted as a modern instrumental tool that enables the educators to modify the teaching methods and techniques in order to increase the students' interest. The integration of internet can revolutionize an outmoded educational system (Albrini, 2006). In the last 20 years, initiatives and projects related to education have motivated teachers to gain necessary knowledge and skills by using internet in their instruction. Internet is "not only the backbone of the information age, but also an important catalyst and tool for inducing educational reforms that change our students into productive knowledge workers" (Pelgrum, 2001).

Thus, it is necessary to conduct research in the teaching and learning strategies to identify areas for improvements. This present study investigates teachers' knowledge (perceptions) and practices of internet in teaching at higher level and suggests some implication of internet in learning. The study will also be useful for coming days to evaluate the impact of such programs.

## Conceptual Framework



**Figure 1: Conceptual Framework of the Study**

## Methodology

### Study Design and Setting

This research work is designed to investigate the knowledge and practices of teachers toward the use of internet resources in teaching processes at a higher level as a case study of Tikapur Municipality Campus. Descriptive study was followed in this survey. Data was collected in natural setting of respondents i.e. at campus.

### Population and Sampling

The study was carried out in selected Campus of Tikapur Municipality, i.e. Tikapur Multiple Campus (TMC) and Birendra Vidya Mandir Multiple Campus (BMC), were the study area. The population of this study comprised all the higher level Teachers of Tikapur Municipality Campus. Thus, altogether 33 teachers from Tikapur Multiple Campus (TMC) and 19 teachers of Birendra Vidhya Mandir Multiple Campus (BMC) were included in this study. The entire population of higher level teachers of TMC and BMC was the sample size i.e. n=52. Each teacher was included as one sampling unit in this study. Thus, the sampling techniques used for this study was on the basis of population census.

### Data Collection Techniques

Self-designed closed ended Questionnaires were delivered personally to teachers of each campus. This method was chosen to avoid low response rate. Also, the involvement of teachers in the study was strictly voluntary. They were also assured of confidentiality of any information given. The questionnaire was pilot-tested to measure the reliability and to determine whether it

was understandable for the target population. The validity was improved by consulting experts in the field. The final version of the questionnaire was distributed to 52 teachers in different departments. One week was given to the teachers to complete the questionnaire and follow-up was done. A total of 52 questionnaires were collected back from the participants and used for data analysis indicating an 100% valid response rate.

### **Instrument**

A survey was designed to collect data from teachers in campus of Tikapur Municipality. The first section of the final version of the questionnaire focused on demographic information of the teachers based on gender, age, teaching experience, computer experience, and frequency of computer use. Also, the teachers were asked to rate their knowledge and skills in the use of computer and internet technology. The second section consisted of Likert-type questions. Also, respondents were asked to rate the extent to which they integrated computer and internet technology into teaching to achieve professional objectives. Finally, in the third section teachers were asked to indicate the factors which affected their use of computer and internet technology in teaching.

### **Data Analysis**

Data coding and editing were done manually using SPSS and MS Excel. Data were analyzed using descriptive statistics SPSS 20 and MS Excel. The researcher uses descriptive statistical technique to calculate the frequencies, means and standard deviations of the collected data. Spearman's rank correlation was used to find the relationships between the internet use and age, teaching experience and computer experience.

### **Results**

This Chapter of the study reports the findings of the study, beginning with the demographic information of the teacher. The first section presents descriptive statistics to analyze the skills and perceptions towards internet among the teachers of various academic streams with regard to knowledge of Internet services. The second section also presents descriptive statistics about teachers' application of Internet resources in their teaching. However, the third section addresses the issues related to the practices of the teachers toward the use of Internet resources in different sectors and the factors influencing teachers to use ICT in their teaching.

### **Demographic Information of Teachers**

The demographic information of teachers included faculty, gender, age, computer and teaching experience as shown in Table 1. Of the 52 teachers, 96.2% were males and 3.8% were females. However, 53.8% respondents belonged to Education faculty and the respondents who teach management and humanities were 34.6% and 11.5% respectively. From the table majority of the respondents (46.2%) were in the age group of 30-40 years whereas majority (34.6%) had 5-9 years of teaching experience and 1-5 years of computer experience (57.7%).

**Table 1: Demographic Information of the Respondents**

| Variable  | Categories                | Frequency | Percent |
|---|---------------------------|-----------|---------|
| Campus  | TMC                       | 33        | 63.5    |
|   | BMC                       | 19        | 36.5    |
| Faculty   | Education                 | 28        | 53.8    |
|   | Humanities                | 6         | 11.5    |
|   | Management                | 18        | 34.6    |
| Gender  | Male                      | 50        | 96.2    |
|   | Female                    | 2         | 3.8     |
| Age   | 20-30 years               | 6         | 11.5    |
|   | 30-40 years               | 24        | 46.2    |
|   | 40-50 years               | 19        | 36.5    |
|   | 50-60 years               | 3         | 5.8     |
| Teaching Experience                                 | below 5 years             | 11        | 21.2    |
|   | 5-9 years                 | 18        | 34.6    |
|   | 10-14 years               | 17        | 32.7    |
|   | 15-19 years               | 4         | 7.7     |
|   | 20 years and above        | 2         | 3.8     |
| Computer Experience                                 | Not at all                | 3         | 5.8     |
|   | Less than 1 year          | 12        | 23.1    |
|   | 1 - 5 years               | 30        | 57.7    |
|   | 5 - 10 years              | 6         | 11.5    |
|   | Over 10 years             | 1         | 1.9     |
| Internet use  | Yes                       | 45        | 86.5    |
|   | No                        | 7         | 13.5    |
| Frequency of Internet use                           | Over 10 hrs               | 5         | 11.1    |
|   | 5 to 10 hrs               | 15        | 33.3    |
|   | 3 to 5 hrs                | 6         | 13.3    |
|   | less than 3 hrs           | 19        | 42.2    |
| Location of Internet use <sup>a</sup>               | at home                   | 28        | 54.9    |
|   | at campus                 | 20        | 39.2    |
|   | at cyber                  | 0         | 0.0     |
|   | all of the above          | 14        | 27.5    |
| Devices used for teaching in classroom <sup>a</sup> | Laptop, tablet, notebook  | 37        | 71.2    |
|   | projector                 | 12        | 23.1    |
|   | Mobile phone              | 23        | 44.2    |
|   | E-Reader                  | 2         | 3.8     |
|   | others (None)             | 5         | 9.6     |
| Type of Internet                                    | ADSL                      | 20        | 38.5    |
|   | WIMAX                     | 12        | 23.1    |
|   | CDMA                      | 1         | 1.9     |
|   | UTL                       | 12        | 23.1    |
|   | Others (World link, GPRS) | 7         | 13.5    |

<sup>a</sup> - Multiple answer

**Section I: Perception of Teachers towards Internet use with regard to knowledge toward the utilization of Internet services.**

This section include the information and perception of the teachers about the knowledge utilization of computer and internet resources in different sectors

**Table 4: Knowledge/Perceived skills of Teachers on Computer and Internet Technology**

| Skills  | Cannot use/<br>None (%) | Low<br>(%) | Moderate<br>(%) | High<br>(%) | Mean | StDev |
|---|-------------------------|------------|-----------------|-------------|------|-------|
| Windows or other operating systems                | 1.9                     | 51.9       | 32.7            | 13.5        | 2.58 | 0.750 |
| File handling (Creating/<br>opening files,etc.)   | 5.8                     | 11.5       | 57.7            | 25.0        | 3.02 | 0.779 |
| Databases (Access)                                | 46.2                    | 15.4       | 30.8            | 7.7         | 2.00 | 1.048 |
| Spreadsheets (Excel)                              | 28.8                    | 36.5       | 28.8            | 5.8         | 2.12 | 0.900 |
| Word processing (word)                            | 1.9                     | 21.2       | 53.8            | 23.1        | 2.98 | 0.727 |
| Presentation software<br>(PowerPoint)             | 11.5                    | 23.1       | 44.2            | 21.2        | 2.75 | 0.926 |
| Web Search engines<br>(www/internet, Google, etc) | 3.8                     | 9.6        | 46.2            | 40.4        | 3.23 | 0.783 |
| Communications (Email)                            | 1.9                     | 15.4       | 46.2            | 36.5        | 3.17 | 0.760 |
| Others (Facebook, Tall,<br>ERPs, SPSS)            | 73.1                    | 15.4       | 9.6             | 1.9         | 1.40 | 0.748 |

Teachers' were asked to rate their knowledge or perceived skills of Computer and Internet technology on a four-point Likert-type scale ranging from "Cannot use/none (1)" to "High (4)". As shown in Table 4, majority of the respondents were moderately competent in web search engines (86.6%, mean=3.23), Communication (82.7%, mean=3.17) and file handling (82.7%, mean=3.02). On the other hand, majority of the respondents perceived their skill in database as "low" or "cannot use" (61.6%, mean = 2.00). However, the respondents perceived skills in word processing is on average (76.9%, mean=2.98) which is nearly close to the agreement of Jegede et al. (2007) and Lau and Sim (2008) who found teachers to be more proficient in word processing than the other applications.

**Table 6: Perceptions of Teachers of the application of Internet in Teaching**

| Perceptions   | SD (%) | D (%) | NO (%) | A (%) | SA (%) | Mean | StDev |
|---|--------|-------|--------|-------|--------|------|-------|
| Internet can improve teaching and learning processes  | -      | -     | -      | 23.1  | 76.9   | 4.77 | 0.425 |
| Internet can enhance students' critical thinking skills   | -      | 1.9   | 7.7    | 65.4  | 25.0   | 4.13 | 0.627 |
| Internet can enhance students' participation, and feedback to teachers  | -      | 5.8   | 5.8    | 71.2  | 17.3   | 4.00 | 0.686 |
| Internet can enhance collaboration among students   | -      | 1.9   | 5.8    | 75.0  | 17.3   | 4.08 | 0.555 |
|   |        |       |        |       |        |      |       |
| Internet can enhance teacher and student interaction  | -      | 5.8   | -      | 71.2  | 23.1   | 4.12 | 0.676 |
| Internet can offer opportunities to teachers for obtaining educational resources to improve on course content | -      | -     | 3.8    | 32.7  | 63.5   | 4.60 | 0.569 |
| Internet tends to increase students' learning motivation  | -      | 1.9   | 1.9    | 63.5  | 32.7   | 4.27 | 0.598 |
| Internet is a fast and efficient means of getting updated information/material                                | -      | -     | -      | 30.8  | 69.2   | 4.69 | 0.466 |
| Teachers should change the traditional teaching method and adopt online materials as the main teaching tool   | -      | -     | 3.8    | 53.8  | 42.3   | 4.38 | 0.565 |
| Internet resources can replace textbooks  | -      | 32.7  | 21.2   | 44.2  | 1.9    | 3.15 | 0.916 |

Scale: SD=Strongly Agree D=Disagree NO=No Opinion A=Agree SA=Strongly Agree

Respondents were asked to indicate on a five-point scale ranging from strongly disagree (1) to strongly agree (5) their views on the transformative role of Internet in their teaching and learning situation. As shown in Table 6, the majority of the respondents perceived that Internet can improve teaching and learning processes (Mean=4.77) and also Internet is a fast and efficient means of getting updated information/material (Mean=4.69). The majority of the respondents also agreed or strongly agreed that Internet can offer opportunities to teachers for obtaining educational resources to improve on course content (96.2%) and can increase students' learning motivation (96.2%) and can enhance teacher and student interaction (94.3%). On the other hand, Internet resources can replace textbooks. (46.1%, Mean=3.15) was perceived as the lowest. In general teachers' perceptions of the application of Internet in teaching and learning environment were positive.

## Section II: Teachers' practices of using internet resources in the teaching arena

This section includes the different practices of internet resources done by the teachers during teaching in the classrooms.



**Table 8: Access of ICT Technology in the Classroom for Teaching**

| ICT Technology   | No access (%) | Access on demand (%) | Permanent access (%) | Mean | St. Dev |
|--|---------------|----------------------|----------------------|------|---------|
| Desktop computer without internet access                   | 88.5          | 11.5                 | -                    | 1.12 | 0.323   |
| Desktop computer with internet access                      | 86.5          | 13.5                 | -                    | 1.13 | 0.345   |
| Non-internet-connected laptop, tablet, notebook            | 34.6          | 51.9                 | 13.5                 | 1.79 | 0.667   |
| Internet-connected laptop, tablet, notebook                | 21.2          | 59.6                 | 19.2                 | 1.98 | 0.641   |
| E-reader (a device to read books and newspapers on screen) | 76.9          | 11.5                 | 11.5                 | 1.35 | 0.683   |
| Mobile phone   | 26.9          | 26.9                 | 46.2                 | 2.19 | 0.841   |
| Interactive whiteboard                                     | 25.0          | 13.5                 | 61.5                 | 2.37 | 0.864   |
| Digital camera or camcorder                                | 76.9          | 23.1                 | -                    | 1.23 | 0.425   |
| Computer laboratory  | 65.4          | 34.6                 | -                    | 1.35 | 0.480   |

Respondents were asked to indicate the access of ICT technology in the classroom for teaching on a three-point scale ranging from "no access" (1) to "permanent access" (3). Table 8 showed that majority of respondents (61.5%, Mean=2.37) had permanent access of interactive white board while teaching followed by mobile phone (46.2%, Mean=2.19). Whereas, as per demand of the students, about half of the respondents (59.6%) had access of no/internet-connected laptop, tablet, notebook but most of the respondents i.e. about 2/3rd had no access of desktop computer with/without internet access (88.5%) along with computer laboratory (65.4%).

**Table 9: Frequency of use of Internet for Different Purposes**

| Purpose  | D (%) | O (%) | M (%) | E (%) | Mean | StDev |
|--|-------|-------|-------|-------|------|-------|
| Communicate with family/friends  | -     | 46.2  | 42.3  | 11.5  | 2.65 | 0.683 |
| Communicate with other teachers or students on school related matters      | 13.5  | 61.5  | 25.0  | -     | 2.12 | 0.615 |
| Search for information on topics of personal interest (e.g. Hobbies, etc.) | -     | 19.2  | 67.3  | 13.5  | 2.94 | 0.574 |
| Search for information and content for lessons                             | 3.8   | 32.7  | 48.1  | 15.4  | 2.75 | 0.764 |
| Retrieve research and best practices for teaching/learning                 | 19.2  | 40.4  | 40.4  | -     | 2.21 | 0.750 |
| Purchase online items  | 86.5  | 7.7   | 3.8   | 1.9   | 1.21 | 0.605 |
| Retrieve model lesson plan   | 48.1  | 42.3  | 9.6   | -     | 1.62 | 0.661 |

Scale: D=Donot use O=Occasionally M=Moderately E=Extensively

Respondents were asked to rate the frequency of use of internet for different purposes on four-point scale ranging from "donot use" (1) to "extensively" (4). From the Table 9, it was found that majority of respondents were moderately or extensively competent in searching for information on topics of personal interest (80.8%, Mean=2.94) and searching for information and content for lessons (63.5%, Mean=2.75). On the other hand, most of the respondents had occasional/no use for purchasing online items (94.2%, Mean=1.21) and retrieving model lesson plan (90.4%, Mean=1.62).

**Section III:** Issues related to the Practices of the teachers toward the use of Internet resources in different sectors

This section includes the different issues/barriers of the teachers related to the practices of internet use in various sectors.

**Table 11: Effect of various conditions to the potential contribution of Computer and Internet Technology at Campus**

| Conditions   | Effect |                    |       |                    | Mean | StDev |
|--|--------|--------------------|-------|--------------------|------|-------|
|  | N (%)  | V <sub>1</sub> (%) | S (%) | V <sub>m</sub> (%) |      |       |
| Insufficient number of computer labs   | 9.6    | 42.3               | 34.6  | 13.5               | 2.52 | 0.852 |
| Insufficient no. of computers in classrooms  | 30.8   | 26.9               | 17.3  | 25.0               | 2.37 | 1.172 |
| Technology not adequate/not up-to-date   | 17.3   | 30.8               | 25.0  | 26.9               | 2.62 | 1.069 |
| Student's lack of computer skills  | 3.8    | 30.8               | 25.0  | 40.4               | 3.02 | 0.939 |
| Teacher's lack of computer skills  | 3.8    | 17.3               | 36.5  | 42.3               | 3.17 | 0.857 |
| Students' lack of interest   | 11.5   | 19.2               | 38.5  | 30.8               | 2.88 | 0.983 |
| Teacher's lack of interest in computers or using technology in teaching and learning       | 9.6    | 21.2               | 42.3  | 26.9               | 2.87 | 0.929 |
| Teacher's lack of experience with technology-oriented pedagogy or instructional techniques | 7.7    | 26.9               | 44.2  | 21.2               | 2.79 | 0.871 |
| Ministry does not understand the potential contribution of computer technology             | 9.6    | 21.2               | 36.5  | 32.7               | 2.92 | 0.967 |
| No or unclear benefit to use internet for teaching   | 21.2   | 40.4               | 36.5  | 1.9                | 2.19 | 0.793 |

Scale: N=Not at all V<sub>1</sub>=Very little S= Somewhat V<sub>m</sub>=Very much

Respondents were asked to rate the degree of effect to the potential contribution of computer and internet technology at campus on four-point scale ranging from "not at all" (1) to "very much" (4). As shown in the Table 11, majority of respondents indicate that teacher's lack of computer skills (78.8%, Mean=3.17) affects maximum to the contribution of computer and internet technology followed by student's lack of interest (69.3%, Mean=2.88). Similarly, most respondents respond that no or unclear benefit to use internet for teaching (61.6%, Mean=2.19) had no/very little effect to the contribution of computer and internet technology along with the insufficient number of computers in classrooms (57.7%, Mean=2.37).

**Table 12: Barriers to Present and Future use of Interneta**

| Barriers  | N  | Percent |
|---|----|---------|
| Security or private concerns(Viruses or loss of personal information) | 6  | 11.5    |
| Technology not user friendly/difficult to use                         | 6  | 11.5    |
| Too busy  | 21 | 40.4    |
| Don't have a computer at home   | 2  | 3.8     |
| Internet connection cost too much                                     | 19 | 36.5    |
| Internet connection unreliable  | 26 | 50.0    |
| Not relevant to my work   | 1  | 1.9     |
| Not interested in technology  | 3  | 5.8     |

<sup>a</sup> Multiple answer

Respondents were asked about the barriers to their present and future use of internet. Thus, Table 12 showed that half of the respondents (50.0%) had faced problem in internet use due to the unreliable internet connection followed by the busy life (40.4%) whereas irrelevant to their work (1.9%) was found as the least barrier to the internet use.

**Table 14: Relationship between teachers' actual use of Internet and their age, teaching experience and computer experience**

|   | Internet use for preparing teaching materials | Age range | Teaching experience | Computer experience |
|---|---|-----------|---------------------|---------------------|
| Internet use for preparing teaching materials | 1   |           |                     |                     |
| Age   | -0.114  | 1         |                     |                     |
| Teaching experience                           | -0.198  | 0.495**   | 1                   |                     |
| Computer experience                           | 0.267   | 0.006     | 0.049               | 1                   |

\*\* Correlation is significant at the 0.01 level (2-tailed)

As shown in Table 14, there was a substantial inverse correlation of internet use with teachers' age ( $r = -0.114$ ,  $p < 0.01$ ) and teaching experience ( $r = -0.198$ ,  $p < 0.01$ ). Further analysis also showed the positive correlation between internet use and computer experience ( $r = 0.267$ ,  $p < 0.01$ ).

## Discussion and Conclusion

The findings of this study revealed that majority of teachers were moderately competent in web search and communication along with file handling and word processing. The result is in agreement with Jegede et al. (2007) and Lau and Sim (2008) who found teachers to be more proficient in word processing than the other computer applications. This means that teachers have not got mastery of ICT skills in many applications. Evidence reveals that teachers' mastery in ICT skills is critical to successful integration of ICT into teaching (Rosenfield & Martinez-Pons, 2005). Further, the analysis revealed that teachers' perceptions with regards to the use of internet were positive and it was demonstrated that internet can improve the learning and teaching process of teachers but cannot replace the text books.

In this study the extent to which teachers integrate Internet resources into their teaching and learning processes was explored. It was found that the hardware frequently used by teachers was the laptop. The findings of the study demonstrated that teachers mainly used internet for searching the information. The least used of technology by teachers in classrooms were for purchasing the online items, retrieving lesson plan and communicating with other teachers or students on school related matters. The results of the study suggested that the general integration of internet in teaching activities was low. The reasons for the low use of these hardware and software could be attributed to lack of access to technological resources in classroom and lack of teachers' training skills in the use of the equipment.

From the findings, the study revealed that the teachers' had taken insufficient training of computer and internet technology because of the lack of time. However, the study showed that the contribution of computer and internet in classroom was mostly affected by the teachers' lack of which found that lack of computer literacy among teachers, lack of training with regards to computer skills and lack of interest of students. This result is in agreement with SITES M1 study integration of ICT into

teaching and absence of a properly developed computer skills curriculum were barriers to teachers' application of the technology (Howie, Muller & Paterson, 2005). On the other hand, the study revealed that the main barriers faced by teachers to the present and future use of internet and computer were unreliable internet connection and the busy schedule or no time for technology.

Finally, the study revealed inverse correlation between Internet uses by the teachers with their age, teaching experience and found positive to computer experience. This finding supports van Braak et al. (2004), Bebell, Russell, & O'Dwyer (2004), and Inan and Lowther (2010) assertions that ICT use falls with age and teaching experience and that younger teachers integrated ICT into their teaching more than veteran teachers. Some researchers have attributed veterans' use of computers to limited computer competence (Bingimlas, 2009), confidence (Robinson, 2003; Snoeyink & Ertmer, 2001) and preparedness to use ICT in their classes (Inan & Lowther, 2010).

Thus, the present study has shown that ICTs is inseparable from the teaching and learning activities because it facilitates the teaching and learning process. More specifically, it shows that teachers' perceptions with regards to the use of internet were positive and computer and internet technology can help to motivate the students towards the lesson, make students more creative, analytical, and constructive. In addition, the study concluded that the use of internet decreases with the age and the teaching experience, that means most of the younger teachers integrate computer and internet technology into their teaching than the veteran teachers. Thus, these results provide evidence that the introduction of computer and internet technology in teaching and learning has not brought any major changes in the delivery of education in campus of Tikapur Municipality.

From the results of the study, it is recommended that teachers be given sufficient training on how to use internet resources into teaching and learning processes to acquire the requisite knowledge and skills in integrating the technology in classrooms. This will provide opportunities for teachers to support student-centered learning. According to Russell, Bebell, O'Dwyer and O'Connor (2003), teachers should be trained on specific instructional use of technology instead of general use of computers. In addition, training should be provided on the use of ICT software other than simple word processing. Finally, teachers should be provided with adequate technological resources, technical support and administrative support to encourage them to successfully use ICT in classrooms. Yee (2000) believes that a leader who implements technology plans and also shares a common vision with the teachers stimulate them to use technology in their lessons.

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