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INTEGRATING EDUCATIONAL TECHNOLOGIES  
IN THE CLASSROOM – A STUDY OF DEPARTMENT OF  
COMMERCE, DELHI UNIVERSITY



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Short Profile

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**ABSTRACT:**

Teaching has never been an easy task. Each faculty will have his or her unique style of facilitating concepts and practices in the classroom. But of age, though the methods employed to convey and communicate with the students might have changed, still the major challenge is to deliver the knowledge in the simplest and easiest manner.

With the introduction of technology in all walks of life, it has entered into the education sector as well. In our paper, we have tried to understand the contribution of technology in the teaching arena, specifically in the Department of Commerce, Delhi School of Economics, Delhi University. To achieve our purpose, we have undertaken a survey from the teaching and the student's fraternity as to how do they perceive the role of technology in teaching in today's times.

Two questionnaires were developed, one from the faculty side and other from the students' side. These were developed after conducting interviews and group discussions with both the faculty and students. Through our perception based survey, we have tried to understand the main tenets of teaching and have identified the factors, which determine the technological variables linked to teaching specifically.

**KEYWORDS**

*Education, Teaching, Technology, Department of Commerce.*

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## INTRODUCTION & LITERATURE REVIEW

Traditionally education has been dominated by the formal lecture, where the educator teaches to the passive students through well-conceived but usually prolonged and monotonous rhetoric. Lowerison et al. (2006) found that teachers depend on lectures, readings, and books and conclude with a final exam to measure performance of students. Therefore, “the student may essentially be a passive recipient of information, raising concerns that the focus is more on rote learning whereby students only memorize facts in preparation for tests.” (Davies et. al, 2009)

However, latest advances in academic world have revealed the shortcomings of such inactive methodology. Recent notion advocates that the teacher becomes the facilitator of learning rather than simply a distributor of knowledge (Jarvinen&Hiltunen, 2000) and learners must be engaged in their own education.

One of the most important reason of integrating technology in education is changing expectations of society and its reliance on technology have created a greater need for educators to learn and employ new methods of effective technology integration in the classroom (Diegmüller, 1996) There has been an upsurge of modern technologies in classrooms, and there is evidently a demand for extensive research on educational technology due to the investments being made (Zhao, Pugh, & Sheldon, 2002). Since there has been a change in physical atmosphere of classrooms, the types of associations and communications that subsist between faculty and students are influenced. On the whole, the culture of the classroom is changing and the research requires us to recognize these changes i.e. the way teachers communicate with students, how the environment is changing and the levels of ease with learning technologies.

We live in a world that is gradually more dependent on technology. Since, technology is growing at an extraordinary rate, there exists a digital generation that is evolving integration of technology in education (Brogan, 2000). Research reveals that there is increasing number of computers being used at home and an increasing number of technological devices available to educational institutions (Goddard, 2002).The growing number of computers and Internet connections in universities are because of combination of societal changes and government legislation and the development of state and national standards for universities. In the last fifteen to twenty years, the usage of computer-based presentation such as PowerPoint presentations, has acquired worldwide acknowledgement in the university system. “Classrooms across the globe are commonly becoming “wired,” and today’s textbooks are nearly always packaged with a plethora of computerized teaching supplements.” (Davies et. al., 2009). However, the conventional “chalk and talk” persists to have stronghold in academic world, modern and innovative educationalists continuously try to find out ways to improve the classroom atmosphere in an attempt to smooth the progress of student learning. Given the fact that students cannot learn in the same manner, many educators are trying to adopt new teaching methodologies to help more students get a better insight of the lessons being taught in a classroom. When faced with a current millennial generation student who is more technology savvy, it is contended that integrating technology in education, specifically teaching is necessary. Lowerison advocates the notion that technology has the capability to alter the classroom environment from passive to more active one.

According to Roblyer (2003), there are two factors that have resulted in integration of technology in education. The first is the increase in the number and type of resources that are now available to both the teacher and the student, and the second is the shift in learning strategies that

computer technology has allowed. “Traditional instruction generally involved an instructor-led, didactic approach to learning. The introduction of computers into the classroom has come with promises to change the passive learning approach by introducing interactive and dynamic capabilities into the classroom. This, it is argued, will provide a richer learning environment where the learner can be more actively involved in his or her own learning.”

The evolution of more technologically advanced teaching environment has not been effortless, and the transition has not been without its limitations. As with this move, educators must evaluate the costs and benefits involved in integrating technology in their classrooms.

Technology Integration is defined by Pierson (2001) as the relationship and intersection among content, pedagogical, and technological knowledge. It refers to how transparently the technology was blended into the lesson, and whether it was used to convey content in ways not easily done without technology (Baylor & Ritchie, 2002).

Figure 1 shows the relationship of these three key areas necessary in successful technology integration.

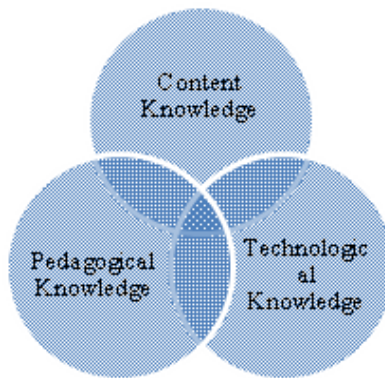


Figure 1: Relationship among Content, Pedagogical, and Technological Knowledge.

Technology integration in the classroom has become an important aspect of successful teaching. The use of technology in an education has triggered considerable interest on the part of researchers. A large number of researchers have focused on the pros and cons of technology usage (e.g., Kotrlik&Redmann, 2005; Bauer and Kenton, 2005; Judson, 2006; Totter et al., 2006; ChanLin et al., 2006; Zhao, 2007; Gulbahar, 2007; Anderson and Maninger, 2007; Abbit and Klett, 2007; & Wood and Ashfield, 2008). Most of the empirical findings have revealed the existence of a positive impact of technology on student learning. This is usually because it allows learners to learn more in less time and it is an effective teaching tool to engage all students in the learning process (Almekhlafi, 2006). Moreover, “Technology not only gives learners the opportunity to control their own learning process, but also provides them with ready access to a vast amount of information over which the teacher has no control” (Lam & Lawrence, 2002).

Research demonstrated faculty’s use of technology for different purposes and objectives. Some faculty use technology for instructional purposes while others use them for both personal and instructional goals. This study investigates teachers’ perceptions of utilizing of computers and other technologies for teaching and learning.

## TEACHING STYLES USED OVER A PERIOD OF TIME IN DEPARTMENT OF COMMERCE, DSE

Department of Commerce has been known for running academic (M.Com) and professional courses (MIB and MHROD) along with offering research based programmes (M.Phil and Ph.D.) Over the years, with the changing expectations of the society and technological developments, the teaching styles too have undergone a change.

Figure 2 below shows the different types of teaching styles which have been used over a period of time in Department of Commerce, DSE; along with the probable technology integration which can be taken up in the classroom teaching.

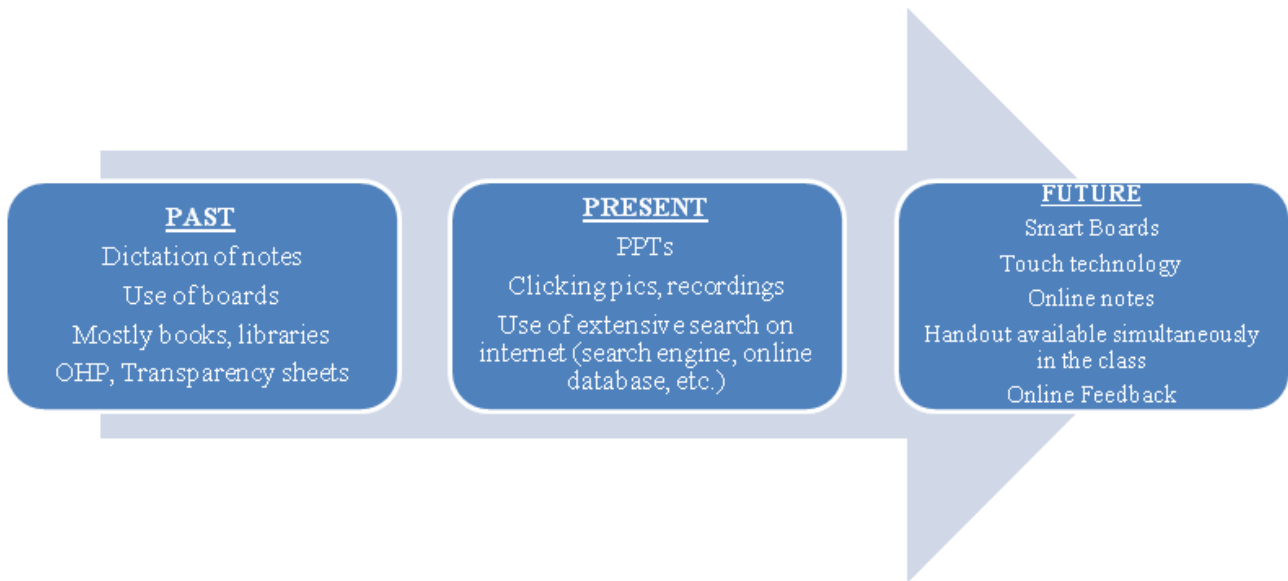


Figure 2: Different Types of Teaching Styles in Department of Commerce

## OBJECTIVES

- To understand the variables which impact the teaching styles in Department of Commerce, Delhi University
- To understand the variables which determine the technology use in Department of Commerce, Delhi University
- To understand the perceptions of both teachers and students with respect to technology usage in teaching.

## METHODOLOGY

In order to conduct our study, we have used primary and secondary sources of information. The secondary studies helped us to gain insights about teaching and learning styles, along with the details of technology use in various sectors, specifically classroom teaching.

To meet the objectives, stated above, a survey-based study was undertaken to study the perceptions from both faculty and students of Department of Commerce, Delhi School of Economics,

University of Delhi on the use of technology in teaching. Two types of questionnaires were constructed, one to study the perceptions of the faculty and other to study the perceptions of the students. The questionnaires were developed after having detailed interviews and group discussions with the faculty and students. To understand the major variables of teaching and technology, certain variables were identified and for each variable a rating of 1 to 5 was allotted where “1” represented “Strongly Agree” and “5” represented “Strongly Disagree”.

A total of 23 faculty and 312 students responded to our questionnaire, through which we established the variables for teaching styles and technology in Department of Commerce, DSE, Delhi University.

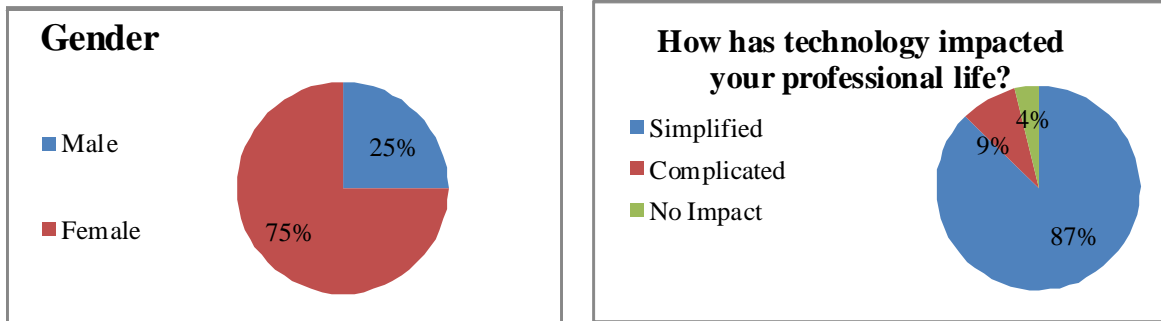
### Findings and Analysis

The following section summarizes the key findings for the use of technology in Department of Commerce. The same has been divided into two sections:

#### 1. Perceptions of Teachers

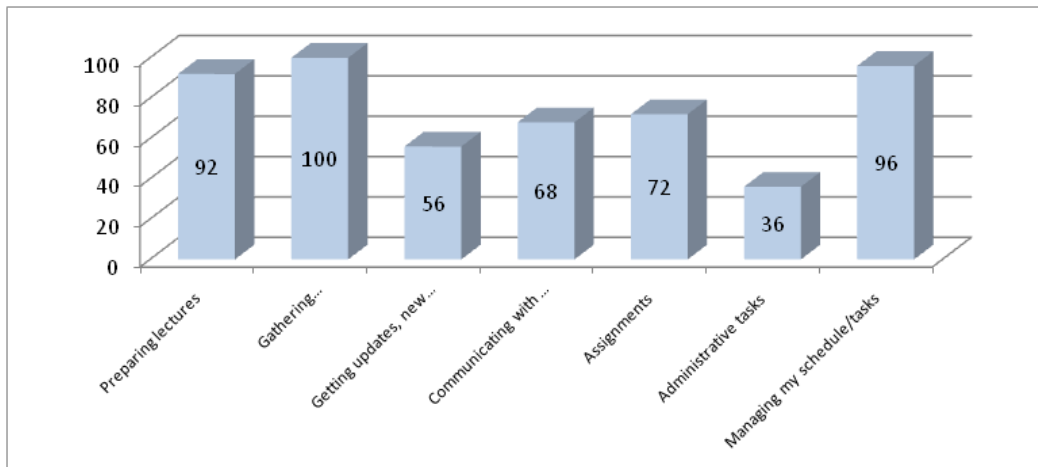
##### Demographic Profile

A total of 23 faculty members participated in the survey. The following charts summarize their gender composition.



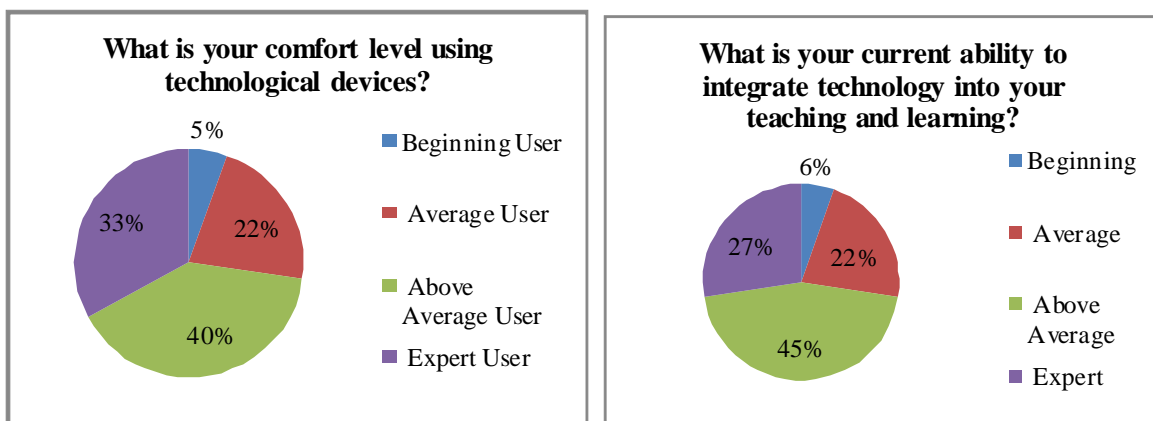
Majority of the faculty feel that technology usage has simplified their lives. They use it for various activities majorly being preparing lectures, gathering information/research and managing their schedule/tasks.



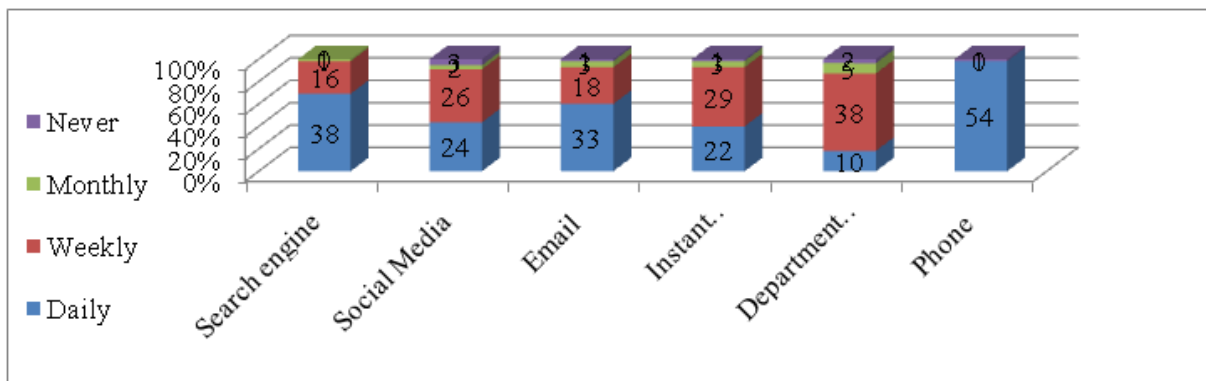


For what purpose do you use technology for Department related work?

The comfort level of faculty using technological devices is majorly above average user and expert user. This shows that faculty members are very much comfortable using technology that they can even provide some assistance to other.

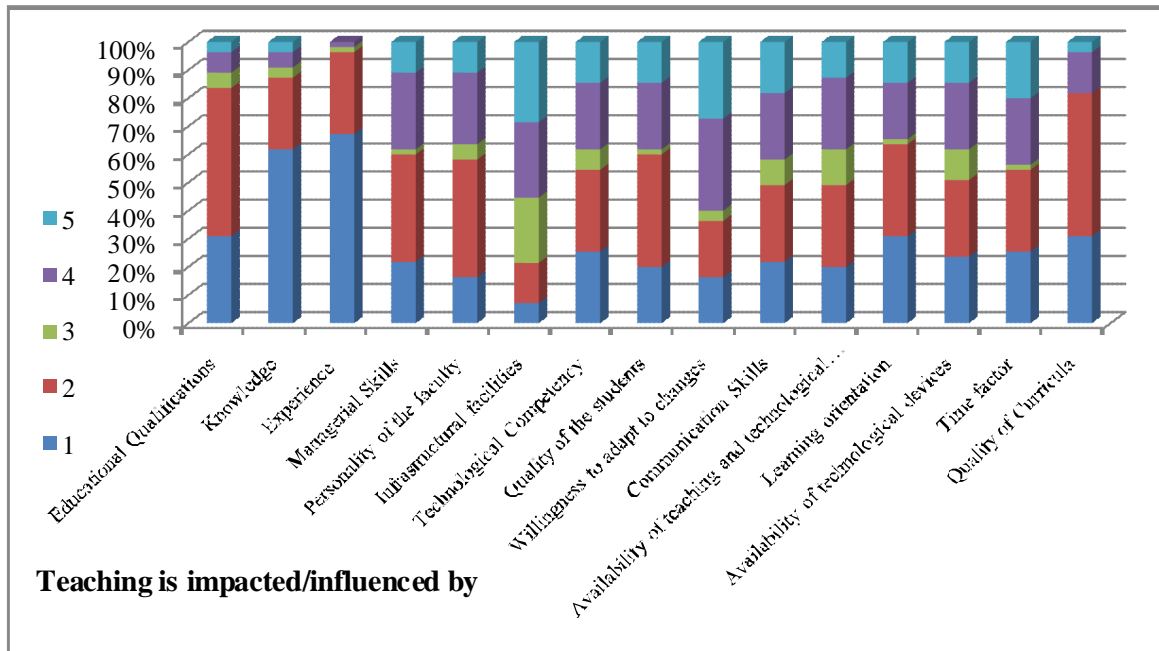


The major tools used by faculty on a routine basis are search engines, email and phone for department related activities

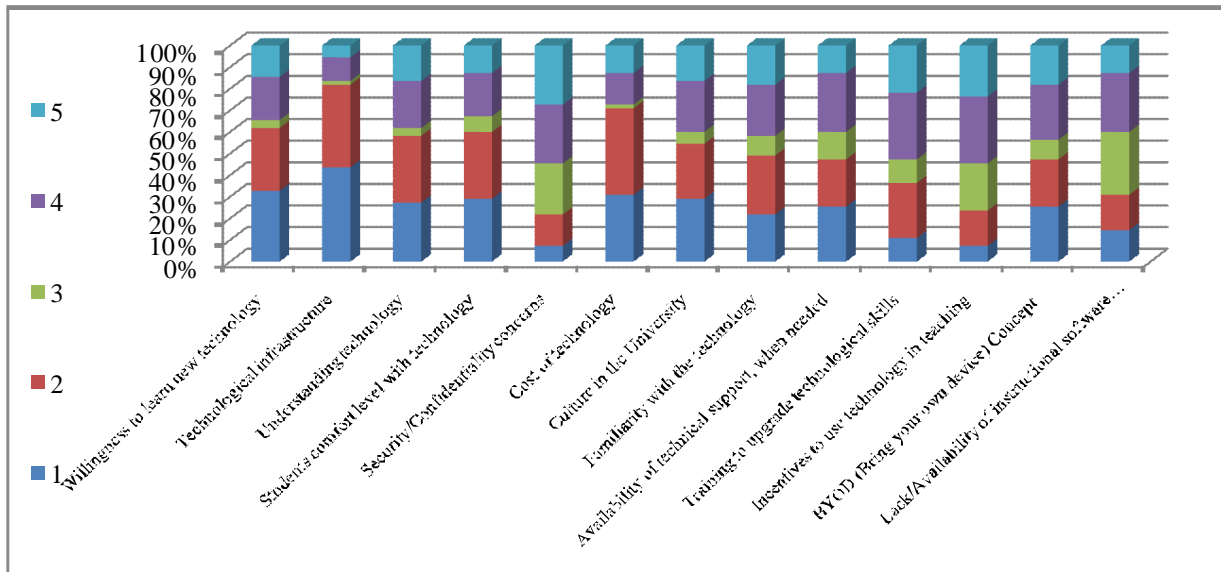


Tools used in Department

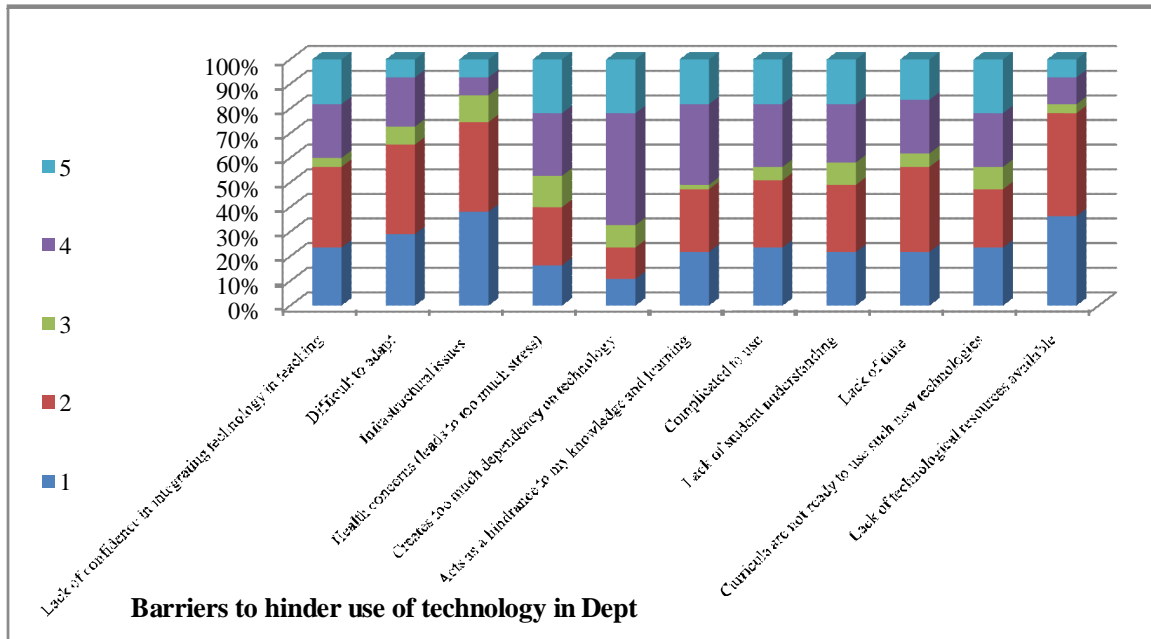




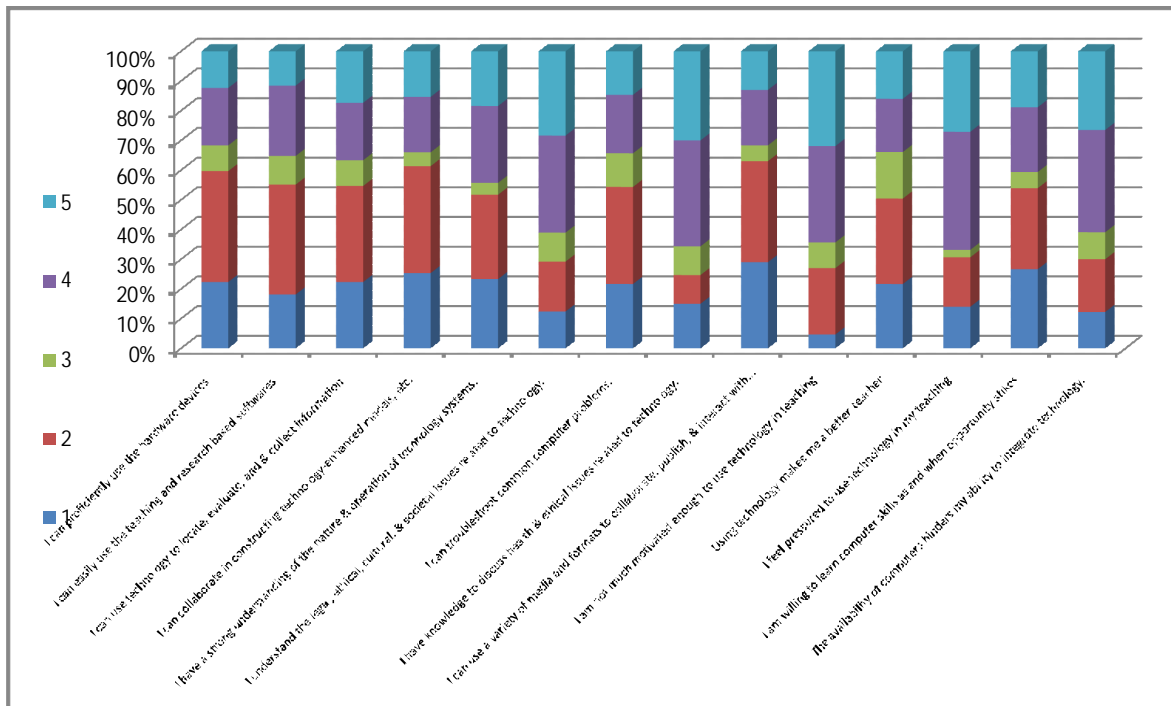
Among other factors, the major factors impacting teaching are teaching the faculty's experience, knowledge, technological competency, availability of and technological resources and quality of the curricula.



On the other hand, as per teachers, the technology usage in teaching is impacted by factors like technological infrastructure, familiarity with the technology, students' comfort level with technology, culture in the University and availability of technical support, when needed.



As per faculty, the barriers hindering the use of technology in the Department are infrastructural issues, lack of technological resources available, difficulty to adapt, curricula not ready to use such new technologies and sometimes lack of confidence on part of faculty to integrate technology in teaching.



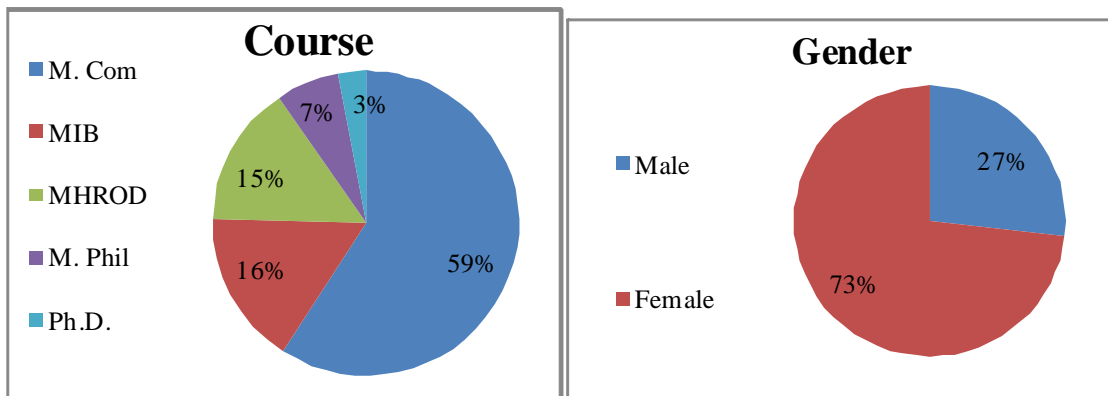
Faculty's perceptions of their students' usage of technology in classroom

Faculties feel competent to integrate technology in teaching as they feel that they have strong understanding of the nature & operation of technology systems; they can troubleshoot common computer problems; using technology makes them a better teacher and as they can proficiently use the hardware devices and software.

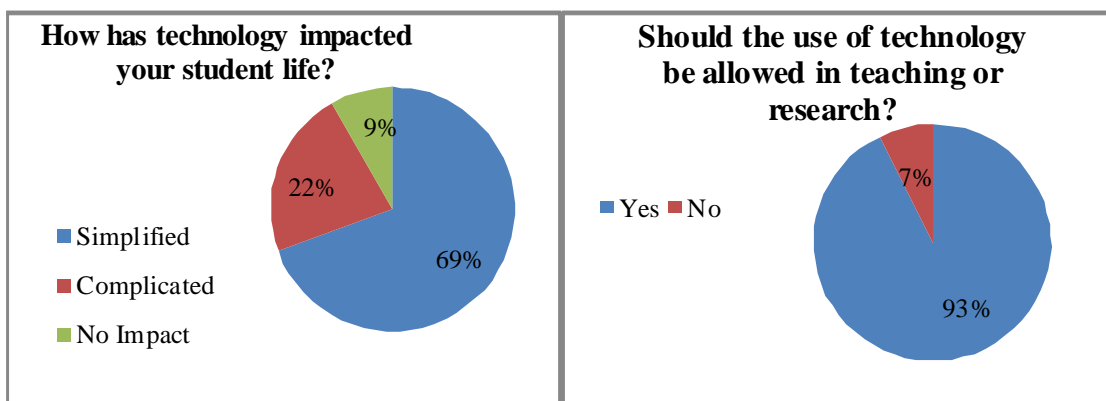
## 2.Perceptions of Students

### Demographic Profile

A total of 300 students participated in the survey. The following charts summarize their gender and course composition. 177 students from M.Com Course (the flagship course of Department of Commerce), 49 students from Masters of International Business (MIB) Course, 45 students from Masters of Human Resource and Organizational Development (MHROD) Course, 20 and 9 research scholars pursuing M.Phil. and Ph.D. from the Department participated in the survey.

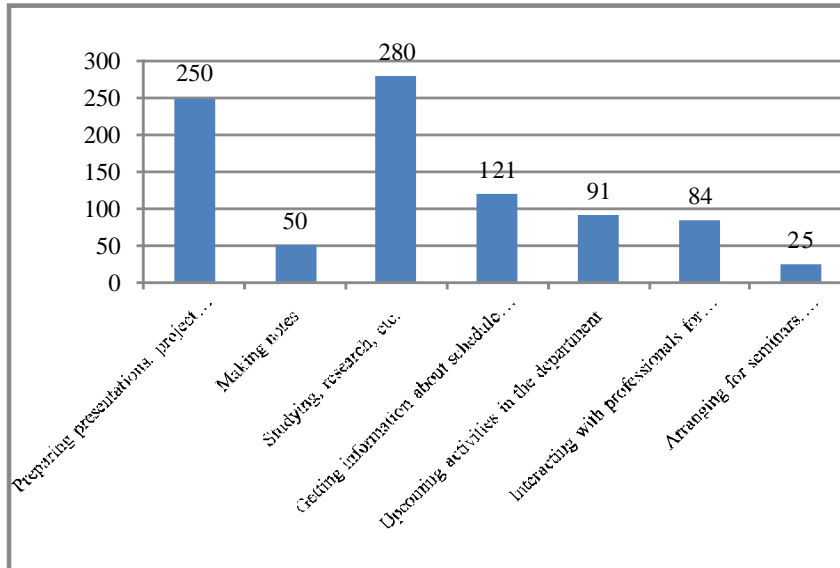


A total of 228 female and 84 male students participated in the survey.



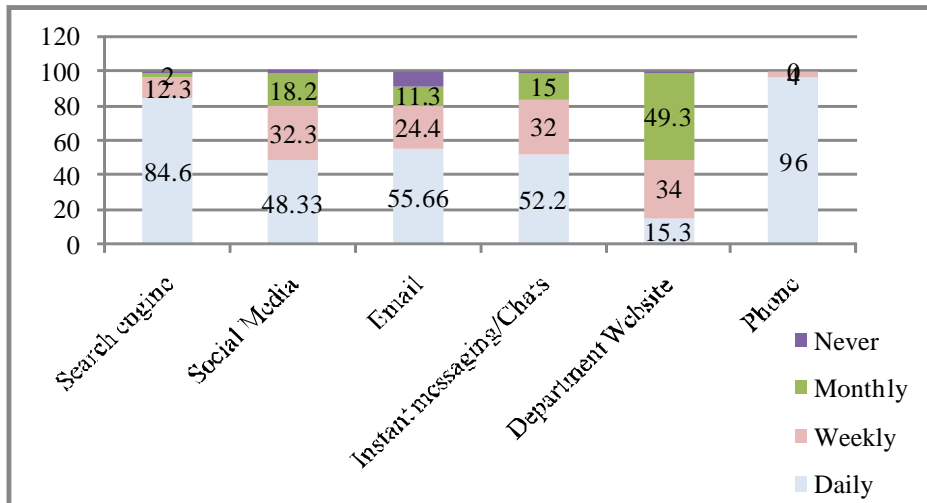
As with faculty, the majority of students feel their life too has simplified with the use of technology in teaching. And thus, they are of the view that more technology usage should be allowed in both teaching and research.

The students prefer to use technology in classroom mostly for studying, preparing presentations, project work, research reports, etc.

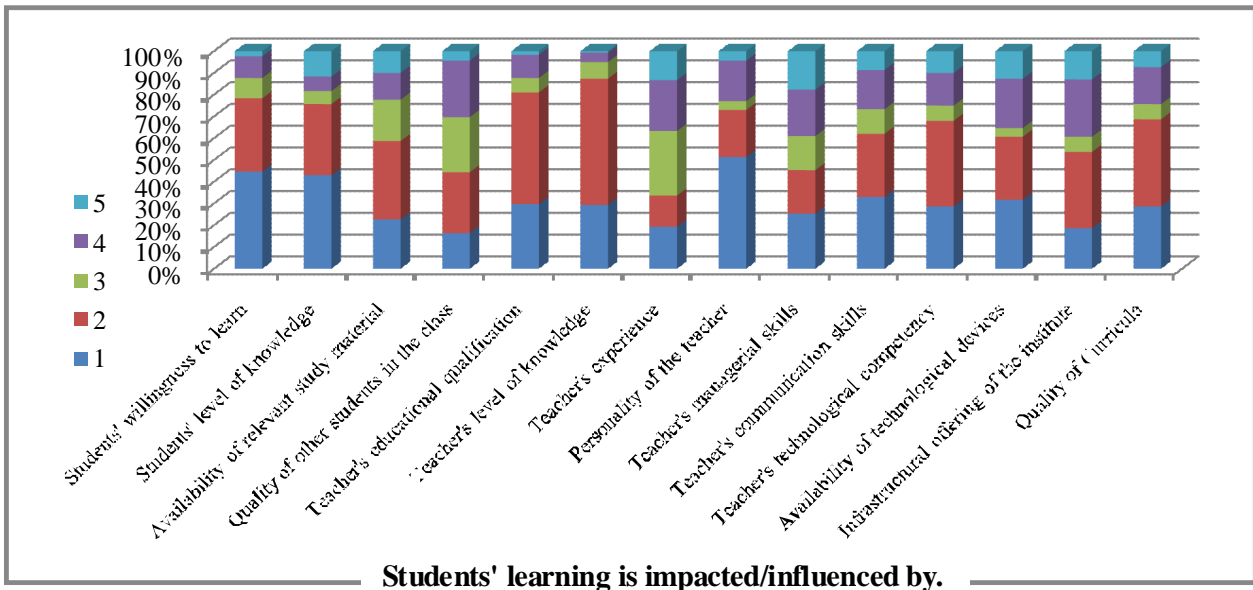


**For what all purposes, do you use technology for your classroom or department related activities?**

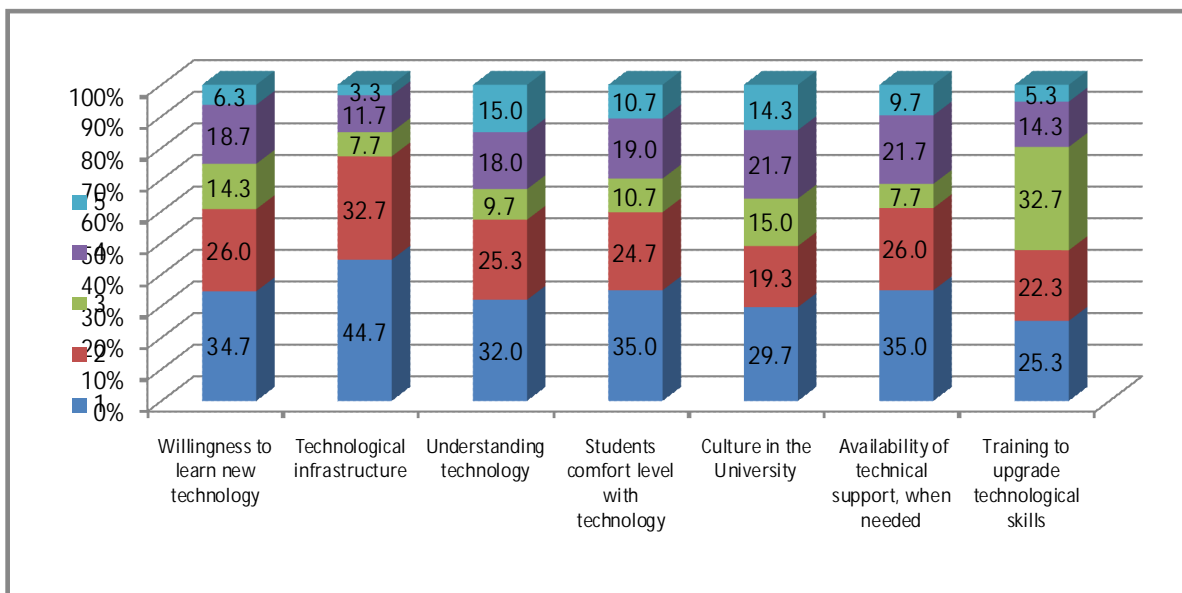
Students are more enthusiastic to use phone, search engines and emails on a routine basis for classroom related activities.



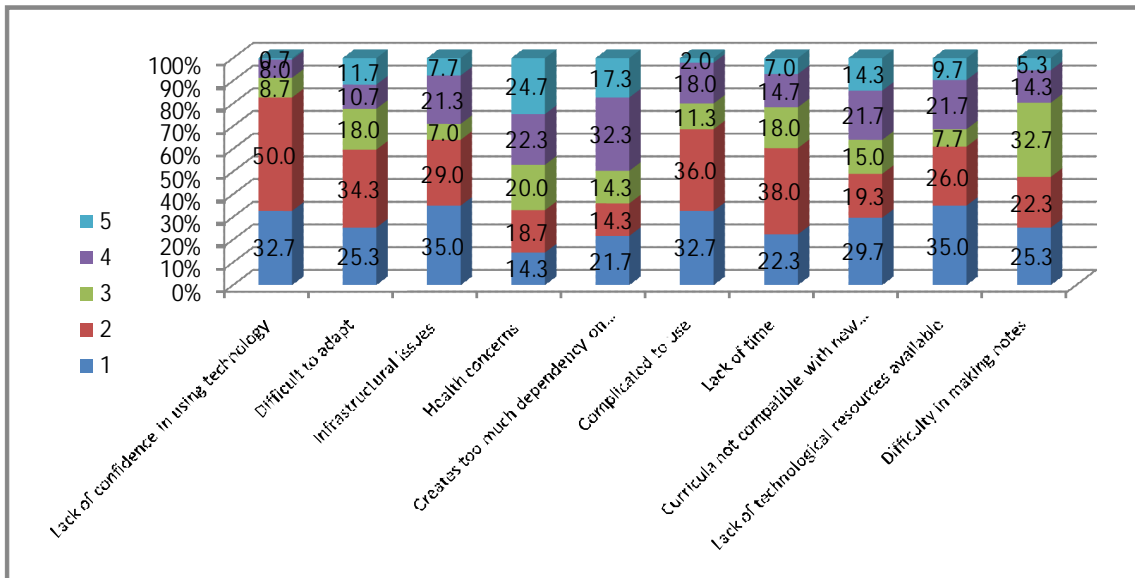
**Intensity for Tools used for classroom purposes**



Students feel that the major factors, which impact their learning, are their willingness to learn, teacher's educational qualification, teacher's level of knowledge, teacher's technological competency, availability of technological devices and quality of curricula

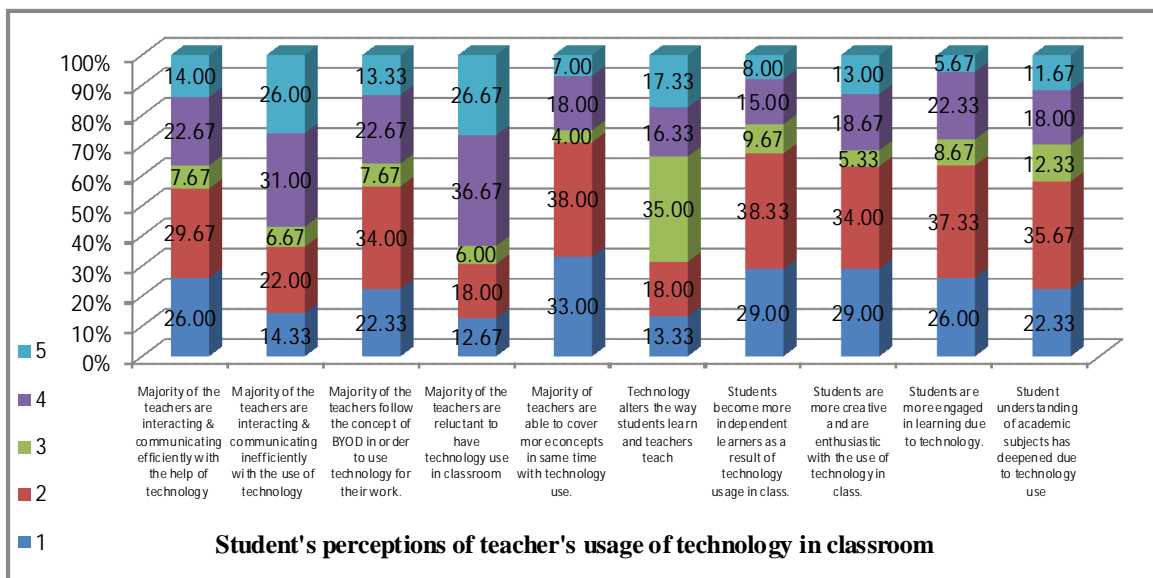


Students feel that use of technology in teaching is influenced by factors like technological infrastructure, availability of technological support and willingness to learn new technology.



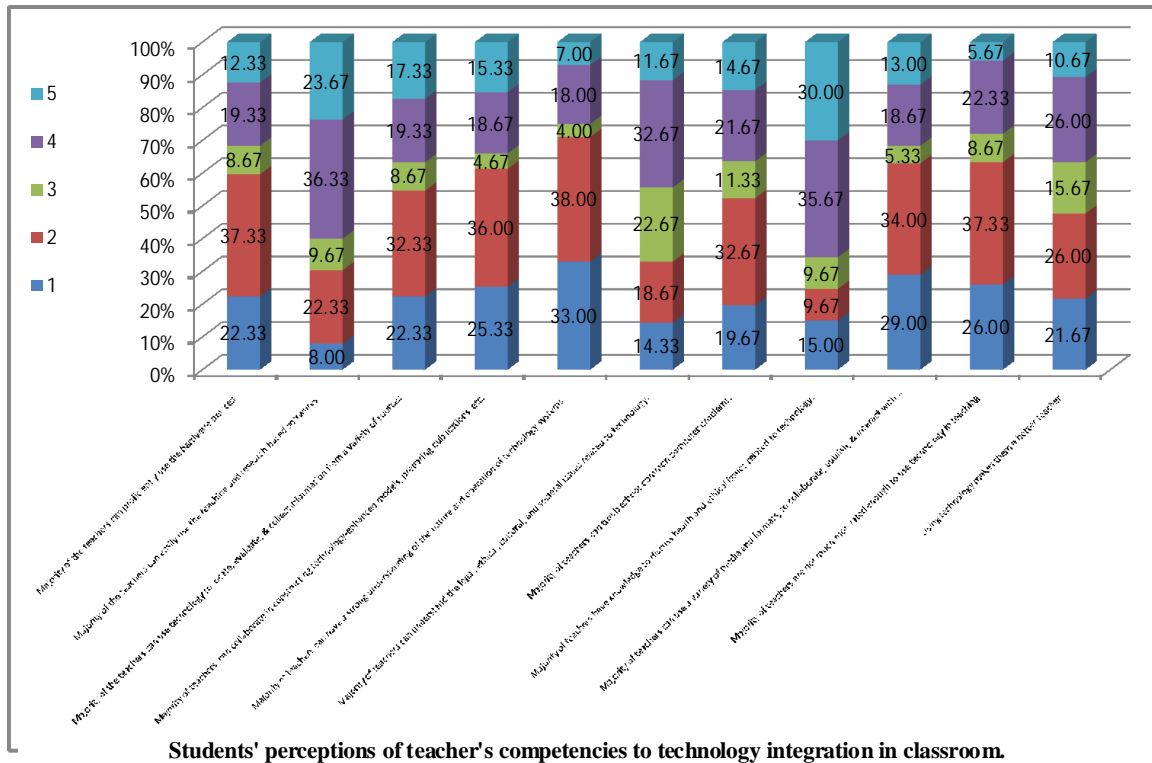
barriers which hinder the use of technology in learning are

The major factors, which hinder the use of technology in learning, are lack of confidence in using technology, infrastructural issues, complicated to use and lack of technological resources available.



Student's perceptions of teacher's usage of technology in classroom

Students prefer that teachers should use more technology in the classroom, as among other factors, it can cover more concepts in same time with technology usage, students become more independent learners as a result of technology usage in class and the engagement level of students increase in the class.



As per student's perceptions, major factors influencing technology integration in the classroom are the teacher's strong understanding of the nature and operation of technology systems; if they can use a variety of media and formats, to collaborate, publish, & interact with peers, experts, & other audiences and proficiency of the teachers to use hardware devices and softwares.

### CONCLUSIONS AND SCOPE FOR FURTHER RESEARCH

Over a period of time, with improvements in technology and growing demand of technological expertise in every field, the expectations in classroom teaching too has changed. Both faculty and students perceive that more technological integration is required in the classroom. Though certain barriers are impacting the use of technology in the Department of Commerce like lack of infrastructural facilities, difficulty to adapt to new technologies, curricula not being up to date for technology use, etc. still the faculty and students prefer to have technology usage in the classroom.

In future, the variables identified can be tested through factor analysis to ascertain the major factors for teaching and technology usage. Further, the relationship between the variables of teaching and technology usage can be studied to understand if there is any relationship between the two.

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