ICT Orientation among Higher Education Teachers: Role of Gender and Stream of Subject

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ARTICLE INFO	ABSTRACT
	Information and communication technology in the field of education commonly means teaching with the help of technology. ICTs do not replace quality teachers but boosts both teachers and learners in effective learning and provides options in modifying teaching and learning to suit individual needs. In the present study an attempt has been made to find the difference in ICT Orientation among university teachers on the basis of their gender and their stream of subject. Data was collected from 240 teachers selected by stratified disproportionate random sampling technique using a questionnaire. The findings revealed no influence of gender of university teachers on different dimensions of ICT Orientation but influence of stream was found on Ease of Use and Advantage dimension of ICT Orientation. Outcomes of this study suggest that universities should focus on training teachers about various aspects of ICT which will help them to compete with the changing modern world. **Keywords:** ICT, Teachers, Higher Education, Gender and Stream.

Introduction

Information and communication technology in the field of education commonly means teaching with the help of technology. The learners of this era are fluent when it comes to technology they can understand better in technology based classrooms, which makes an integration of technology in tutoring and learning vital (Ghavifekr and Rosdy, 2015). The use of technology contributes greatly to teaching methodology thus, leads to effective learning (Romina, et al. 2013). Among the various means to improve the students learning and understanding the most effective way is the use of technology in tutoring and learning (Saxena, 2017). ICTs do not replace quality teachers but boost both teachers and learners in effective learning and provides option in modifying teaching and learning to suit individual needs. Technology changes the process of educating and learning by adding an element of energy to it. Technology creates interest and motivation among learners for learning different subject and helps the teachers to renew their teaching competency. Educational institutions must promote the incorporation of Information and communication technologies in every school activity in order to adapt to the new technical innovations and improve their services and outcomes. Technology supports learning by making learners active participants in teaching learning process and makes them aware about what kind of information they need, why that information is needed and how can they get this information (Suryani, 2010). Active learning helps learners to take responsibility of their own learning and efficiently adapt to the transformation of information. With the use of ICT learning does not remain confined to school hours, demographics and teachers but learners can have access to information anytime and anywhere. Incorporation of ICT in education can motivate learners, make classrooms lively as well as appealing and help teachers to renew their passion by learning new skills, trends and techniques. ICTs change the approaches of teaching, modify ways of learning and make learning lively, collaborative, innovative, integrative, creative and evaluative (Amutha, 2020). Effectiveness of ICT in education depends on teacher's skills and willingness for using Information and communication technology in classroom (Hennessy, et al. 2005). ICT training can develop an ability among educators to make use of technology effectively in education (Winzenreid, et al. 2010). So there arises a demand for ongoing professional training of educators in information and communication technology. An effective incorporation of information and communication technology in teaching and learning will improve learning (Finger and Trinidad, 2002; Young, 2003; Jorge, et al. 2003; Romina, et al. 2013), makes teaching easy and tempting (Shamim and

Raihan, 2016), improves motivation of learners (Hue and Jalil, 2013), leads to reformation of tutoring and learning in every fields of knowledge (Wood, 1995), promotes self-paced learning (Roberts, 2003), allow online discussions (Gonzalez, 2010), facilitate learner centered instruction (Adeoye, et al. 2003), helps in the development of simulated programs to depict real world happenings in the classroom without the cost, time and danger to experience the real event (Saltinski, 1981), reduces workload of teacher and ensures inquiry based classroom (Saxena, 2017), leads to powerful learning and helps learners in dealing with information in a more lively, constructive and autonomous ways (Luhamya, et al. 2017), enhances the satisfaction of both teachers and learners (Roy, 2015), leads to constructivist teaching and learning (Hughes, 2013), improves teachers practice of teaching (Ismail, 2010) and help in addressing the diverse needs of learners (Keengwe, et al. 2008). ICTs can improve the idea, application and entire scenario of teaching and learning, allow teachers as well as students to have an access to the world beyond four walls of classrooms and help the learners in accessing, extending, transforming and sharing of information and also help them in improving their creativity, critical thinking and problem-solving ability (Kingsley and Patience, 2019). Internet makes it possible for the educators and students to have an interaction with experts throughout the world and acquire expert knowledge easily in a short span of time and remain updated about the latest happenings in the world. ICT knowledge and skills create awareness among teachers about the latest trends and innovations in instructional and evaluation methods, train them to introduce new innovations in the classroom and help them to modify their old concepts and ideas in accordance with the demands of modern world and needs of the learners. ICT provides choice to the learners in terms of choosing the content, time of learning, source of content and helps them to keep up with rapidly evolving globe. ICT facilitates individualization in education by modifying the content and its presentation on the basis of learner's needs, experiences and backgrounds (DeVoogd, 1998, Gillani, 2000 and Heemskerk, et al. 2005). ICT training improves self-esteem and confidence level among learners (Casal, 2007). ICT use in education reduces the gap between socio-economic factors and educational outcome (Shank and Cotton, 2014). ICT act as an instrument for expanding educational opportunities, both informal and formal, to formerly underserved sections of society like rural population, ethnic minorities, girls, person with disabilities, women, elderly, and those who were not able to get themselves enrolled on campus because of the cost or time constraints (Sarkar, 2012). ICTs can help in building a flourishing career in this technology rich world. Using technology for improving the quality of education is becoming a new trend in the worldwide education system. The use of ICT in education increases interest, enthusiasm and encouragement among learners, develops in them the ability to deal with knowledge in a right way, enhances their comprehension, improves their memory and widen the chance of gaining education with enhanced productivity (Ishaq, et al. 2020). ICTs have the potential to provide more creative answers to different kinds of learning inquiries (Fu, 2013). ICTs have an important role in enhancing the learners' achievement.

Sample
In the present study 240 University teachers were selected using a stratified disproportionate random sampling technique from University of Kashmir. The sample consists of 120 (Females) and 120 (Males) and 80 University teachers (40 Males and 40 Females) were selected from each stream of subject (Science, Social Science and Arts).

Table 1: Description of Sample.

S.no	Stream of Subject	Male	Female	Total
1	Science	40	40	80
2	Social Science	40	40	80
3	Arts	40	40	80
	Total	120	120	240

Methodology

In the present study 2X3 ANOVA was used to explore the influence of gender and stream of subject of University teachers on ICT Orientation.

Table 2: 2X3 Factorial Design

	A1	A2	A3
B1	A1,B1	A2,B1	A3,B1
B2	A1,B2	A2,B2	A3,B2

(B1= Male, B2= Female; A1= Science, A2= Social Science, A3= Arts)

Questionnaire
In the present study standardized questionnaire developed by Bhat and Bashir (2017) on ICT Orientation was used. The questionnaire consists of 4 dimensions (Compatibility, Perception, Ease of Use and Advantage) and

15 items. Each items of the questionnaire is to be responded in 5 point likert scale (Strongly agree, Agree, Neutral, Disagree, Strongly disagree).

Results and Discussion

The results of 2X3 ANOVA (Table 3) revealed there is no significant influence of stream on overall ICT Orientation and different dimensions of ICT Orientation like advantage and perception. No significant influence of Gender was observed on overall ICT Orientation and different dimensions of ICT Orientation like advantage, perception, ease of use and compatibility. However the effect of stream was found on compatibility and ease of use dimensions. Bhat and Bashir (2017) correlated the findings and revealed that ease of use of ICT was influenced by stream of university teachers.

Table 3: Relationship of ICT Orientation factors with stream and gender of University Teachers.

S.no.	Dimension	Gender (F-Value)	Sig.	Stream (F-value)	Sig.
1	Compatibility	.605	.437	4.483	.012*
2	Advantage	1.606	.206	.872	.419
3	Ease of Use	1.366	.244	4.073	.018*
4	Perception	1.812	.180	.357	.700
5	Overall ICT Orientation	.668	.414	2.645	.073

*Sig at .05

Table 4: Post-Hoc Comparisons of Compatibility Dimension of ICT Orientation.

S.no.	Stream (A)	Mean	Stream (B)	Mean	Mean Difference (A-B)	Sig
1	Science	12.775	Arts	11.863	.91	.029*
2	Science	12.775	Social Science	11.850	.92	.026*
3	Arts	11.863	Social Science	11.850	.01	.999

*Sig at .05

Table 4 reveals that compatibility with ICT is more among science teachers as compared to arts and social science teachers this could be because science teachers have revealed that ICTs have increased their productivity, professional effectiveness and have also developed their working styles. They are of the view that ICT enabled teaching is better than traditional methods of teaching. Table 5 reveals that ease of use of ICT is more among science teachers as compared to arts and social science teachers this could be because science teachers have revealed online surfing of learning materials increase effectiveness of students and build confidence for preparation and presentation of lectures among teachers. They have revealed that ICTs have eased communication and sharing of teaching learning material in education.

Table 5: Post-Hoc Comparisons of Ease of Use Dimension of ICT Orientation.

S.no.	Stream (A)	Mean	Stream (B)	Mean	Mean Difference (A-B)	Sig
1	Science	22.225	Arts	21.200	1.02	.046*
2	Science	22.225	Social Science	21.137	1.09	.031*
3	Arts	21.200	Social Science	21.137	.06	.988

*Sig at .05

Conclusion

ICTs can improve the idea, application and entire scenario of teaching and learning, allow teachers as well as students to have an access to the world beyond four walls of classrooms and help the learners in accessing, extending, transforming and sharing of information and also help them in improving their creativity, critical thinking and problem-solving ability (Kingsley and Patience, 2019). ICT knowledge and skills create awareness among teachers about the latest trends and innovations in instructional and evaluation methods, train them to introduce new innovations in the classroom and help them to modify their old concepts and ideas in accordance with the demands of modern world and needs of the learners. Outcomes of this study suggest that universities should focus on training teachers about various aspects of ICT which will help them to compete with the changing modern world. Using technology for improving the quality of education is becoming a new trend in the worldwide education system.

Declaration of Conflicting Interests
The author declared no potential conflicts of interest with respect to the research, authorship and /or publication of this article.

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