

## ICT ORIENTATION AMONG UNIVERSITY TEACHERS: ROLE OF VARIOUS DEMOGRAPHICS VARIABLES

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### Abstract

*The present study investigates the difference in the ICT Orientation among university teachers on the basis of type of university and gender. Present research is descriptive in nature and data was collected with the ICT orientation scale through a survey method. Present study is constitutes a sample of 80 university teachers selected through convenient sampling technique. The study revealed a significant difference in the ICT orientation among university teachers on the basis of type of university, the study further revealed that the teachers do not differ in their ICT orientation on the basis of their gender. Outcomes of the present study suggested that public university administration should focus on the various aspects of ICT in their institution in order to compete with the dynamic trends of the modern world.*

**Keywords :** ICT, university teachers

### THEORETICAL ORIENTATION

Information Communication Technology is a varied collection of technological gears in the form of communication equipment's that helps in precise retrieving, disseminating and manipulating the information to enhance knowledge and improve the communication of users. In modern society where knowledge is considered as an asset for a nation and an important pillar of an economy, ICT professional development is seen as a catalyst that enables constructive change in the teacher practices (Russell, 1999). Various approaches to ICT professional development orientate teachers to achieve desired knowledge and skills (Prestridge, 2008). Orientation towards ICT or ICT orientation is the "Basic tendency to apply knowledge, understanding and application of ICT in teaching and learning activities

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to support educational process" (Bhat & Beri, 2016b. p. 3124).

ICT has been defined in terms of benefits and applications by different researchers like Sarkar (2012) defined it as a collection of varied technological gears used in communication, generation, dissemination, collection and administration of information. ICT in educational fields refer to systems that enable gathering, manipulation, management, access and communication of information in different forms (Yunus, Nordin, Salehi, Embi, & Salehi, 2013). Similarly, Judi, Sahari, Zin, and Yusof (2013) defined it as a wide collection of devices and applications that serve to ease and enhance efficiency in daily activities. Mangal and Mangal (2009) stated communicating with others, gathering information and using it for specific purposes can be traced from the evolution of human civilization. Before the invention of print media, information was stored in

the human memory and transmitted orally to others. Advancement of technology has a long history since the time of sending letters through birds and by hand, and later to transmitting information via wired gadgets.

Traditionally ICT was used in military and scientific sector only, with the passage of time its application was implemented in the field of industry (Duque, Collins, Abbate, Azambuja, & Snaprud, 2007). Its use and applications do not remained confined to any specific field, it encompassed diverse fields of professions and operations such as management, banking, healthcare, socio-economic, life security, judiciary and education (Dutta, Bilbao-Osorio, & Geiger, 2012; Duque et al., 2007). The history of growth and development of technology in education paints an interesting picture of how far education has come. ICT in education was introduced in mid-1600s, with the establishment of modern library and the pencil. An account of the history further revealed by the 2005, nearly 50% of educational organizations included computers in their technology budget and by this time more than 90% of educational organizations possesses internet access (Parson 2017).

Due to rapidly change in educational environments as compare to traditional teaching, teachers of present society rely on both online and offline resources (Bhat & Bashir, 2017), because modern man is in need of enhanced and updated knowledge, so that he can survive in the present competitive world with full access and control over the processes of gaining and disbursing knowledge (Bhat & Beri, 2016a). ICT is used in almost every aspect of education thereby harnessing its power as an effective medium for transmission of different forms

of education (formal, informal and non-formal). Besides it also serves the great cause of educational revolution in a great way by facilitating participation learning and removing the geographical barriers in all forms of education (Olofsson & Ola Lindberg, 2005). With its expansion and implementation in educational system educational organizations of present society have been forced to respond to the growing demands of technocentric society in order to transform it into knowledge economy (Bhat & Beri, 2016a). Integration of ICT in education has placed heavy demands on educational organizations with beneficial implications for teaching and research especially on dynamic forms of education (Siddiqui, 2004).

ICT revolution is one of the major challenge faced by Indian educational system. To counter the challenges posed by knowledge society, teachers of present society needs ample competency in ICT, so that they can integrate it effectively in their educational practices. Due to these consequences Indian policy planners adopted ICT to enhance growth and development of the country (Rastogi & Malhotra, 2013). In the present era where educational world is rapidly changing and bringing innovative challenges and realities to Teacher Educational Institutions (TEI's) with the new inventions, the ICT possesses commendable educational implications (Khan, 2012). In India Teacher Education is being restored and redesigned to adapt the changes taking place worldwide and minimize teaching and learning technological gap (Kanshal, 2012) but due to difference in pedagogical practices or types and levels of ICT skills, actual ICT integration in pedagogy gets hindered (Rastogi & Malhotra, 2013).

Due to globalization and surge in technological advancement every individual of present techno-centric society is in need of higher qualifications that impacts the educational institutions resulting in increased enrollment and over populated classrooms. Therefore, present educational system has made it imperative for teachers to adopt new technologies for imparting education, as students require up-to-date information, skills and knowledge for their survival and development in the present competitive world.

## METHOD

### Participants

In present study a sample of 80 university teachers was selected by employing convenient sampling technique from the 2 universities of Punjab. The sample consisted of 40 public (20 male and 20 female) and 40 private (20 male and 20 female) university teachers. The age group of the subjects was 25 to 45, and the researchers collected the sample in equal ratio refer to Table 1.

Table 1. Sample Description.

		Male	Female	Total
<b>Public</b>	<b>Uni.</b>	20	20	40
<b>Teachers</b>				
<b>Private</b>	<b>Uni.</b>	20	20	40
<b>Teachers</b>				
<b>Total</b>		40	40	80

## RESEARCH DESIGN

In present study 2-way analysis of variance (ANOVA) 2x2 factorial design (Table 2) is implemented in order to explore the differences in ICT Orientation of university teachers on the basis of

two demographic variables i.e. Type of University and Gender.

Table 2. 2x2 factorial design

	A1	A2
<b>B1</b>	A1, B1	A2, B1
<b>B2</b>	A1, B2	A2, B2

A = Type of University. (A1 = Public and A2 = Private).

B = Gender (B1 = Male and B2 = Female).

## INSTRUMENT

In present study ICT Orientation scale developed by Bhat and Bashir (2017) was used, the scale consists 15 items covering 4 factors of ICT i.e. Advantage, Compatibility, Ease of Use, and Perception. Each item of the scale is to be responded on five alternatives Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree. The scale possess good psychometric properties, as it has been validated according to standardized and latest trends of scale development.

## RESULTS AND DISCUSSION

**Summary of 2x2 analysis of variance (ANOVA) on the scores of ICT orientation of public and private university teachers with respect to gender.**

To study the main effect of type of university and gender along with their interaction effect analysis of variance (2x2 factorial design involving 2 types of universities i.e. public and private and 2 types of gender i.e. male and female) was applied on mean scores of ICT orientation. Descriptive statistical results for ICT orientation based on a sample of 369 university teachers is present in Table 3.

**Table3. Descriptive analysis of ICT Orientation of Public and Private University Teachers on different types of Gender.**

Type of University	Gender	Mean	Std. Deviation	N
Public	Male	100.5177	7.12660	18
	Female	97.7175	6.10818	22
	Total	98.8276	9.68720	40
Private	Male	104.2094	6.64196	19
	Female	100.6658	7.85790	21
	Total	102.8240	6.62769	40
Total	Male	102.4134	9.54781	37
	Female	102.2504	9.77444	43
	Total	102.3258	9.60945	80

**Table 4. Summary of 2 way ANOVA (2x2) for interaction between type of university and gender with regard to ICT orientation.**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Type of University	379.190	1	379.190	4.201	.040*
Gender	.588	1	.588	.006	.936
Type of University * Gender	9.845	1	9.845	.187	.749
Error	6894.284	76	90.714		
Total	84494.0334	80			

Significant at \* 0.05 level of significance

**Main Effect Type of University:** - The perusal of Table 4 revealed that F-ratio for the difference between ICT Orientation of public and private university teachers is  $F(1,79) = 4.201, p = .040$ , which is found significant at the 0.05 level of significance. The results indicate that teachers working in different type of universities i.e. public and private significantly differ on the scores of ICT orientation. It has been observed from Table 4 that public and private university teachers significantly differ on

their ICT orientation. It was assumed that different type of university teachers i.e. public and private varies in the level of motivation, technological exposure, infrastructure and application of ICT in their day to day tasks. Therefore, teachers working in public and private universities differ in their ICT orientation. Further, analysis of Tables 3 revealed that mean score on ICT orientation favors private university teachers. The results illustrate that teachers working in private universities have more technological exposure as they reported use of multimedia techniques such as PowerPoint presentations, online quizzes, and educational blogs are positively related to academic performance of their students and use of ICT in educational activities promotes conducive teaching learning environment. Ahmed and Khurshid (2015) correlated the present findings and published that private university teachers reported higher score on different aspects of ICT as compare to public university teachers.

**Main Effect Gender:-** Table 4 revealed that calculated F-ratio for the main effect of gender on ICT orientation of university teachers, came out to be  $F(1,79) = .006, p = .936$ , which is found insignificant at 0.05 level of significance. The results revealed that groups of teachers having different gender i.e. male and female do not differ significantly in their ICT orientation.

From the analysis of Table 4, it has come to fore that teachers working in public and private universities do not differ in their ICT orientation on the basis of their gender. It was assumed that male and female teachers working in different types of universities possess similar views on ICT such as the use of ICT in teaching process encourages integrated learning that promotes thematic classroom approach and

conducive teaching learning environment. Supporting the present results Agbatogun(2010) reported that male and female faculty members possess analogous nature towards ICT .

#### **Interaction Effect (Type of university x Gender):-**

The perusal of Table 4 revealed that the F-ratio for the interaction between type of university and gender of university teachers on ICT orientation is found to be  $F(1,79) = .187, p = .749$ , which is found insignificant at 0.05 level of significance. The results indicate the main effects i.e. type of university and gender of teachers functions independently. The results revealed that perception of university teachers on the scores of ICT orientation as a result of interaction of type of university and gender for various sub-groups do not differ significantly.

#### **Conclusion**

A closer view of the analysis revealed that ICT orientation of public and private university teachers differ significantly on type of university. It has been observed that private university teachers show higher ICT orientation level as compared to public university teachers. This is one of the key findings that contributes to the academic literature on ICT orientation in the university context. Till date most of the literature available has focused on the specific components of ICT and not on the basic orientation. Maximum number of studies have been conducted on primary and secondary educational levels. The findings are supported by Ahmed and Khurshid (2015); Arshid and Ahmed (2015); Philomina and Amutha (2016). Surprisingly, the results revealed that public and private university teachers do not differ significantly in their ICT orientation with respect to their gender. Besides, the interaction

analysis do not revealed a cross-over between the type of university and stream of university teachers. Present study provides a key implications for administrators of public universities, that they need to restructure the curriculum by focusing on technology-based pedagogies. The administrators of public universities should conduct workshops, conferences, and training programs, focusing on ICT orientation and encourage teachers to take part in these programs. There should be an increase in the frequency of training and awareness programs on the use of various databases, search engines, collaborative learning, virtual learning etc. which are rarely used to enhance and enrich their academic and research work.

#### **REFERENCES**

- Bhat, S. A., & Bashir, M. (2017). Measuring ICT orientation: Scale development & validation. *Education and Information Technologies*, 1-21. doi. <https://doi.org/10.1007/s10639-017-9656-4>
- Bhat, S. A., & Beri, A. (2016a). ICT Immersion in Different Domains of Teaching Profession-A Literature Review. *The International Journal of Indian Psychology*, 3(3), 155-166.
- Bhat, S. A., & Beri, A. (2016b). ICT Orientation: Development and Validation of ICTOR Scale for Teachers. *Man in India*, 96(9), 3123-3134.
- Duque, R., Collins, M., Abbate, J., Azambuja, C. C., & Snaprud, M. (2007). History of ICT, In Shrum, W., Benson, K. R., Bijker, W. E., & Brunnstein, K. (Ed). *Past Present and Future of Research in the Information Society*. Boston MA: Springer.

- Dutta, S., Bilbao-Osorio, B., & Geiger, T. (2012, November). The global information technology report 2012. In World Economic Forum (pp. 3-22). Retrieved from: [https://www3.weforum.org/docs/Global\\_IT\\_Report\\_2012.pdf](https://www3.weforum.org/docs/Global_IT_Report_2012.pdf)
- Judi, H. M., Sahari, N., Zin, N. A. M., & Yusof, Z.M., (2013). Framework of ICT Impact on Adolescent. *Procedia Technology*, 11, 1034-1040.
- Kanshal, H. (2012). Transformational Value of ICT in Teacher Education: Learning from India. *Indian Streams Research Journal*, 2(4).
- Khan, S. H. (2012). Integration of ICT Component in Teacher Educational Institutions: An Unavoidable Step towards Transforming the Quality of Present Teacher Education System. *Indian Streams Research Journal*, 1(12), 1-4.
- Mangal, S. K., & Mangal, U. (2009). *Educational Technology*. New Delhi: PHI Learning PVT. Ltd.
- Olofsson, A. D., & Ola Lindberg, J. (2005). Assumptions about participating in teacher education through the use of ICT. *Campus-Wide Information Systems*, 22(3), 154-161.
- Parson, K. (2017 June). OurICT: The Ultimate History of Technology in Education [Blog Post]. Retrieved from <http://www.ourict.co.uk/technology-education-history/>
- Prestridge, S. (2008). Teachers' orientation towards ICT professional development. Paper presented at The Australian Computers in Education Conference (ACEC2008) Act on ICT, National Convention Centre Canberra ACT Australia. Retrieved from: <http://hdl.handle.net/10072/22286>
- Rastogi, A., & Malhotra, S. (2013). ICT Competency: A Correlate of Technology Use in Indian Classrooms. *Asian Journal of Research in Social Sciences and Humanities*, 3(10), 57-69.
- Russell, G. (1999). Implications of the 1999 DEST Report for Professional Development in Learning Technology. Paper presented at the ACEC2000, the Australasian Computers in Education Conference, "Learning Technologies, Teaching and the Future of Schools", Melbourne, Australia.
- Sarkar, S. (2012). The Role of Information and Communication Technology (ICT) in Higher Education for the 21st Century. *The Science Probe*, 1(1), 30-41.
- Siddiqui, M. H. (2004). *Technology in Higher Education*, 115. New Delhi: APH Publishing Corporation.
- Yunus, M. M., Nordin, N., Salehi, H., Embi, M. A., & Salehi, Z. (2013). The use of information and communication technology (ICT) in teaching ESL writing skills. *English Language Teaching*, 6(7), 1-8.