Indian Journal of Psychology and Education
July, 2026, Vol. 16 No.2, pp 44-49

Exploring Teachers' Attitude to ICT integration into Classroom Teaching: A study of Tripura

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Abstract

This study aimed to evaluate the Teachers' attitude to ICT integration into Classroom instruction. In this regard, a descriptive survey method was adopted. The participants consisted of Senior Secondary School Teachers belonging in rural and urban areas (N=60;Male=30;Female=30).In order to gather first hand data, a self made questionnaire of attitude of Teachers on ICT was prepared and considered as the research instrument. For the present investigation Stratified Random Sampling from Teachers in Dhalai region of Tripura was taken. To analyze and interpret the acquired data, different statistical techniques were employed such as, Mean, S.D, z test, t-test and Correlation. The findings demonstrated that Teachers had favorable attitude to ICT inclusion in Classroom discussion. It also revealed that no imparity was found in the way of Teachers ICT cohesion attitude in connection to gender. The results showed geographical differences among instructors do not pose obstacle in technology insertion process. Further, it also demonstrated that a moderate relationship among educators towards ICT unification in instructional method was observed.

Key Words: ICT, Attitude, Integration, Teachers, Tripura

With the advent of 21st Century, Technology has emerged as an important factor across many fields including education. While its importance is growing gradually, it has appeared as primary knowledge transfer gateway, now a day, in most of the Nations. Technology amalgamation has seamlessly emerged by newness and discovery which significantly transforming societies, and altered the peoples' way of thinking, working and living (Grabe,2007).Consequently, learning centers which aspire to ready up pupils to live in a 'knowledge community' must give priority to incorporate Information and Communication Technology into their curricula to remain relevant and effective (Ghavifekr,Afshari & Alma Salleh,2012).

In general, ICT co-ordination in pedagogy signifies practice of technological appliances to instructional course that are intimately associated with the applications of teaching technologies in institutions. Since, Pupils are habituated with technology and they can learn very best within the technological environment, due to the fact that ICT integration, especially, into classroom teaching is inevitable (Ottestad,2013).The reason is that ICT unification in classroom discourse facilitates more in the realm of pedagogy wherewithal the usage of ICT applications will give direction for efficacious lesson via backing of technological stuffs along its ingredient (Albion et.al.2013).This is believed that as good as in every domain of study begins from Mathematics ,Science, Arts, Humanities, Language and others leading areas of study must learn significantly and efficiently by the ICT flourished equipments. Furthermore, its complementary assistance to the teachers and students both, facilitate productive and effective learning (Yusuf & Behlol, 2011) by support of technology that furnish the motive of instructional aide (Jorge et.al..2003). That's why it is very necessary to have positive thought of teachers on the part of ICT fusion into Teaching (Muslem,Yusuf and Juliana,2018, Hong,2016,Daher, Bayaa & Anabousy,2018, Semerci & Aydin,2018, Adegbenro, Gumbo & Olakanmi,2017).The previous research demonstrated that many educators have positive outlook regarding ICT harmonization in Classroom deliberation(Chauhan&Sharma,2023,Msila,2015, Yapici and Hevedanli,2012,Fanai &Chhangte,2016,Mehra and Newa,2009).Therefore, effective incorporation of ICT into teaching lies more on teachers' positive feeling and competencies that enhance the usage of ICT for instructional delivery (Yapici&Hevedanli,2012,Veen,1993, Celik &Bindak,2005,Teo,2008,Mallik & Salam,2023,Harrison,Hennessy,Wamakote,2010, Wang,2007)

Rational of the Study: Teacher's attitude is considered as one of the fundamental cause that impacts ICT operation in lectureship (Belay, Khatete &Mugo2020). A definitive feeling is pivotal for effective ICT integration into the Teaching (Yusuf & Behol,2011).Many research demonstrated that successful insertion of technology in teaching significantly enhances the quality of teaching-learning and students academic attainment (Belay, Khatete &Mugo2020). Its efficient conjecture in teaching

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helps teachers to simplify abstract and complex concepts into easier way, and enhance cooperative learning and develop interest among learners in teaching. Materially, inclusion of ICT fosters a pupil centered educative atmosphere. In spite of having numerous advantages and opportunities it also exerts several challenges. It seeks transformation and renovation in the realm of education including alteration of curricular, assessment methods and haughtily evolving character of Guru from custodian of knowledge provider to backer of pedagogy. Hence, successful installation of ICT into pedagogy demands the presence of ICT infrastructure, and positive notion of preceptors and competencies, that exacerbates the usage of ICT for instructional procedure (Yapici & Hevedanli,2012).Preceding researches revealed that incorporation of ICT within classroom discourse improves learners receptivity, spatial skills and critical thinking and analytical reasoning skills etc.(Dalnaik,2023)

ICT harmonization plays a key figure to increase productivity ,educative expertise (Sanmamed & Sangra,2010) enhancing students' inventive skills ,discursive potentialities and enable to them act efficiently in the today's knowledge community. Successful fusion of ICT based materials transform the teaching learning process into a more effective, engaging and enthralling manner. It acts as an indispensable conduit between teachers and learners support the delivery of instruction in classroom setting in order to heightening effectiveness and efficiency. It, moreover, works as a motivator for students and enriching the educational exodus. ICT not only helps the teachers in mobilizing resources, erudition and monition but also supports to planning, preparing and designing (Naskar,2018), materials for learners. ICT materials serve as valuable instruments for teachers to keep them up to date, increase and retouch their scholastic efficiency and professional morals. The ingredient of communion, frankness and skills to freshen up action were reported as a path by which technological materials can raise the variety of pedagogical methodologies within educational arena. These resources provide assistance to teachers and pupils for facilitating a more useful and successful teaching-learning process in align with the educational aims and objectives. The focal role of ICT and its effectiveness on students teaching–learning process continued lure the researchers owing to their connection with pupils' wisdom and scholastic attainment (Dalnaik,2023).It is also a proven fact that ICT coordination into classroom impact teaching and learning a lot that is why country's past educational policies have given much emphasis for extensive exercise of ICT in classroom instruction.

Objectives: The main objectives were

1. To examine Teachers' attitude concerning ICT driven Teaching.
2. To understand the disparity among Teachers' attitude as regards ICT based education in terms of Sex.
3. To investigate Teachers' attitude about ICT incorporation into pedagogy in relation to locality.
4. To explore the relationship among Teachers' attitude regarding ICT inclusion in class discourse.

Hypotheses

The following Hypotheses are proposed in the study;

$H0_1$: Attitude of Teachers to ICT based education will not vary in respect to gender.

$H0_2$: Urban and Rural Teachers will not differ significantly in their attitude pertaining to ICT integration into pedagogy.

$H0_3$: There exists no significant correlation among Teachers' attitude regarding ICT inclusion in class discourse in respect of Gender.

Method

In this research, quantitative methodology followed by descriptive survey design had applied for gathering, organizing, analyzing & interpreting gained data from respondents**.**

Population: Teaching personnel engaged at Higher Secondary Schools in Dhalai territory of Tripura have been considered as population for the study.

Sample & Sampling: The participants consist of 60 School Teachers living in Dhalai Tripura District.The Researcher has covered all Blocks and Sub-Division in Dhalai District of Tripura for investigation. A Stratified random sampling strategy is employed to draw out representative samples from the entire population. There were equal number of male and female participants from rural(30) and urban 30).

Tools

A self made standardized questionnaire consisting of 30 items was used to collect responses from educators. The researcher of the present study ensures instrumental validity. Each item of the instrument was reviewed by two

experts. Split Half Method was exercised to confirm the consistency of instrument.

Data Collection & Analysis Process: The questionnaire was served out to the randomly selected teachers teaching at Government H.S Schools in Dhalai region of Tripura. Significance and implications of the study was neatly narrated to the Teachers. Numerous descriptive and inferential statistical measures were used as like Mean, S.D, z test, t-test and Correlation.

Results

led Teaching. The results reflect that instructors have the wider opportunity of using technology during class demonstration.

Objective (2). To understand the disparity among Teachers' attitude as regards ICT based education in terms of Sex.

$H0_1$: Attitude of Teachers to ICT based education will not vary in respect to gender.

Results (Table 2) indicate that comparative Mean and SD value of male teachers are 140.74 & 3.60 whereas female teachers' are 139.90 and

Table 1 Showing the Teachers' attitude Level

Range	Z score Criteria	Level of Attitude	N	%
Low	$z < -1.0$	Low	11	18.33
Below average	$-1.0 \leq z < 0$	Below average	21	35.00
Average	$0 \leq z < 1.0$	Average	13	21.67
High	$z \geq 1.0$	High	15	25.00

Objective(1). To examine Teachers' attitude concerning ICT driven Teaching.

It is clearly observed from the Table 1, that out of 60 Higher Secondary School Teachers only

3.41.The critical t – value along with degree of freedom at .05% level of significance is 2.00 and our computed t value 0.93 is less then table value of 't' and hence it can't be taken as significant

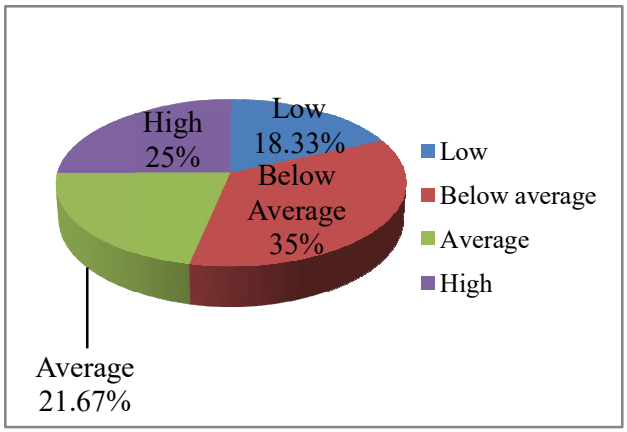

Figure 1Showing the level of Teachers attitude concerning ICT based Teaching

15(25 %) possess very high attitude on ICT based Teaching, 13 are Average, 21 are Below average, and 11 are having low attitude to ICT

and resulting the null hypothesis is not rejected. It also reveals gender role does not affect in ICT

Table 2, Showing mean difference between Male and Female Teachers' attitude to ICT instruction.

Sex	N	Mean	SD	df	't' value
Male	30	140.74	3.60	58	0.93^{ns}
Female	30	139.90	3.41		

ns= Non- significant

integrating process in day to day institutional practice.

Table 3 Showing mean difference between Urban & Rural Teachers' attitudes towards ICT based Teaching.

Group	N	Mean	SD	df	't' value
Urban Teacher	30	140.80	3.20	58	1.14^{ns}
Rural Teacher	30	139.80	3.62		

ns= Non- significant

Objective (3). To investigate Teachers' attitude about ICT incorporation into pedagogy in relation to locality.

$H0_2$: Urban and Rural Teachers will not differ significantly in their attitude pertaining to ICT integration into pedagogy.

The results(Table 3) depicts the critical t test value with degree of freedom at .05% level of significance is 2.00 and our computed t-ratio is 1.14 that implies lesser as compare to critical value 2.00 and thus inconsistence. Therefore, the null hypothesis can be accepted. As the data shown, regional distinction of teachers does not interfere in way of blending technologies in instructional method.

Objective (4) To explore the relationship among Teachers' attitude regarding ICT inclusion in class discourse.

$H0_3$: There exists no significant correlation among Teachers' attitude regarding ICT inclusion in class discourse in respect of Gender.

Table 4 Showing attitudinal interrelationship of Teachers to ICT guided Teaching

Category	N	r-value
Male Teacher	30	.55
Female Teacher	30	

The obtained coefficient of correlation is .55 which lies between the range of .41 to .70 that shows a moderate correlation,substantial but small relationship. Hence, the Null hypothesis is not accepted. Further the results illustrate teachers are having more or less knowledge, understanding and insight as to the utility of tech wielded tools.

Discussion

Extensive analysis of empirical research data delineated that a good number of energetic teachers have strong passion and devotes enough time to teaching hold positive stance in the way of ICT apparatus unification. This proposition had also been supported the literature work of Gaonkar(2022),Sahoo(2020),Sareen(2019) and Hong(2026) that unfold senior secondary teachers' positive outlook to ICT driven instructional and pedagogical tool. They also viewed it a resource bank for their classroom instruction. It is a proven fact that daily usage of technology and provided opportunities in working place are responsible up to a large extend for forming a definitive perception among instructors to its utility. Being a good medium it facilitates teachers to communicate faster, disseminate information quickly to the pupils and manage administrative work systematically. Moreover, the research outcomes portrayed gender role among teachers had no influence in ICT based pedagogical process which consistence with the research consequences of Imrana & Tyagi(2017), Dalnaik(2023).Indeed, the findings unveiled geographical imbalance among teachers do not hinder in ICT unison process it also agreed with the works of Dalnaik(2023) &Goswami(2020).Despite, having regional unevenness they showed a great deal of enthusiasm, affection and motivation to immerse into tech encompassed environment. Lastly, the result showed a moderate association is exist among instructors about ICT applicability and no distinction is observed in connection to sex. This is also unraveled that they have ample scope of working with diverse tech permitted tools to manage their instructional action.

The findings exhibits that 25% instructors have favorable and positive attitude towards ICT inclusion in Classroom discussion. Attitude of teachers can be enhanced through awareness of versatile benefits of ICT unification into teaching. Therefore, under the aegis of State Government and Department of Education concerned authorities must organize more awareness and training programs for the teachers to learn and adept how to blending ICI tools into classroom instruction more flexible, dynamic and holistic way. This kind of strides would be beneficial and encourage teachers to adopt ICT

applications in classroom transaction and provide a way to exaggerate their ICT competencies. Influential factors like interest of teachers, perceived usefulness and perception of the school administration and abundant training facilities influenced teachers numerously in practicing ICT in teaching. Hence, organizing proper training, awareness programs for school administrators and teachers facilitate them to amalgamate ICT successfully into classroom discourse. Although, most of the schools in Dhalai zone of Tripura have been decorated by ICT based teaching infrastructure and facilities but a lot of teachers, school administrators still have some lack in using available ICT facilities effectively and efficiently. Thus, the need of the hour is to organize adequate skill based training programs in order to influencing pragmatic teachers for applying ICTs components. Eventually, the State must have a uniform Government ICT policy for teachers to accelerate the ICT unification in classroom discussion, it is pronounced.

Conclusion: From the aforementioned discussion the present researcher can conclude that few higher secondary teachers had higher level of perception pertaining to ICTs amalgamation in classroom dialogue. Moreover, No differences were apparent in attitude of instructors on ICT based teaching with respect to gender. Further, it can be said that locality tag of teachers no way prevent them to connect ICTs into daily lessons and also a moderate affinity of educators prove a strong engagement with ICT directed teaching. Its versatile benefits heighten the status of teachers and teaching as well as have an immense relevance for societal prosperity.

References:

Adegbenro, J.B., Gumbo,M.T., & Olakanmi,E.E.(2017). In-Service Secondary school Teachers' Technology Integration Needs in an ICT enhanced Classroom.*Turkish Online Journal of Educational Technology.16*(3),79-87.

Belay, T.M., Khatete, W.D., & Mugo, C.B. (2020). Teachers' attitude towards integrating ICT in classroom instruction in teaching and learning Biology in Secondary Schools in the Southern region,Eritrea. *Journal of Education and Practice.Vol.5*,pp 1-18

Celik, H.,& Bindak, R.(2005). Examination of Computer attitudes among teachers employed in primary schools in terms of different variables.Inonu *University Journal of Faculty of Education,10(*6),27-38.

Chauhan, P.S., & Sharma, P. (2023). A study of teachers' attitude towards Information and Communication Technology (ICT) at senior Secondary level. *International Journal of Creative Research Thoughts.*

Daher, W.,Bayaa, N., & Anabousy, R.(2018). In service Mathematics Teachers' Integration of ICT as Innovative practice. *International Journal of Research in Education and science,* 534-543.

Dalnaik, K.S. (2023). Attitude of Secondary School Teachers towards inclusion of ICT materials in Teaching Learning Process of MayurbhanjDistrict ,Odisha:An Analytical Study; *International Journal of Science and Research.*

Fanai, L.,& Chhangte, R.(2016). Attitude of secondary school teachers towards ICT with respect to Teaching experience. *Imperial Journal of interdisciplinary Research.2* (10),121-126.

Gaonkar, A.M. (2022). Examining High School Teacher's attitude towards ICT use in Education; *IJCRT.*

Ghavifekr, S., Afshari, M., & Amla Salleh. (2012).Management strategies for E-learning system as the core component of systematic change: A qualitative Analysis. *Life Science Journal*

Goswami. S. (2020). Secondary school teachers 'attitude towards Information and Communication Technology in Meerut City: A comparative study. www.allresearchjournal.com.

Grabe, M., & Grabe, C.(2007). Integrating technology for meaningful learning (5th Ed). *Boston,MA: Houghton Mifflin.*

Hong, J.E. (2016). Social Studies teachers' views of ICT integration.Review of *International Geographical Education Online.6*(1),32

Jamieson-Proctor, et.al. (2013). Development of the TTF TPACK survey instrument. *Australian Journal.*

Jorge, C.et al. (2003). Use of the ICTs and the perception of e-learning among university students A differential perspective according to gender and degree year group. *Interactive Multimedia,7,*13- 28.

Mallick, B.,& Salam, A. Md.(2023). Teacher's attitude towards ICT integration in BGS classroom of Secondary Schools in Bangladesh; Teacher's World. *Journal of Education and Research.*

Mehra, V.,& Newa, D. (2009). School Teachers' attitude towards Information and Communication Technology. *Edutracks, 6*(8), 25-36

Misla, V. (2015). Teacher readiness and Information and Communications Technology (ICT) use in Classrooms: A South African Case Study. *Creative Education.*

Muslem, A., Yusuf, Y.Q., & Juliana, R. (2018). Perception and barriers to ICT use among English Teachers in Indonesia. *Teaching English with Technology. 18*(1),3-23.

Naskar, S.S.(2018). Attitude of Secondary School Teachers towards the use of Information and Communication Technology; *Research Guru.*

Ottestad, G.(2013). School leadership for ICT and Teachers' use of Digital tools. *Nordic Journal of Digital Literacy*, 107-125.

Sareem, S .(2019). Attitude of School teachers towards ICT in relation to their perceived self efficacy in ICT. *Research and Reflection on Education*.

Semerci, A., & Aydin, M.K. (2018). Examining High School Teachers' attitudes towards ICT use in Education. *International Journal of Progressive Education, 14*(2), 93-105.

Tyagi, N., & Imrana. (2017). A study of attitude towards Information and Communication Technology of Secondary School Teachers in relation to their Gender and Type of School. *International journal of E-Government and E-Business Research,2*(1),67-85

Veen, W. (1993).The role of beliefs in the use of Information Technology: implications for teacher education or teaching the right thing at the right time. *Journal of information Technology for Teacher Education.*

Yapici, I.U., & Hevedanli, M. (2012). Pre-Service Biology Teachers' attitude towards ICT using in Biology Teaching. *Procedia-Social and Behavioural sciences, 64*,633-638.

Yusuf, Md., & Behlol, Y. (2011). Effectiveness of Information and Communication Technology in teaching in secondary level, *Malaysian online Journal of educational Technology, 4*(2), 13-20.