International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319-6505, Impact Factor: SJIF: 5.995
Available Online at www.journalijcar.org
Volume 7; Issue 1(H); January 2018; Page No. 9301-9306
DOI: http://dx.doi.org/10.24327/ijcar.2018.9306.1532

Research Article

A STUDY OF TECHNO-PEDAGOGICAL COMPETENCY AMONG TEACHERS OF GOVERNMENT & PRIVATE SCHOOLS OF HARYANA STATE

Jai Parkash* and Sushma Rani Hooda

JCD (PG) College of Education, Sirsa

A R T I C L E I N F O

Article History:

Received 20th October, 2017
Received in revised form 10th November, 2017
Accepted 26th December, 2017
Published online 28th January, 2018

Key words:

Technology, Pedagogy, Competency, Pedagogical Competency, Higher Secondary School Teachers, Government Schools, Private Schools.

A B S T R A C T

Educational technology is a systematic and organized process of applying modern technology to improve the quality of education. It is a systematic way of conceptualizing the execution and evaluation of the educational process, i. e. learning and teaching and help with the application of modern educational teaching techniques. It includes instructional materials, methods and organization of work and relationships, i.e. the behavior of all participants in the educational process. Techno pedagogy refers to electronically mediated courses that integrate sound pedagogic principles of teaching & learning with the use of technology. The techno pedagogy knowledge collaboratively developed frame work of scholars & researchers seeking to conceptualize & clarify the competencies that evolve from the intersection between pedagogy & technology. Present study aim is to compare the techno-pedagogical competency among teachers of Government & private schools of Haryana State. For the present study a sample of 200 Higher Secondary School teachers were selected from 20 Government and 20 private schools by random technique from Haryana State and descriptive survey method was used. Results shows that mean value of techno pedagogical competency of private higher secondary school teachers is more than Government higher secondary school teachers. So the techno pedagogical competency of private higher secondary school teachers is better than Government higher secondary school teachers because the facilities given in private schools are better than facilities in Government schools. The mean value of techno pedagogical competency of male teachers of Government and Private higher secondary school is better than female teachers of Government and Private higher secondary school. So the techno pedagogical competency of male teachers of Government and private higher secondary school is better than female teachers of Government and private higher secondary school. The mean value of techno pedagogical competency of urban Government and private higher secondary school teachers is more than rural Government & private higher secondary school teachers. It is concluded that the techno pedagogical competency of urban Government & private higher secondary school teachers is better than rural Government & private higher secondary school teachers this is because more facilities are available in Urban schools as compared to rural schools.

INTRODUCTION

In the world that we currently live in technology is a very vital factor. Technology is increasingly growing its importance in education system. Technology ushers in fundamental structural changes that can be integral to achieving significant improvement in productivity. Technology is useful in both teaching & learning. The recent developments in technology have changed the world outside the classroom; it is more eye-catching and interesting for a student then the classroom setting. Technology infuses classrooms with digital learning tools, expands course offerings, increases student engagement & motivation.The presence of educational technology is growing in the classroom. With the help of new technology comes an explosion of learning and receiving new information, especially on mobile devices. The new generations of kids come ready to work with these new technologies, which play an important role in children's learning and acquiring various cognitive knowledge. The application of educational technology enhances skills and cognitive characteristics. Techno Pedagogy This is the hybrid method of teaching in which information & computer technology is used for teaching learning situation. The term Pedagogy refers to the arts-science of teaching and techno refers to art skill in handcrafting derived from Latin word "Texere". In other words techno pedagogy is nothing but the art & science of teaching with the help of technology.Role Of Techno-Pedagogy In Education

Corresponding author:* **Jai Parkash
JCD (PG) College of Education, Sirsa

i.) Enhance linguistic abilities. ii.) Develop teaching learning process. iii.) Improve to develop study materials. iv.) Drive multi-grade instruction. v.) Plan specific pedagogy. vi.) Stimulate self -learning ability. vii) . Reinforce for cognitive learning.

Techno-Pedagogic Skills

- Skill to assess the potential and limits of technologies for learning.
- Skill to carry out a need analysis to introduce technologies in a pedagogical sequence.
- Skill to handle basic tools and applications, and solve simple technical problems.
- Skill to design appropriate tasks.
- Skill to design for intersections within and outside the classroom.
- Skill to invest new and interactive technologies congruence with the nature of the subject.
- Skill to manage time and optimize the integration of technologies.

Techno-Pedagogical Competency

The Techno-Pedagogical competency is the ability and the expertise of the teachers to make use of necessary technology appropriately and effectively in the teaching.Mere introduction of technology to the educational process is not enough. We must ensure that technological integration is effective. Technology by itself will not lead to change. The way in which teachers integrate technology has the potential to bring change in the education process. So attitude and competence of a teacher towards technology implementation plays an important role. In order to become fluent in the usage of educational technology teachers must adapt themselves with the latest tools.

Justification of the Study

Investigator visited libraries of various institutions and studied National Educational Survey & relevant selected topics and studied National and International Journals ,various articles relevant to topic too. Bisht Deepa (2013), Nayark A., Barker M.(2014), Thakur Nabin (2015), Tina (2015), Nasongkhla Jaitip, Sujiva Siridej (2015), Hulya Gur, Aysen Karamete (2015), Ozdemir Muhammet (2016), Yilmaz Ramazan (2016), Leema K M, Dr. T. Mohamed Saleem (2017) all had worked on techno-pedagogy competency among teachers . After going through such type of studies investigator finally decided to select the research problem – "A Study Of Techno-Pedagogical Competency Among Teachers of Government & Private Schools of Haryana State."

Statement of Problem

"A Study of Techno-Pedagogical Competency Among Teachers Of Government & Private Schools Of Haryana State"

Operational Definitions Used In This Research

Technology - Technology is closely associated with innovation, the transformation of ideas into new and useful products or processes. Pedagogy – Pedagogy is derived from two Greek words "Paid" meaning child and "Agogos" meaning leading. So, it literally means "to lead the child". Thus pedagogy has been defined as the art and science of teaching children, which indicates the teacher-directed instructions. Competency – Competency is the ability of an individual to do a job properly. A competency is a set of defined behaviors that provide a structural guide enabling the identification, evaluation and development of the behaviors in individual. Pedagogical Competency - Pedagogical Competency is the skill, ability and capabilities possessed by the teacher so as to make the teaching learning environment effective and productive thereby realizing the full potential of teacher as well as students and in turn achieving the goals of education. Secondary School – The school in which education is provided to students from class 6^{th} to class 10^{th}.

Govt. Secondary School – The secondary school which is being operated by Government of concern state.
Private Secondary School – The secondary school which is being operated by private management. In this kind of schools Private Management is sole responsible for financial issues & money arrangement to run the school.

Objectives

- To study and compare the techno-pedagogical competency between Government and Private Higher Secondary School teachers.
- To study and compare the techno-pedagogical competency between male & female teachers of Government Higher Secondary Schools.
- To study and compare the techno-pedagogical competency between male & female teachers of Private Higher Secondary Schools.
- To study and compare the techno-pedagogical competency between teachers of Urban & Rural Government Higher Secondary Schools.
- To study and compare the techno-pedagogical competency between teachers of Urban & Rural Private Higher Secondary Schools.

Hypotheses

- There is no significant difference of techno-pedagogical competency between Govt. & Private Higher Secondary School teachers.
- There is no significant difference of techno-pedagogical competency between male and female teachers of Govt. Higher Secondary School.
- There is no significant difference of techno-pedagogical competency between male and female teachers of Private Higher Secondary School.
- There is no significant difference of techno-pedagogical competency between teachers of Urban & Rural Govt. Higher Secondary School.
- There is no significant difference of techno-pedagogical competency between teachers of Urban & Rural Private Higher Secondary School.

Population

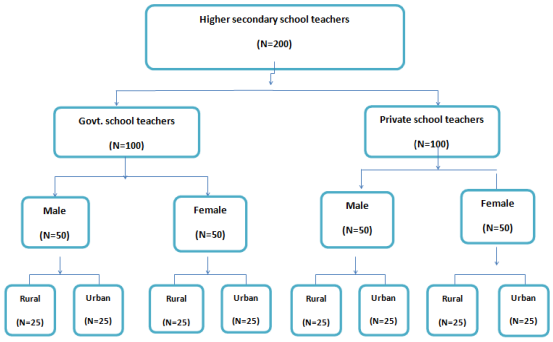
All the higher secondary school teachers working in Government and Private Schools of rural and urban areas of Haryana state constitute the population of this study.

Sample

In this study a random sample of 200 Higher Secondary School teachers are selected. Out of which 100 teachers are from Government Higher Secondary Schools. Among these 100 teachers there are 50 Male teachers and 50 Female Teachers. In these 50 teachers of both categories there are 25

teachers from schools located in rural areas and 25 teachers from school located in urban area. Similarly, remaining 100 teachers are selected from Private schools by adopting the same formula adopted in Government Schools.

Sample Design



Delimitations Of Study

- In this study the samples size of 200 Higher Secondary School teachers are delimited.
- In this study the sample is randomly selected from Haryana state only.
- In this study objectives, Hypotheses & statistical techniques are delimited.
- In this study one independent variable i.e. Techno-Pedagogical Competency scale is delimited.
- In this study teachers of 20 Government Higher Secondary Schools and 20 Private Higher Secondary Schools of Haryana State are delimited.

Tool Used In This Study

Teacher's Techno-Pedagogical Competency Scale by Dr. S. Rajasekar and K. Sathiyaraj, developed in 2013 is used to find Techno-Pedagogical Competency of Higher Secondary School Teachers.

Statistical Techniques Used

In this study the following statistical techniques are used

a. Mean
b. Standard Deviation
c. t-Ratio

Analysis and Interpretation of Data

To find out the difference of techno pedagogical competency of Government and Private school teachers t-ratio has been found out. The observed values are compared with critical values at 0.05 and 0.01 levels to know whether the results are:- Hypothesis No. 1:- There is no significant difference of techno-pedagogical competency between Govt. & Private Higher Secondary School teachers.

Interpretation

In this study the mean, S.D. of techno pedagogical competency of Government and Private higher secondary school teachers is 126.98, 7.55, 112.65, and 6.53 respectively. The calculated 't' value is 10.15, which is more than standard table value at both levels of significance at DF = 198, therefore, hypothesis no. 1 is rejected. The mean value of techno pedagogical competency of private higher secondary school teachers is more than government higher secondary school teachers. It is finally concluded that the techno pedagogical competency of private higher secondary school teachers is more than government higher secondary school teachers.

Table 1.1 Mean, S.D. &'t' values of techno pedagogical competency scale of Government and Private higher secondary school teachers.

Variable	N	M	S.D.	D.F.	T Value	Level of Significance
Techno Pedagogical Competency of Private Higher Secondary School Teachers	100	126.98	7.55	198	10.15	Significant at both levels 0.05 & 0.01
Techno Pedagogical Competency of Government Higher Secondary School Teachers	100	112.65	6.53			

DF = 198, 0.05 = 1.98, 0.01 = 2.63

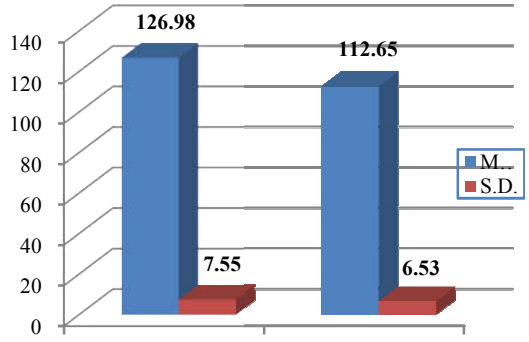


Fig 1.1 Techno pedagogical competency of private higher secondary school teachers.
Techno pedagogical competency of government higher secondary school teachers

Hypothesis 2: There is no significant difference of techno-pedagogical competency between male and female teachers of Govt. Higher Secondary School.

Table 1.2 Mean, S.D. &'t' values of techno pedagogical competency of male and female teachers of Government higher secondary school.

Variable	N	M	S.D.	D.F.	T Value	Level of Significance
Techno Pedagogical Competency of Male Teachers of Government Higher Secondary School	50	115.62	6.65	98	3.52	Significant at both levels 0.05 & 0.01
Techno Pedagogical Competency of Female Teachers of Government Higher Secondary School	50	109.12	6.41			

DF = 98, 0.05 = 2.01, 0.01 = 2.68

Interpretation

In this study the mean, S.D. of techno pedagogical competency of male and female teachers of Government higher secondary school is 115.62, 6.65, 109.12, and 6.41 respectively. The calculated 't' value is 3.52, which is more than standard table value at both levels of significance at DF = 98, therefore, hypothesis no. 2 is rejected. The mean value of techno pedagogical competency of male teachers of government higher secondary school is more than female teachers of government higher secondary school. It is finally concluded that the techno pedagogical competency of male teachers of

government higher secondary school is more than female teachers of government higher secondary school.

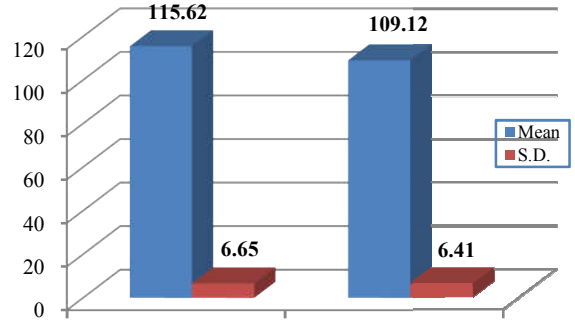


Fig. 1.2 Techno pedagogical competency of male teachers of government higher secondary school.
Techno pedagogical competency of female teachers of government higher secondary school

Hypothesis 3: There is no significant difference of techno-pedagogical competency between male and female teachers of Private Higher Secondary School.

Table 1.3 Mean, S.D. & 't' values of techno pedagogical competency of male and female teachers of Private higher secondary school.

Variable	N	M	S.D.	D.F.	T Value	Level of Significance
Techno Pedagogical Competency of Male Teachers of Private Higher Secondary School	50	130.13	7.89	98	2.81	Significant at both levels 0.05 & 0.01
Techno Pedagogical Competency of Female Teachers of Private Higher Secondary School	50	124.12	7.21			

DF = 98, 0.05 = 2.01, 0.01 = 2.68

Interpretation

In this study the mean, S.D. of techno pedagogical competency of male and female teachers of Private higher secondary school is 130.13, 7.89, 124.12 and 7.21 respectively. The calculated 't' value is 2.81, which is more than standard table value at both levels of significance at DF = 98, therefore, hypothesis no. 3 is rejected. The mean value of techno pedagogical competency of male teachers of private higher secondary school is more than female teachers of private higher secondary school. It is finally concluded that the techno pedagogical competency of male teachers of private higher secondary school is more than female teachers of private higher secondary school.

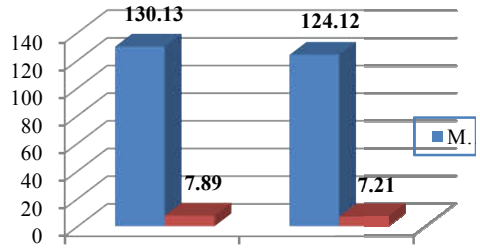


Fig. 1.3 Techno pedagogical competency of male teachers of private higher secondary school.
Techno pedagogical competency of female teachers of private higher secondary school teachers

Hypothesis 4: There is no significant difference of techno-pedagogical competency between teachers of Urban & Rural Govt. Higher Secondary School.

Table 1.4 Mean, S.D. &'t' values of techno pedagogical competency of teachers of Urban and Rural Government higher secondary school.

Variable	N	M	S.D.	D.F.	T Value	Level of Significance
Techno Pedagogical Competency of Urban Government Higher Secondary School Teachers	50	114.02	6.60	98	3.26	Significant at both levels 0.05 & 0.01
Techno Pedagogical Competency of Rural Government Higher Secondary School Teachers	50	108.05	6.35			

Interpretation

In this study the mean, S.D. of techno pedagogical competency of Urban and Rural Government higher secondary school teachers is 114.02, 6.60, 108.05 and 6.35 respectively. The calculated 't' value is 3.26, which is more than standard table value at both levels of significance at DF = 98, therefore, hypothesis no. 4 is rejected. The mean value of techno pedagogical competency of Urban Government higher secondary school teachers is more than Rural Government higher secondary school teachers. It is finally concluded that the techno pedagogical competency of Urban Government higher secondary school teachers is more than Rural Government higher secondary school teachers.

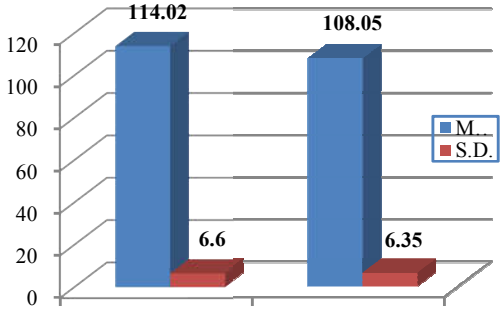


Fig. 1.4 Techno pedagogical competency of Urban Government higher secondary school teachers.
Techno pedagogical competency of Rural Government higher secondary school teachers

Hypothesis 5: There is no significant difference of techno-pedagogical competency between teachers of Urban & Rural Private Higher Secondary School.

Table 1.5 Mean, S.D. & 't' values of techno pedagogical competency of teachers of Urban and Rural Private higher secondary school.

Variable	N	M	S.D.	D.F.	T Value	Level of Significance
Techno Pedagogical Competency of Urban Private Higher Secondary School Teachers	50	128.67	7.90	98	2.86	Significant at both levels 0.05 & 0.01
Techno Pedagogical Competency of Rural Private Higher Secondary School Teachers	50	122.57	7.15			

DF = 98, 0.05 = 2.01, 0.01 = 2.68

Interpretation

In this study the mean, S.D. of techno pedagogical competency of Urban and Rural Private higher secondary school teachers is 128.67, 7.90, 122.57 and 7.15 respectively. The calculated 't' value is 2.86, which is more than standard table value at both levels of significance at DF = 98, therefore, hypothesis no. 5 is rejected. The mean value of techno pedagogical competency of Urban Private higher secondary school teachers is more than Rural Private higher secondary school teachers. It is finally concluded that the techno pedagogical competency of Urban Private higher secondary school teachers is more than Rural Private higher secondary school teachers.

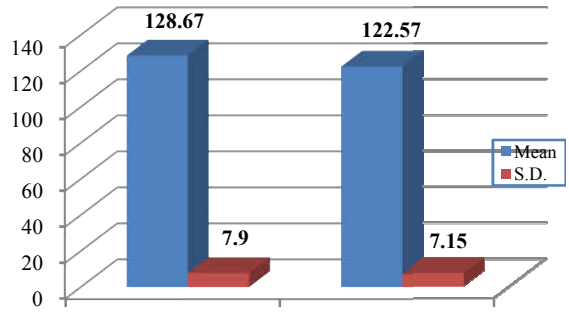


Fig. 1.5 Techno pedagogical competency of Urban Techno pedagogical competency of Rura
Private higher secondary school teachers. Private higher secondary school teachers

Major Findings

In Hypothesis 1: There exists significant difference of techno pedagogical competency between private and Government higher secondary school teachers because the calculated value of 't' is more than standard table value at both levels of significance, therefore hypothesis no. 1 is rejected. Further the mean value of techno pedagogical competency of private higher secondary school teachers is more than government higher secondary school teachers. It is concluded that the techno pedagogical competency of private higher secondary school teachers is better than government higher secondary school teachers.

In Hypothesis 2: There exists significant difference of techno pedagogical competency between male and female teachers of government higher secondary school because the calculated value of 't' is more than standard table value at both levels of significance, therefore hypothesis no. 2 is rejected. Further the mean value of techno pedagogical competency of male teachers of government higher secondary school is more than female teachers of government higher secondary school. It is concluded that the techno pedagogical competency of male teachers of government higher secondary school is better than female teachers of government higher secondary school.

In Hypothesis 3: There exists significant difference of techno pedagogical competency between male and female teachers of private higher secondary school because the calculated value of 't' is more than standard table value at both levels of significance, therefore hypothesis no. 3 is rejected. Further the mean value of techno pedagogical competency of male teachers of private higher secondary school is more than female teachers of private higher secondary school. It is concluded that the techno pedagogical competency of male teachers of private higher secondary school is better than female teachers of private higher secondary school.

In Hypothesis 4 : There exists significant difference of techno pedagogical competency between urban and rural government higher secondary school teachers because the calculated value of 't' is more than standard table value at both levels of significance, therefore hypothesis no. 4 is rejected. Further the mean value of techno pedagogical competency of urban government higher secondary school teachers is more than rural government higher secondary school teachers. It is concluded that the techno pedagogical competency of urban government higher secondary school teachers is better than rural government higher secondary school teachers.

In Hypothesis 5: There exists significant difference of techno pedagogical competency between urban and rural private higher secondary school teachers because the calculated value of 't' is more than standard table value at both levels of significance, therefore hypothesis no. 5 is rejected. Further the mean value of techno pedagogical competency of urban private higher secondary school teachers is more than rural private higher secondary school teachers. It is concluded that the techno pedagogical competency of urban private higher secondary school teachers is better than rural private higher secondary school teachers.

Educational Implications

In this study, major findings indicate that the private school teachers are better than Government school teacher in techno pedagogical competency because the facilities given in private schools are better than facilities in Government schools. Similarly the techno pedagogical competency of male teachers & urban school teachers is better than female teachers & rural school teachers. Therefore, this study play an important role to find out the reason behind the poor techno pedagogical competency of Government school teachers and take strong steps to improve their techno pedagogical competency. This study also helps to reduce the barriers to increase the techno pedagogical competency of teachers and aware them about the need and importance of the techno pedagogy.

Suggestions for Further Study

The present investigation has certain limitations and the area of present study needs more explanations. Therefore, various suggestions are there regarding the further study.

- In this study, the investigator has selected random sample of 100 Government & 100 Private higher secondary school teachers which may be increased.
- The investigator has selected one State, another State may be selected.
- In this study, the investigator has selected one variable i.e. teacher's techno pedagogical competency scale, another variable like attitude towards using new technology scale etc. May be taken for further study.
- In this study, the investigator has used mean, S.D., 't' test, it is advised to use ANOVA & ANCOVA in analysis and interpretation of data.
- In this study, the investigator has selected sample from higher secondary school, sample from primary school, college, university may be taken.

References

Bisht Deepa (2013). Integration of ICT in teacher education for enhancing competency based teaching. *IJET* volume 3(1).

Ersoy, M., Yurdakul, L. K. & Ceylan, B., (2016). Investigating pre-service teacher's TPACK competencies through the lenses of ICT skills: An experimental study. Education and science advance online publication.

Laxmi Vijay, Gure Gobind, (2016). Techno-Pedagogy Practices in Teacher Education. *International Journal of Enhanced Research in Educational Development* (IJERED), ISSN: 2320-8708, Vol. 4 Issue 6.

Leema K. M., Dr. T. Mohamed Saleem, (2017). Infusion of techno pedagogy in elementary teacher education curriculum: perspectives and challenges. *Iosr journal of humanities and social science* (iosr-jhss) volume 22, issue 1, ISSN: 2279-0837.

Nasongkhla Jaitip, Sujiva Siridej, (2015). Teacher Competency Development: Teaching with tablet technology through classroom Innovative Action Research (CIAR) coaching process.

Ozdemir Muhammet, (2016). An Examination of techno pedagogical education competencies (TPACK) of pre-service elementary school & pre-school teachers. *Journal of Education and Training Studies*, Vol. 4.

S. Rajasekar, K. Sathiyaraj, (2013). Teacher's techno pedagogical competency scale. National psychological corporation, Agra (India).

S. Rajasekar, K. Sathiyaraj, (2013). The relationship between the techno-pedagogical competency of higher secondary school teachers and their anxiety towards the use of instructional aids in teaching. *International Journal of Teacher Educational Research (IJTER)* Vol.2 No.12, ISSN: 2319-4642.

S. Rajasekar, K. Sathiyaraj, (2015). Predictors of techno-pedagogical competency of teachers. *International Journal of Teacher Educational Research (IJTER)* Vol.4 No.4, ISSN: 2319-4642.

Thakur Nabin, (2015). A study on implementation of techno-pedagogical skills, its challenges and role to release at higher level of education. *American International Journal of research in humanities, arts and social sciences*, 9(2).

Tina (2015). Anxiety among higher secondary teachers for use of instructional aids in relation to their techno pedagogical competency. *IJEA* vol.4 Issue 8.

Yilmaz Ramazan, (2016). Examining the relationship between pre-service teacher's educational technology & material development competency & their techno pedagogical competency. 7th World Conference on Information technology, Bali, Indonesia.

How to cite this article:

Jai Parkash and Sushma Rani Hooda (2018) 'A Study of Techno-Pedagogical Competency Among Teachers of Government & Private Schools of Haryana State', *International Journal of Current Advanced Research,* 07(1), pp. 9301-9306.
DOI: http://dx.doi.org/10.24327/ijcar.2018.9306.1532

****