Reflective Teaching of Secondary Teachers in relation with their Attitude towards Action Research and Some Other Variables

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ABSTRACT

Reflective teaching and action research are the very important component of qualitative teaching-learning process. The main purpose of action research is to explore the new knowledge and strategy to sort out the immediate as well as local educational problems and to ensure the quality of education, and on the other hand reflective teaching is considered as the core ability to be a successful as well as innovative teacher. Action research is considered as an important tool of reflective teaching too. Reflective teaching and conduction of action research to solve the immediate problems are associated with each other in their aim and creative as well as scientific way of work. An individual can only make focus on the process of research if he/she motivated enough to do so and have positive attitude towards it. This study was conducted to know the relationship between reflective teaching and attitude towards action research of secondary teachers. To know the effect of their service condition and types of associated school of secondary teachers were other objectives of the study. The findings of the study showed a positive relationship between reflective teaching and attitude towards action research of secondary teachers. A significant effect on the level of reflective teaching and attitude towards action research was revealed from the study.

Keywords: Reflective teaching, attitude, action research

Teaching is a creative process. It requires several skills and knowledge. Research and reflection are two well-known components to ensure the quality of teaching learning process. To be reflective about own teaching process is most required skill for a successful teacher. Reflective teaching has much potential to make a teacher more innovative, effective and student friendly. It focuses at all steps of teaching. Basically reflective teaching is a cyclic process of thinking about teaching. A cycle of reflective thinking starts with the formation and writing of instructional objective and it completes its one cycle with the evaluation of the outcomes and the execution of entire teaching process.

On the other hand, research has very important place in higher education. The prime concern of research is to explore the untouched area of knowledge, find out the solution of exiting problems and make available current status of a particular situation, opinion or demand that are essential for structuring a plan or taking decision to make situation more qualitative and sustainable. In the context of teaching-learning process, the main concern of research is to make teaching learning behaviour more effective and productive. There are three types of researches, named; Basic, Applied and Action research. Among these researches, Action research has much potential to ensure the quality of teaching-learning process in the context of providing immediate and functional solution of local problems.

Lots of changes have been done in the last couple of years. Now a day, the duration of all teaching training program is extended from one year to

two years. NCTE hopes that two year teaching training course will be significantly more effective in the development of creative and knowledgeable teachers. The focus of NCTE is not just to develop such type of teachers who have the skill to deliver content effectively but it has keen interest to inculcate research ability among teachers too to solve their day to day problems with full of scientific temperament.

There are many associative factors that internally or externally motivate and enable an individual to initiate a particular task. Attitude and reflective teaching are most important factors among them. Positive attitude towards any task leads individual to complete it with interest and hope of a positive response, in the same way reflective teaching provides a chance to make a particular task more effective and innovative.

Reflective teaching

Reflective teaching is the set of two concepts. Where, Reflection is a meta-cognitive strategy that helps teachers to think critically upon their own experiences, actions and decisions during their work on a task. On the other hand teaching stands for the teacher's all activities that facilitate students for their effective learning. The root of reflective teaching is related with 'reflective action'. The meaning of reflective action can be understood in terms of differences between reflective and routine action. Reflective action has significant distinction with routine action. Routine action is guided by factors such as tradition, habit, authority, by institutional definitions and expectations. In implication it is relatively static and is thus unresponsive to changing priorities and situation. On the other hand, Reflective action involves a willingness to engage in constant self-evaluation, use innovations, initiating action research to solve local problems with scientific temperament and open mind to be change for development. Among other things, it implies meta-cognitive process, flexibility, rigorous analysis and social awareness.

In addition, Reflective teaching is a meta-cognitive process in which teachers critically think and analyze about their own teaching activity. This process provides them inputs and insights to reorganize their own experiences. In this process teacher thinks over his/her teaching practices, analyzing

how something was taught and how the practice might be improved or changed for better learning outcomes. Planning, execution and evaluation are three stages in the process of reflective teaching. According to Andhariya (2005, p. 32), 'reflective teaching is that in which teacher critically think before the teaching, during the teaching and after the teaching. This type of thinking is continuously going-on as a cyclic process. Beliefs, assumptions, objectives, content, methods and outcomes of teaching processes and its relevancies are the important issues in reflective teaching process. The prime objective of this process is the development of a teacher's capacity and to improve the effectiveness of teaching learning processes'.

Characteristics of reflective teaching

Pollard, *et al.* (2008, pp.14-15) described about the seven core characteristics of reflective teaching. These are as given follows:

1. Reflective teaching implies an active concern with aims and consequences, as well as means and technical efficiency.

2. Reflective teaching is applied in a cyclic process, in which teachers plan, act, monitor, evaluate and revise their own practice continuously.

3. Reflective teaching requires competence in methods of evidence based classroom enquiry, to support the progressive development of higher standards of teaching.

4. Reflective teaching requires attitudes of open mindedness, responsibility and wholeheartedness.

5. Reflective teaching is based on teacher judgment, informed by evidence based enquiry and insights from other research.

6. In Reflective teaching, professional learning and personal fulfillment are enhanced through collaboration and dialogue with colleagues.

7. Reflective teaching enables teachers to creatively mediate externally developed frameworks for teaching and learning.

Action Research

Action research is a research initiated to solve an

immediate problem and leads an individual to initiate reflective thinking process of progressive problem solving way. This is a scientific way to address issues and solve problems too. Stephen core (1953), who is the prominent person to introduce action research in the field of education, states that action research is a process by which practitioners attempt to study their problems scientifically in order to guide, correct and evaluate their decisions and actions.

Describing the concept of action research, Best and Kahn (2012, p.21) said, 'Action research is focused on immediate application, not on the development of the theory, nor upon general application. It has placed its emphasis on a problem, here and now, in a local setting. Its findings are to be evaluated in terms of local applicability, not in terms of universal validity. Its purpose is to improve school practices and at the same time, to improve the practitioners. The purpose of action research is to combine the research function with teachers' growth in such qualities as objectivity, skill in research process, habits of thinking, ability to work harmoniously with others, and professional spirit'.

Characteristics of Action Research

Cohen & Manion (1994, p.186) provides seven characteristics of action research which are helpful to understand the nature and concept of action research. These are as follows:

1. **Action research is situational**: it is concerned with diagnosing a problem in a specific context and attempting to solve in that context.

2. **Action research is usually (though not inevitably) collaborative**: team of researchers and practitioners work together on a project.

3. **It is participatory**: team members themselves take part directly or indirectly in implementing the research.

4. **It is self-evaluative**: modifications are continuously evaluated within the ongoing situation, the ultimate objective being to improve practice in some way or other.

5. **It is diagnostic and therapeutic**: the use of action research in social sciences can be resolved in two stages: a diagnostic stage in which the problems are analyzed and the hypothesis developed; and second is therapeutic stage in which the hypotheses are tested by a consciously directed change experiment, preferably in a social life situation.

6. **It is a self-initiative**: in action research all the work related with research is initiated by the person who felt the problem or want to improve his/her efficiency.

7. **It is flexible in its research design:** there are enough space for researcher to change his/her research design according to the need of research work and evaluative feedbacks.

Rational of the study

The main objective of reflective teaching as well as action research is to enhance the quality of teaching learning process. Reflective teaching and action research both provide the immediate feedback to find out the issue and remedy to check it. Theoretically Reflective teaching must accelerate through research work. In this context action research plays an important role in reflective teaching learning process (Hagevik, *et al.*, 2012). Reflective teaching is responsible for qualitative teaching behaviour and boosting the success rate at any task. In the process of reflective teaching, an individual continuously think about its activity to be confident to deliver the curse content and facilitate environment to ensure qualitative teaching practice and boost creative learning process. The success and failure of the work paves the level of reflective teaching of a teacher.

On the other hand action research is a potentially powerful tool because it provides an immediate and functional solution of classroom's day to day problems. Edwards (2016) found in his study that there was a positive impact of action research in the professional development of teachers. Seider & Lemma (2004) also established that the action research had significant impact in attainment of 'inquiry mindset' and sense of professional efficacy enhancement. They also found that action research had immediate benefits for students and teachers. Wyatt (2011), and Atay (2008), involving in-service teachers on a training program, found that action research is useful in the development of research skills among teachers and teachers feel empowered

to implement the of findings of their action research in their profession.

Therefore, it will be beneficial for our education system to aware, motivate, and train in-service and pre-service teachers to be reflective over their academic work. To fulfil this purpose some questions like, what is the present status of reflective practices and attitude towards action research among secondary teachers; is there any difference in the level of attitude towards action research of students on the ground of their gender, service condition, and academic streams of secondary teachers on their reflective teaching as well as attitude towards action research, and the relationship between reflective teaching and attitude towards action research of secondary teachers are not answered yet particularly in Indian academic context. Therefore, this study was conducted to find out the relationship between both concepts and the effect of above said variables on the level of reflective teaching and attitude towards action research.

Objectives of the study

1. To investigate the effect of Secondary Teachers' condition of service (Permanent and contractual) of secondary teachers on their reflective teaching and attitude towards action research.

2. To investigate the effect of Secondary Teachers' associative schools (Government, Private and Post basic schools) on their Reflective teaching and Attitude towards action research.

3. To know the relationship between Reflective teaching and Attitude towards action research of secondary teachers.

Hypotheses of the study

Five null hypotheses were tested in this study. They are given follows:

1. There is no significant difference between the obtained mean scores on RTS of permanent and contractual secondary teachers.

2. There is no significant difference between the obtained mean scores on AATS of permanent and contractual secondary teachers.

3. There is no significant difference among the

obtained mean scores on RTS of secondary teachers on the ground of their associative schools (Government, private and post basic schools).

4. There is no significant difference among the obtained mean scores on AARS of secondary teachers on the ground of their associative schools (Government, private and post basic schools).

5. There is no relationship between the obtained scores on RTS and AARS of secondary teachers.

Methodology

Present study falls in the domain of descriptive study as it intends to investigate the reflective teaching and Attitude towards action research of secondary teachers. Survey method was used in this study.

Population and sample

Secondary Teachers of Ahmadabad and Gandhinagar districts of Gujarat were identified as the population of the study. The sample of the study was randomly selected. Cluster sampling technique was used to select the sample from the population. There were 148 secondary teachers from 27 secondary schools (5 Post Basic Schools, 9 Private schools and 13 Government schools) of Ahmedabad and Gandhinagar district. There were 79 male and 69 female secondary teachers in the sample. There were 63, 50 and 35 secondary teachers selected in the sample from government, private and post basic schools respectively.

Tools

Reflective Teaching Scale (RTS) and Attitude towards Action Research scale (AARS) were used to collect the data. RTS was constructed and validated by Andhariya (2017) were used to know the level of reflective teaching and attitude towards action research of secondary teachers respectively. There are 30 items in the RT scale. There were five points (5= Strongly Agree, 4=Agree, 3=cannot say anything, 2=Disagree, and 1=Strongly Disagree) allotted to response on the scale. The values of Cronback Alpha, Split-half and parallel reliability of RTS were 0.82, 0.83 and 0.82 respectively. RTS

has content validity. According to experts' opinions, all items were found fit to measure Secondary teachers' reflective teaching. Cliffs' Consistency index 'C', based on graph theory, is a measure of unidimentionality that show the consistency of the measurement (according to Joshi, 2002). Cliffs' Consistency index 'C' was calculated with the help of NRTBV program developed by Rathod (2001).

AARS, constructed and validated by Dixit (2017), as a part of Minor research project financed by GCERT, Gandhinagar, Gujarat, was used to collect the data. There are 37(22 positive and 15 negative items) items in the AARS. Cronback Alpha and Split-half reliability was calculated with the help of NRTBV (Rathod, 2001). The values of Cronback Alpha reliability and Split-half reliability were 0.89 and 0.93 respectively. Both reliability values were showed that ARA scale was highly reliable to measure secondary teachers' attitude towards action research. To establish the validity of the AARS content validity and Cliffs' consistency index 'C' of the scale were calculated. According to experts' opinions, all items were found fit to measure Secondary teachers' Attitude towards action research. Cliffs' Consistency index 'C', based on graph theory, is a measure of unidimentionality that show the consistency of the measurement (according to Joshi, 2002). Value of Cliffs' consistency index 'C'(0.42) shows the good unidimensionality of the scale.

Procedure of the collection and analysis of the data

With the prior permission of the principal, researcher visited the randomly selected Secondary schools. Researcher explained the purpose for which the study was being conducted and secondary teachers were requested to respond on the set of both (RTS and AARS) scale. After responding the secondary teachers, responded scale sheets were collected.

Descriptive and inferential statistical techniques were used to analyze the data. Mean, median, S.D., t-ratio, F-test and Pearson 'r' were used to test the hypothesis of the study.

RESULTS AND DISCUSSION OF THE STUDY

The detail of data analysis and its interpretation is discussed according to the objectives of the study.

Objective - 1: Service Condition in the context of Reflective teaching and Attitude towards Action Research

There were two null hypotheses tested to fulfil the objective - 1 of the study. Null hypotheses-1 and 2 were tested to know the effect of service condition of secondary teachers on their reflective teaching and attitude towards action research respectively. The detail of the testing of the hypotheses is given in Table 1.

Table 1 shows that there was a significant difference (t=3.54; p<0.01) found between permanent and contractual secondary teachers' reflective teaching. Thus, the null hypothesis-1 was not accepted and it was concluded that permanent secondary teachers (M=93.60, SD= 8.60) were significantly more inclined towards reflective teaching than contractual secondary teachers (M=87.91, SD=11.05).

Table 1 shows that there was a significant difference (t=3.05; p<0.01) found between permanent and contractual secondary teachers' attitude towards action research. Thus, the null hypothesis-2 was not accepted and it was concluded that the permanent secondary teachers (M=123.42., SD= 17.54) were showing significantly more attitude towards action research than contractual secondary teachers (M=113.07, SD=22.29).

Table 1: Mean, SD, and t-ratio in reference to service condition

Variables	Gender	No. of Secondary Teachers	Mean	SD	Std.Error of Mean	t-ratio
Reflective teaching	Permanent	103	93.86	8.60	0.85	3.54
	Contractual	45	87.91	11.05	1.64	
Attitude towards Action research	Permanent	103	123.42	17.54	1.73	3.03
	Contractual	45	113.07	22.29	3.32	

Objective - 2: Type of Schools in the context of Reflective teaching and Attitude towards Action Research

Null hypotheses-5 and 6 were tested to know the effect of the type of schools on reflective teaching and attitude towards action research of secondary teachers. Mean, SD and *F*-ratio were calculated to test the null hypothesis-5 and 6. The detail of the testing of the hypotheses is given in Table 3 and 4.

Table 2: Number, Mean & SD, in reference to type of schools

Scores obtained on		Reflective Teaching Scale		Attitude Towards Action Research	
Type of Schools	No. of secondary teachers	Mean	SD	Mean	SD
Government	63	89.79	9.13	117.03	19.26
Private	50	95.30	9.01	125.20	18.83
Post basic	35	91.49	10.86	119.06	20.50

The Table 2 shows that there were 63, 50 and 35 secondary teachers of government, private and post basic schools' respectively in the sample. The mean values of obtained scores on RTS of government, private and post basic schools' secondary teachers were 89.79, 95.30 and 91.49 respectively. The values of SD of obtained scores on RTS of government, private and post basic schools' secondary teachers were 9.13, 9.01 and 10.86 respectively.

The Table 2 shows that the mean values of obtained scores on AARS of government, private and post basic schools' secondary teachers were 117.03, 125.20 and 119.06 respectively. The values of SD of obtained scores on AARS of government, private and post basic schools' secondary teachers were 19.26, 18.83 and 20.50 respectively.

To test the $H0_5$ and $H0_6$, *F*-ratio was calculated. Details about this calculation are given in Table 3.

On the basis of Table 2 and 3, it can be concluded that there was significant difference (F=4.73; P < 0.05) found in the level of reflective teaching of Government (M=89.79, S.D.= 9.13) private (M=95.30, S.D.= 9.01) and post basic (M=91.49, S.D.=10.87) schools' secondary teachers. Therefore $H0_5$ was not accepted and it was concluded that the differences

of schools have significant effect on the level of reflective teaching of secondary teachers.

Table 3: Significance of the difference of mean of obtained scores on RTS of different schools' secondary teachers

Vriables	Source of Variance	Sum of squares	Df	Mean squares	*F*-ratio
Reflective Teaching	Between the streams (SSbgs)	860.01	2	430.00	4.73
	Within the groups (SSwgs)	13169.56	145	90.83	
	Total	14029.57	147		
Attitude towards Action Research	Between the streams (SSbgs)	1927.37	2	963.68	2.56
	Within the groups (SSwgs)	54661.82	145	376.98	
	Total	56589.19	147		

The t-value was calculated to know that which type of schools' secondary teachers were significantly more reflective in their teaching process. The result of the calculation revealed that private schools' secondary teachers were significant (t=3.20; p< 0.01) showing higher level of reflective teaching than government secondary teachers (M=89.79, S.D.= 9.13). But there were no significant difference (t=1.76; p>0.05) in the level of reflective teaching of private (M=95.30, S.D.= 9.01) and post basic schools' secondary teachers.
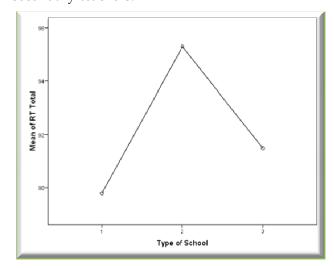

Fig. 1: Mean score of different School teachers on RTS

(1=Government school,2=Private school and 3= post basic School)

In the same way it is also revealed that there were

no significant difference (t=0.82; p>0.05) in the level of reflective teaching of government (M=89.79, S.D.= 9.13) and post basic schools' secondary teachers. This thing can be seen in Fig. 1.

In the context of attitude towards action research, table-4 shows that there was no significant difference (F=2.56; p< 0.05) found in the attitude towards action research of Government (M=117.03, S.D.= 19.26) private (M=125.20, S.D.= 18.83) and post basic (M=119.06, S.D.=20.50) schools' secondary teachers. Therefore $H0_6$ was not rejected and it was concluded that the differences of schools have no effect on the attitude towards action research of secondary teachers. This thing can be seen in Fig. 2.
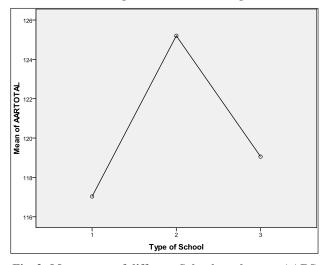

Fig. 2: Mean score of different School teachers on AARS

(1=Government school, 2=Private school and 3= Post basic School)

Objective 3: Relationship between Reflective teaching and Attitude towards Action Research

To know the relationship between reflective teaching and attitude towards action research of secondary teachers, $H0_5$ was tested. The details of the calculation are given in Table 5.

Table 5: Correlation between the obtained scores of secondary teachers on RTS and AARS

Variables	Numbers of Participants	Mean	SD	Value of Correlation	Remark
Reflective teaching	148	92.05	9.77		
Attitude towards action research	148	120.27	19.62	0.73	

Table 5 shows that a positive correlation (r =0.73) was found between the obtained scores on RTS and AARS of secondary teachers. According to Best & Kahn (2012, p.388) the obtained Pearson 'r' correlation value was showing substantial level of positive relationship between Reflective teaching and Attitude towards Action research of secondary teachers. Thus, it was concluded that a substantial level of positive relationship between Reflective teaching and Attitude towards Action research of secondary teachers was found. This thing can be seen in given Fig. 3.
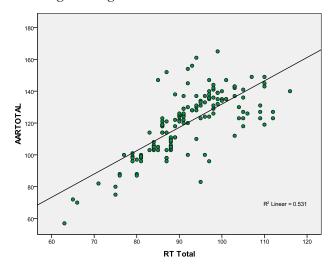

Fig. 3: Correlation between Reflective teaching and Attitude towards Action Research

Findings of the study

1. A significant effect of service condition was found on the level of reflective teaching and attitude towards action research of secondary teachers. Permanent secondary teachers were more inclined towards reflective teaching and showing higher level of attitude towards action research than the secondary teachers who were in service on contract basis.

2. Study revealed that there was a significant effect of types of schools on the level of reflective teaching of secondary teachers. Teachers belonging to private schools were significantly showed higher level of reflective teaching than government schools' teachers.

3. There was no effect found of associative schools of secondary teachers on their attitude towards action research.

4. A moderate level of relationship between reflective teaching and attitude towards action research of secondary teachers were found.

CONCLUSION

This study provides knowledge of the effect of service condition and associated school type of schools of secondary teachers on their reflective teaching and attitude towards action research. A significant difference was found between the level of reflective teaching and attitude towards action research of secondary teachers in the context of their service condition. Permanent secondary teachers were more inclined towards reflective teaching and showing higher level of attitude towards action research than the secondary teachers who were in service on contract basis. This result shows that the good and secure service condition motivate teachers to be reflective in their teaching process and develop a sense towards research work to solve problems. Thus, government should scrape the tradition to appoint teachers on contract basis and develop a strategy to provide such a good and secure environment to promote qualitative teaching learning process.

Private schools' teachers were found more inclined towards reflective practices in their teaching than their government and post basic schools' teachers. It is a matter of search to find out the reason behind it. Perhaps, the concentrated attention towards school activities of management, leads teachers to be reflective in teaching process.

A moderate level of positive relationship between reflective teaching and attitude towards action of secondary teachers was reviled from the study. It shows the importance of reflective teaching process. Thus, it is important for all management bodies to create such type of environment in which reflective teaching can be promoted.

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