Effect of Reflective Strategy on Student's Outcome at Secondary Level: A Meta- Analysis

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Abstract- In the present study the investigator attempt to find out the effect size of different teaching-learning strategy which promotes reflection and its impact on student's outcome at secondary level by conducting meta-analysis. The sample of present study consists of 78 studies published in different countries in the above specified areas during 2000-2015 were selected by applying purposive sampling techniques. Besides, 30 experts were also selected to confirm findings of the study and to examine its relevance in Indian context. The study found 13 strategies of reflective practice which has varied effect on student's outcomes at secondary level. Among these, brainstorming, concept mapping and experiential learning in reflective practice were more preferred by majority of experts than other in Indian context. The study has implications for teacher, teacher educator, administrator, policy maker etc. to orient them to meet the demand of 21st century classroom and also provide solid theoretical evidence to assume its importance in quality improvement of secondary education in India as well as provide source to conduct further research by taking into account of different dimension of these strategy.

Keywords: Reflective Practice, Meta-analysis, Effect size

I. INTRODUCTION

As we move further into the new millennium, it becomes clear that the 21st Century classroom needs are very different from the 20th Century classroom needs. The new role of the learner in the 21st Century classroom requires changes from cramming to thinking, passive to active. Similarly NCF 2005 also documented that the child's immediate world (his/her interests/ experiences/ pace of learning) should be the starting point for the education process. NCF 2005 stresses the need to break down the rigid walls between the classroom and the outside world, because the aim of education is to connect what we learn with the real world. NCF 2005 calls for a shift away from rote methods to teaching for understanding and thinking, which can only happen when students become active learners. In order to allow students to become active learners, the role of the teacher needs to change from being a Transmitter of information, to being a Facilitator of the student's own learning and discovery. Instead of simply testing whether children can reproduce the textbook content, teachers should nurture children's curiosity to do things, to ask questions and to pursue investigations, sharing and integrating their daily experiences with school knowledge. Thus, in this context to shift from traditional to new paradigm and meet such changing situation, one needs to reflect his/her activities. Hence, by engaging in reflection, teachers can deal with the uncertainties and unexpected situations in the classroom which encourage them to critically appraise themselves, current beliefs and attitudes and their relationships with the students and others in the school [3, 16]. It helps the teacher to understand their own and student's behaviour and practice in teaching learning process and move form routine to reflective action. Hence, it is an essential part in teaching learning process as well as professional development of teacher where they exercise their intellect, responsibilities and professionalism for contributing knowledge construction of learner [7, 27]. Besides, a plethora of research has been conducted by different researcher in different times such as Farrell, Korthagen and Wubbels, Day, Van Manen, Zeichner, Leithwood, Knowles, Leahy and Corcoran [3, 6, 8, 13,14,17,18, 33] and varied models have been developed by Kolbs, Gibb, Boud, Keogh and Walker, [3, 10, 15] to support its effect on students academic outcome as well as meet the demand of present diverse classroom. Therefore, it is considered as one of the most important strategies for improving the quality of teaching learning process in present era.

Now question is why secondary education? Empirically it is proved that the development of nation depends upon youth who are the future citizens. Psychologically, it can be said that, the age of stress and strain that need special cares called adolescence where maximum development of intelligence is possible. Literally, it is the stage which links to higher education. Although primary education is considered as superstructure of all stage still middle portions which links between primary and secondary cannot be ignored. Number of projects undertaken by government of India since independence such as, Operational Black Board (1987), District Primary Education Programme (DPEP); (1994), Sarva Siksha Abhiyana (2000-2001) , Right to Education Act (2009) etc. for universalization as well as quality improvement of primary education but no such type of programme has been adopted for secondary education before. Recently government of India have felt the importance of this stage and lunched a programme known as "RAMSA" (Rashtra Madhymika Siksha Abhijan) in the year of 2009 with sole purpose to achieve universal access by 2017 and universal retention by 2020 along with its improving quality [21]. Apart from that, India has 47 million youth of secondary and higher secondary school-going age dropping out of school, according to the Global Monitoring Report published on Aug 17, 2016 by UNESCO [30]. The enrolment in class 10 is 77%, but enrolment in class 11 is only 52 % (Institute for Policy Research Studies, New Delhi, 2105-16), and 18 % of 15- to 24-year-olds in India are unemployed, 5 percent more than the international average, estimated by the global youth unemployment rate of 2013 [29]. Hence, it is imperative to shift the focus from primary to secondary education owing the importance of above mentioned statement.
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In view of the above discussion and evidences, researcher has selected the variables i.e reflective practice which serve as independent and observe its effect on dependent variable known as students outcome relating to secondary level in global context by applying the techniques of meta-analysis. Although other factors have been observed such as- parental control, family environment, school climate, motivation, parental education and social economic status and family size etc. which affect students' achievement still the role of reflective practice in teaching learning process cannot be ignored [1,2,9,25,26,]. The researcher, therefore, is interested to find out its effect on students outcome which can contribute for the quality improvement in teaching learning process at the secondary education. It is also observed that, previously a number of researches were conducted on school effectiveness as well as teacher effectiveness but all were varied in terms of methods, sample, tools and context etc. Hence, there was need to conduct a meta-analysis to see the overall effect of reflective practice on students' outcome and confirm its findings through survey research.

II. OBJECTIVES OF THE STUDY

- To examine the overall effect size of reflective Strategy with respect to student outcomes at the secondary level.
- To compare the opinion of educational experts regarding the effect of reflective Strategy on student outcome at the secondary level with the Meta analytical findings.

Research questions
- What are the potential teaching-learning strategies contributing to reflective practices as well as academic growths of student at secondary level imparted in classroom situation?
- To what extent educational experts opinions are compatible with Meta-Analytical finding.

Delimitations of the study
Keeping in view the time factor and resources available, the present study was delimited to the followings:
- The study was delimited to some research conducted on different dimensions of reflective strategy with relation to student's outcomes at secondary level across the world within the time frame of 2000 to 2015.
- The study must be published in authentic journal, periodical or other electronic or non-electronic database.
- The study was confined to the Teacher Educators/Teachers/ Experts of different Universities/Institutions/Department having more than of 10 year experience in India only.

Design of the study
In this present study, the investigator is interested to examine the effect of different teaching learning strategy which contributes reflection and its impact on student's outcome at secondary level. To address these, this study employed meta-analytic methods to synthesize quantitative data investigating the relationships between elements of reflective strategy with the learning outcomes of secondary school students. For this, previous 15 years research studies were taken into consideration following the inclusion criteria of meta-analysis and 30 samples of Teacher Educators/Teachers/Policy makers or implementers of various departments of India having more than 10 year teaching/research experience related to the secondary level were also selected followed by purposive sample technique . A comparison of the opinion of selected samples with the Meta analytical

findings of previous studies were also made in the Indian context regarding the impact of reflective strategy on student's outcomes at secondary level. The detailed sample structures and study selection flow chart are given below:
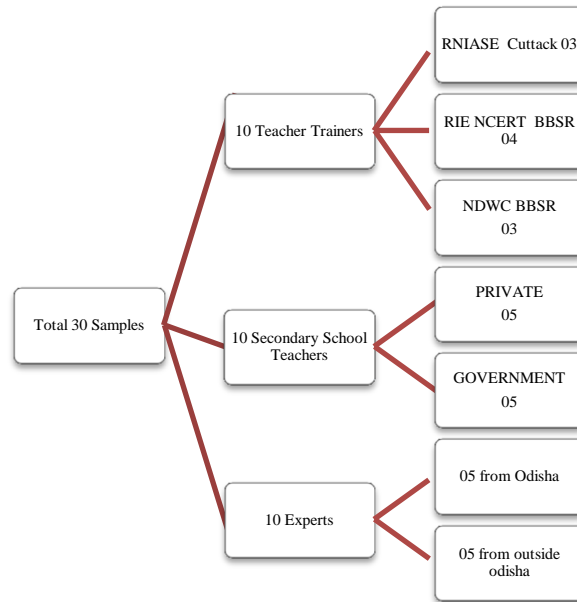

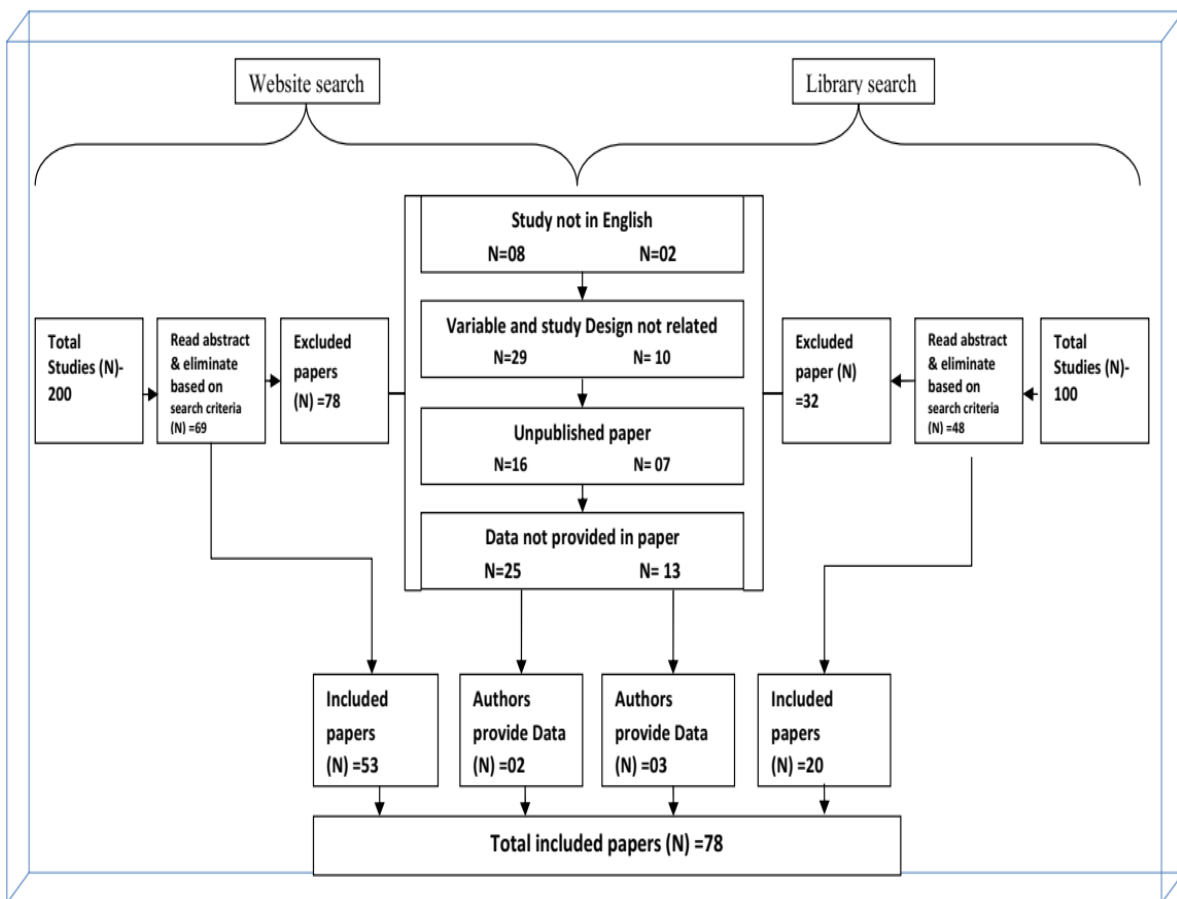**Figure- 1: Sample Structure of Participants**

Figure- 2: Study selection flow chart

Data collection procedure
For the present study, the researcher had collected the data in two different phases.

Phase-1:
The data required for meta-analysis had been collected reviewing the last fifteen years related literature. During the review process, the researcher had codified the identified studies from the different source of literature i.e. NCERT Library, Library of RIEs, Library of IIT Kharagpur, IGNOUE Library, UtkalUniversity Library, ICSSR, Governmental Survey Reports, National Projects and UGC recognized University e-libraries throughout the country. The electronic database such as: ERIC, Encyclopaedia, PsyINFO, SSRN, UNESCO, JUSTER, Springer, Research Gate, Proquest, Inflibnet and *Taylor & Francis* were used for the mass coverage of the studies. Besides, the search engine "Google" from page number 1 to 30 was considered as one of electronic database for finding out study by applying the term   "effect of reflective practice on student's outcomes at secondary level".

Phase-2:
In the second phase, the researchers had visited the sample Schools/Departments /Universities of India and communicated with the Teacher Trainers /Teachers /Experts of these Schools/Departments/ Universities and taken permission from them and distributed questionnaires for the collection of data regarding the present study. In addition to that, the researcher also sent an online link to the participants through E-mail for data collection. From the beginning, the researchers had clarified the basic purpose of the study and assured the confidentiality after being involved in the study. The questionnaire prepared by the researcher was validated with the consulting of experts and following standardised procedure.

Tools and techniques used for data collection and analysis
The following tools and techniques were used in the present study:
- Questionnaires for Teacher Trainers/Teachers/Experts of various Schools/Departments/Universities.
- Cohen's d
- Descriptive Statistics
- Graphical representation of data

Validity of tools
In the present investigation, the researchers initially find out and analysed the studies conducted during 2000-2015 by applying the inclusion criteria from the different sources. On the basis of result of those studies, researcher developed questionnaire as a form of feedback on different dimensions of reflective practice with the consultation of experts for verifying the authenticity of results.   Initially a draft questionnaire was prepared by researcher and sent to 50 experts of different Universities/colleges/institutions inside and outside Odisha. After receiving feedback from them, the final draft of questionnaire was prepared. The close ended questionnaires were framed by covering dimensions found from the studies which seek to elicit responses and collect evidences of its impact on student's outcome at secondary level.

III. ANALYSIS AND INTERPRETATION OF DATA

The analysis of data of the present study was done on the basis of formulated objectives and research questions of the study. Choens d formula was used to calculating effect size. Based on the suggestions of different authors such as Choens, Glass et al., Hattie, W. Lenhard, & A. Lenhard, the following values were considered for interpreting result such as the values of d= <.0 is considered as Adverse effect, the values between 0.0 to 0.1 is No effect, 0.2 to 0.4 is Small effect, 0.5 to 0.7 is Intermediate effect, 0.8 to >1.0 is considered as Large effect for interpreting the magnitude of effect size in the present study [5,11,12,19]. . Besides, simple percentage was also calculated for interpreting the opinions of experts regarding findings of Meta analysis. As a whole both qualitative and quantitative techniques were used for interpreting the result.

Result:
A: To fulfil the prefixed objectives and answer the question of the study, the result of present investigation has been interpreted dimension wise relating to reflective practice. The first objective of the study was to examine the effect size of reflective strategy with respect to student outcomes at the secondary level. The results obtained are given below in table 1:

Table –1:   Mean Effect size of different dimensions of teaching learning strategy which include reflection

Sl. No.	Dimension	Country	Year	No of study	Students Outcome	Total Study	Overall Mean effect size	Result
1.	Brainstorming	Jordan	2012	01	Creativity	05	2.642	Large effect
			2013	01	Creativity, Math			
		Saudi Arab	2015	01	Social Science			
		Iran	2014	O1	English			
		India	2013	01	English			
2.	Concept Mapping	Indian	2011	01	Math	08	1.230625	Large effect
			2014	01	Science			
		Kenya	2013	01	Chemistry			
			2014	01	Physics			
		Nigeria	2011	01	Math			
			2013	01	Chemistry			
		USA	2003	01	Science			
			2008	01	History			
3.	Co-operative Learning	India	2012	01	Math	09	1.802	Large effect
			2013	01	Science			
		Iran	2013	01	English			
		Malaysia	2013	01	Math			
		Nigeria	2006	01	Technology			
			2010	01	Integrated Science			
			2015	01	Chemistry			
		Saudi Arab	2010	01	Math			
		USA	2015	01	Math			
4.	Experiential Learning	Nigeria	2014	01	Biology	05	2.7646	Large effect
			2015	01	Basic Science			
		Thailand	2009	01	Science			
		India	2010	01	Environmental Science			
			2015	01	Social Science			
5.	Expository Instruction	India	2011	01	Economics	02	1.157	Large effect
		Kenya	2013	01	Chemistry			
6.	Inquiry Approach	Indian	2011	01	Science	12	1.071857	Large effect

Sl. No.	Dimension	Country	Year	No of	Students Outcome	Total Study	Overall Mean	Result
		Iran	2014	01	Science			
		Kenya	2014	01	Physics			
		Nigeria	2011	01	Chemistry			
			2013	01	Economics			
			2015	01	Science			
		Spain	2011	01	Biology			
		Turkey	2011	01	Science			
		USA	2006	01	History			
			2010	02	Math			
			2014	01	Life Science			
7.	Journaling	Saudi Arab	2013	01	English	02	4.068667	Large effect
		USA	2008	01	Math			
8.	Meta-Cognition	India	2011	01	Achievement in Science , Academic Anxiety , Self Efficacy & Creativity	12	1.864632	Large effect
			2012	01	Language Learning			
		Iran	2013	01	Time Management			
		Nigeria	2009	01	Social Science			
			2010	01	Chemistry			
			2012	01	Math			
			2014	01	Chemistry			
		Singapore	2000	01	Math			
		USA	2013	01	Physics			
			2015	01	Math			
		Saudi Arab	2014	01	English			
		Turkey	2014	01	Language Skill			
9.	Portfolio	Iran	2010	01	English	06	0.702429	Intermediate Effect
			2012	01	English Writing Skill			

Sl. No.	Dimension	Country	Year	No of	Students Outcome	Total Study	Overall Mean	Result
			2015	01	English			
		Nigeria	2015	01	Geography			
		Turkey	2010	01	Science			
			2014	01	Biology			
10.	Problem Solving Approach	Cameroon	2013	01	Geometry	09	1.673364	Large effect
		Kenya	2014	01	Geometry			
		Nigeria	2011	01	Science			
			2012	01	Math			
			2013	02	Math			
			2015	01	Chemistry			
		Pakistan	2010	02	Math			
11.	Project Based Learning	Turkey	2011	01	English	02	1.976	Large effect
			2013	01	Science			
12.	Self- Instructional Strategy	India	2008	01	Science, Meta-Cognitive Awareness	05	1.001667	Large effect
		USA	2003	01	Math			
			2009	01	Math			
		Nigeria	2012	01	Math			
			2015	01	Basic Science			
13.	Team Teaching	China	2006	01	Math	01	0.253	Small Effect

Descriptions:
From the Table no 1, it is ascertained that the studies conducted during 200-2015 found 13 prominent strategies which support reflection and has effect on learning outcome at secondary level. Although 2 strategies out of 13 i.e Team Teaching and Portfolio reported that small and intermediate effect on learning outcomes still rest 11 strategies has large effect on learning outcome. Among these strategies Journaling is found to be more popular in reflective practice and larger effect next to experiential learning and brain storming on learning outcomes at secondary level. The rank orders of all strategies according its effect size are given in Figure 3. On the other hand in Indian context, studies also found that Brain storming, Concept mapping, Co-operative learning, Experiential learning, Expository Instruction, Inquiry Approach, Meta-Cognition and Self Instructional Strategy are more effective in enhancing the academic growth of secondary school students. No Indian studies found in Journaling, Portfolio, Problem solving approach, project based learning, and team teaching due to the limitation of inclusion criteria of research study, still the applicability of the findings of such studies can be hypothesized. Besides, learning outcome/achievement level also varies according individual studies, however, some commonality was found in different studies conducted during 2000-2015.

Furthermore, from the table no.1, it is also observed that other than the academic achievement Brain storming and Meta cognitive approach is more suitable in developing creativity among the students. Other activities such as Academic Anxiety, self-efficacy and Time Management is influenced by Meta cognitive approach, and awareness of such meta- cognition is possible trough self-instructional strategy. A detailed description of each dimension and their effects on learning outcome are given below:

Journaling:
According to the table no 1 and figure 3,Journaling technique possesses rank one on the basis of its effect size and promoting reflection among learner during the study conducted in 2000-2015 at Saudi Arab and USA. It has larger effect on achievement of language and Math. No studies were found in this regard in other aspect. However, this result provides solid background to hypothesize its effect on different aspects of subject with intention to promote reflective practice.

Experiential Learning:
Next to Journaling, experiential learning approach is 2nd in rank in comparison to other 12 approaches found during 2000-2015 for reflective practice at secondary level. The table no 1 indicates that, recently 05 studies were found in this aspect, among which two studies were conducted in India in the year of 2010 and 2015, two studies conducted in Nigeria (2014 & 2015) and one studies by Thailand (2009). The result shows that experiential learning has large effect on learning and academic achievement of science and social science. From these findings it is anticipated that, this can be a potential teaching learning strategy which may fit for present context as study was supported in recent past including in India.

Brain storming:
From the table no 1 and figure 3**,** it is observed that four countries i.e Jordan, Saudi Arab, Iran and India conducted 05 studies in this aspect during 2000-2015. The result of studies contributes its effect on not only academic achievement of mathematics, language and social science but also developing creative ability among secondary school students. This is considered as one of the most potential teaching –learning strategy in bringing reflection, which possesses rank 3rd in comparison to other approaches found during 2000-2015.

Project based learning:
This approach was supported by studies conducted in Turkey in the year of 2011 and 2013. The findings of the study claimed that project based learning has greater effect on achievement of Language and Science. Although no similar studies found in other countries due to the limitation of search criteria still its effect can be anticipated. This approach is 4th in rank among other approaches according to its effect size.

Meta-cognition:
Studies conducted on meta-cognition revealed that, academic achievement in Science, Math, Language and Social science are increased. Besides, it is found that academic anxiety, self-efficacy, creativity and ability to manage time also largely affected by applying this approach in teaching learning process at secondary level. These findings are corroborated by the studies conducted in India, Iran, Nigeria, Singapore, Saudi Arab, Turkey and USA during 2000-2015. According to its effect size, it has 5th position among other 13 approaches found from table no 1 and figure 3.

Co-operative learning:
The table no 1 and figure 3, revealed that, Co-operative learning is associated with academic achievement in math, science, Language and learning technology. Total 09 studies were found conducted in India, Iran, Malaysia, Nigeria, Saudi Arab and USA based on the inclusion criteria of studies during the period of 2000-2015. The result of studies indicates that co-operative learning has large effect on above said achievement of students at secondary level. It is considered as one of important teaching learning approaches for enhancing the learning outcome of students at secondary level. On the basis of its effect size it has 6th in position in present research.

Problem solving approach:
The studies from table no 1 shows that**,** problem solving approach is more effective in learning mathematics and science and has contribution for bringing reflection in teaching learning process at secondary level. Total 09 studies were found conducted in Cameroon, Kenya, Nigeria and Pakistan on this aspect. The combined mean effect of this approach is 1.673 which indicates large effect on academic achievement according to chosen's d. In the present investigation this is the 7th approach in order of result found along with other approaches during 2000-2015.

Concept Mapping:
This is one of the potential teaching learning strategies found during the studies conducted in India in the year of 2011 and 2014, Kenya (2013,2014) , Nigeria (2011,2013) and USA (2003, 2008). The combined effect sizes of the studies signify that, concept mapping has large effect on learning and academic achievement of math; science and social science at secondary level as stated in table no 1. This is considered as 8th in the rank according to its result. However, it is one of the important teaching learning strategies along with other which contribute reflection among the learner. As studies conducted in recent past in India, the result may be generalised in present context also.

Expository instruction:
The studies conducted in India and Kenya in the year of 2011 and 2013demonstrate that, this approach has large effect on learning and academic achievement of science and social science at secondary level. This is the 9th approach which contributes reflective practice in teaching learning process at secondary level found during 2000-2015 along with other 13 approaches. It has possessed 9th in the rank according to the combined mean effect size of the study.

Inquire approach:
Like other approaches, inquire approach is also considered as dominant strategy for bringing reflection in teaching learning process at secondary level. Table no 1 reports that, inquire approach has large effect on learning outcomes at secondary level in term of academic achievement in Math, Science and social science. Total 12 studies found conducted in 07 countries including India supported the above findings. The position of this strategy in the present studies is ranked as 10th on the basis of its effect size in comparison to other studies found during 2000-2015.

Self-instructional strategy:
Out of 78 studies, 05 sample studies were found conducted in India, USA and Nigeria during 2000-2015 by following the search criteria of present investigation. The findings of such studies represent that, self-instructional strategy has large effect on academic achievement of science, mathematics at secondary level. In addition to these, its effect in ushering meta-cognitive awareness is also found as large. On the basis of its effect size, it is ranked as   11th along with other approaches.

Portfolio:
The table no 1 depicts that, 06 studies were found conducted in Iran (2010, 2012, 2015), Nigeria (2015), Turkey (2010, 2014) relating to secondary level. The effect size of this study is 0.702429 which denotes as intermediate effect according to Cohen's d. It indicates that the portfolio approach has intermediate effect on academic achievement of Science, Social science and Language as well as substantiates reflective practice at secondary level. No such type of studies were found relating to secondary level in India from the database selected by the researcher. However, the role of this approach in present context cannot be ignored. On the basis of its effect size, it is considered as 12th in the rank in comparison to other.

Team Teaching:
Last but not the least a study was found conducted in China in the year of 2006 which denotes that team teaching had small effect on academic achievement of mathematics as well as reflective practice at secondary level. This approach is the 13th in the rank according to its result along with the other approach found during 2000-2015. As wide studies are not found in this aspect, still its input to reflective practice as well as academic growth of students at secondary level cannot be contravened. Hence, more research needs to be conducted by taking into account different sources to find out the strategies which support

reflection as well as academic growth of students to meet the challenges of 21st century classroom. The graphical representations of different strategies found during 2000-2015 are given in figure no 3 as under:

Teaching-Learning Strategy

Strategy	Effectsize
Journaling	4.068667
Experiential Learning	2.7646
Brainstorming	2.642
Project Based Learning	1.976
Meta-Cognition	1.864632
Co-operative Learning	1.802
Problem Solving Approach	1.673364
Concept Mapping	1.230625
Expository Instruction	1.157
Inquiry Approach	1.071857
Self Instructional Strategy	1.001667
Portfolio	0.702429
Team Teaching	0.253

Figure 3: Effect size of different dimensions of teaching learning strategy which include reflection

B: The second objective of the study was to compare the opinion of educational experts regarding the impact of reflective strategy on student's outcome at the secondary level with the Meta analytical findings. The results obtained are given below:

Table 2: Opinion of Experts regarding relation between of Reflective Practice and learning outcomes

Sl No.	Item	Response				
1	Reflective practice can be helpful for enhancing the learning outcomes of students	Strongly Agree	Agree	Undecided	Strongly Disagree	Disagree
		73.3% (22)	26.7% (8)	NIL	NIL	NIL

Note: n=30

Descriptions:
The table number 2 revealed that 73.3% of educational experts strongly agree and only 26.7% agree that reflective practice can enhance the learning outcomes of student at secondary level. Hence, it is very clear that all most all of the educational experts agree and accept the effect of reflective practice on learning outcome. Nobody shows disagreement with this statement. Thus, this finding is corroborating with the previous findings of meta-analysis studies found during 2000-2015.

Table 3: Opinion of Experts regarding Dimensions of Reflective Strategy found from Studies

Sl No.	Dimensions which contribute to Reflection as well as Academic Achievement of students at secondary level	Number of respondent Agree	Percentage
1	Brain storming	24	80%
2	Concept Mapping	24	80%
3	Experiential Learning	23	76.7%

4	Co-operative Learning	22	73.3%
5	Meta-Cognition	21	70%
6	Problem Solving Approach	21	70%
7	Project Based Learning	21	70%
8	Inquiry Approach	21	70%
9	Expository Instruction	12	40%
10	Self- Instructional Strategy	11	36.7%
11	Portfolio	10	33.3%
12	Team Teaching	10	33.3%
13	Journaling	9	30%

Note: n=30

Descriptions:
From the table number 3 it was observed that, majority of respondents giving emphasis on Brain storming, Concept mapping and Experiential learning as a strategy for contributing reflection as well as academic achievement of students at secondary level. Although other 10 strategies have also been preferred by educational experts in various degrees still these are more popular among others. It is also found that Journaling techniques is less preferred by educational experts but possesses 1st rank according its effect size in previous findings of Meta analysis studies. Similarly concept mapping is possessed 8th rank in Meta analysis but 2nd rank   in the opinion of educational experts. This theory –practice deviation only may be due to the personal philosophy and contextual variation. However, these techniques are most helpful for reflective practice in teaching learning process   as well as academic growth of students at secondary level and corroborate with the previous findings of Meta-analysis. A graphical representation of different strategies on the basis of preference of educational experts is given below in figure no 04.
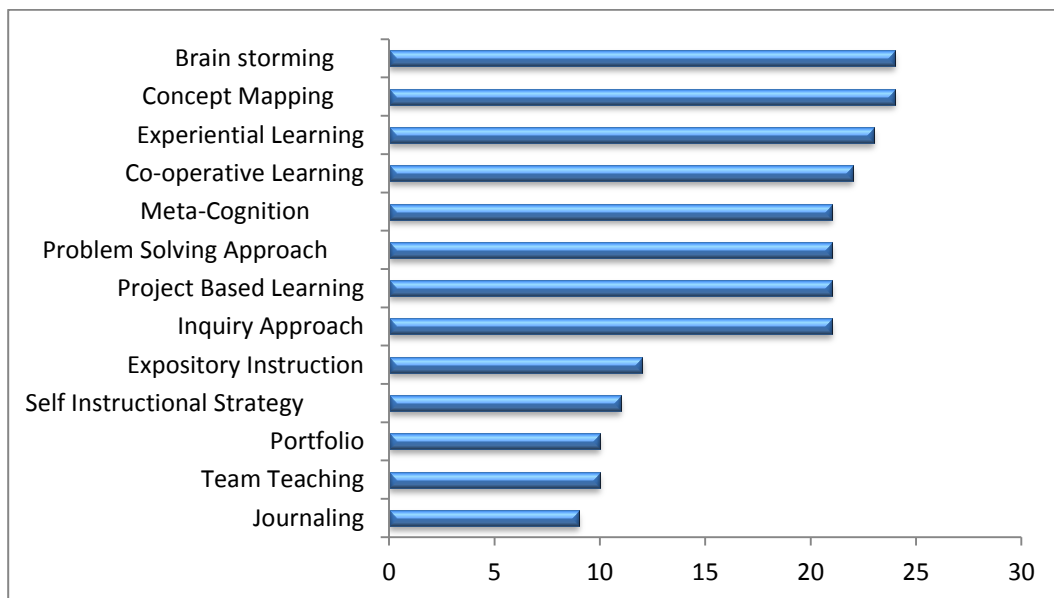

Figure 4: Opinion of Experts regarding different Dimensions which contribute to Reflection as well as Academic Achievement of students at secondary level

IV. DISCUSSION

From the above findings, it is observed that opinions of educational experts are greater extent corroborated with the meta-analysis findings found from the studies conducted during 2000-2015. Although there seems to be variation in the preference of experts and positions of strategy or dimensions found from research still majority of dimension of meta-analysis and survey of opinion of educational experts have matched. The variation or mismatch found from the study between opinion and findings of meta analysis of present investigation only may be due to the personal philosophy of educational experts, sample, tools and techniques used, measurement error and other intervening variables as well as contextual factors etc. in which study was conducted. However, its contribution to teaching learning process in terms of reflective practice and its effect on academic growth of students at secondary level cannot contravene irrespective of subject matter and discipline. Thus, this research provides the theoretical background as well as practical implication to ascertain the importance of these broad dimensions of reflective strategies in the academic life of students as well as provide direction to the teacher to meet the challenge of 21st century diverse classroom. Moreover, it is also suggested that research needs to be conducted on this multidimensional and dynamic concepts from time to time to understand precisely the effect of each domain on student's outcomes in different levels.

V. EDUCATIONAL IMPLICATION

The result of the present study will be more helpful to the teachers, policy makers, administrators and Heads of the departments/institutions for making appropriate plan and arrangement of learning environment in such a way that it will meet the needs of inclusive classroom at secondary level. It will be also helpful to the teacher to meet the challenges of 21st century classroom which is different from 20th century classroom by updating the knowledge of reflective pedagogy. Specifically, it will be much more helpful to those teachers who are coming across the secondary school to reflect upon their activities and to modify if necessary. It will be helpful to teacher training institution to train the teacher educator according to this direction for their future success. The findings of research also provide a theoretical background as well as evidence to the researcher for conducting further research. Last but not the least, it will be helpful in teacher training programmes organised by the Government of India, Specifically RMSA for the quality improvement in the teachers as well as classroom learning environment at the secondary level.

VI. CONCLUSION

To sum up, it is to be concluded that, the classroom teaching learning process deals with complex cognitive activities and to carry out such an activities effectively one need not only apply technical skills in performance but also to evaluate its consequences, to consider alternative course of action, to set and solve recurring and idiosyncratic problems and to utilize a multiplicity of conceptual frames in these cognitive and interactive process. Hence, to support the above activities, the role of reflection is highly essential which leads practitioner to act in deliberate and intentional fashion rather than a blind and impulsive manner. Therefore, this aspect of education has been captaining continual attention of the researchers, philosophers, and psychologists since the long even today also [7, 27]. Thus, this research makes a teacher, teacher trainer and policy maker cautious by updating the knowledge of dynamism and provides a platform to move from macro to micro level. Hence, the process of research is not an end with the completion of this research rather a means to develop insight into beginning the journey and believe the findings logically as a theory for practical implication.

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