International Journal of Applied Ayurved Research ISSN: 2347- 6362
Published online in: https://ijaar.in

CRITICAL ANALYTICAL SKILL: A TOOL TO IMPROVE LEARNING IN STUDENTS OF *AYURVEDA*

[1]Shweta Zade , [2]Giridhar Thakare
[1]Professor and HOD Department of Ras Shastra & Bhaishajya Kalpana, Sardar Patel Ayurvedic Medical College and Hospital, Balaghat Madhya Pradesh
[2]Professor and HOD Department of Sanskrit Samhita Siddhant, Sardar Patel Ayurvedic Medical College and Hospital, Balaghat Madhya Pradesh
https://doi.org/10.70057/ijaar.2024.61001

ABSTRACT

Study aims at laying foundation for Ayurveda students to think analyze and execute their intellect in innovative fashion. Students learn to develop their own points of view through observing, analyzing the data and interpretation of knowledge they gained with this new teaching method. *Ayurveda* is evolving globally with many advancement and challenges of acceptance as medical science. To cope with the scenario various curricular development programs are being introduced to shape the emerging generations as practitioners of *Ayurveda*. Students have to accept the vital role they have to play in shaping the loop holes in the syllabus and learning methods. With this view in mind a study was designed to make learning more scientific and protocol was framed to evaluate critical and analytical skills among students pursuing studies of *Ayurveda*. Participants were involved with consent and learning process was very useful for them was the outcome of present study.

Key Words: Ayurveda, students, learning method, skill development, research, curriculum,

INTRODUCTION: The process of evaluating new ideas, arguments, and points of view is important for the development of Ayurveda students as autonomous thinkers [1,2]. Teach students the "believing and doubting game" which asks them to be both sympathetic and skeptical readers[3]. Help students develop strategies for systematically gathering data according to methodologies in your discipline, assessing the quality and relevance of the data, evaluating sources, and interpreting the data[4]. Ayurveda students should be involved in applying theory they have learned in class through designing various experiment to test the their knowledge. Students get involved to carry out the experiment and document the results[5]. With this view following teaching method was implemented. Context of the study was students have to assess themselves in the learning, performing and observing environment.

MATERIAL AND METHOD

30 students gave consent for participation in the project work. A pre test was taken on the given topic. Then they were divided into two groups 15 were performing and remaining 15 were observers based on the checklist provided to them. Again 15 in each group were divided into small group of 5 students. To make it convenient for students to perform and observe keenly small groups were designed.

In this way simultaneously same day three groups of 5 participants in each were performing the given practical and remaining three groups of 5 participants in each were observing on the

basis of checklist provided to them as tabulated below.

Table No. 1 : Formation of small groups

Group A-performing	Group B-observing with checklist
Group I	Group IV
Group II	Group V
Group III	Group VI

Lastly post test was taken followed by filling of feedback form.

RESULT

Table No.2 : MCQ Score of pre test and post test of the participants

GROUP A			GROUP B		
Q.NO.	PRE TEST	POST TEST	Q.NO.	PRE TEST	POST TEST
1	4	7	16	1	5
2	5	8	17	4	9
3	3	9	18	2	7
4	6	8	19	3	8
5	5	8	20	4	7
6	4	10	21	5	7
7	4	9	22	4	7
8	2	8	23	6	8
9	5	9	24	6	9
10	4	9	25	4	9
11	6	8	26	4	8
12	5	7	27	5	8
13	4	8	28	4	7
14	7	9	29	3	7
15	5	8	30	4	9

Statistical Analysis:-

Total 30 students were undergone a MCQ test of 10 marks of 10 questions. Each question was having one mark. Pre test and Post test marks were recorded and students "t" test applied to it. 30 students were divided into two groups –

1. Group A students performed Practical
2. Group B students observed from Checklist.

Table no. 3 – Paired t test

Parameter	**Marks obtained**
Mean Score, B.T.	4.6
Mean Score, A.T.	8.333
S.D. (±)	1.533
S.E. (±)	0.396
T	9.427
P	<0.05
Result	Significant

As the t value calculated is greater than the t tabulated value at p=0.05, therefore Practical is significant.

Table no. 4 – Paired t test

Parameter	**Marks obtained**
Mean Score, B.T.	3.933
Mean Score, A.T.	7.667
S.D. (±)	1.1
S.E. (±)	0.2
T	13.15
P	<0.05
Result	Significant

As the t value calculated is greater than the t tabulated value at p=0.05, therefore Checklist based observation is significant.

Table no. 5– Unpaired t test

Parameter	**Marks obtained**
Mean Difference Score, Group A	3.733
Mean Difference Score, Group B	3.733
Combined S.D. (±)	1.334
S.E. (±)	0.487
Unpaired t	0
P	>0.05
Result	Insignificant

As the t value calculated is lower than the t tabulated value at p=0.05, we should accept There is no significant difference between Practical test and Checklist based observation.

Table No.6: Feedback Form score submitted by participants

S,.No. of participants	Encouraged how to Think	Stimulates interest in topic	Helped in making Decision	Imagine Alternative	Build Argument	Analyse Ideas	Useful for negative as well as positive implications	Identify key concepts and explain them clearly	Gathered sufficient information	Identify point of view
1	5	4	5	3	3	2	3	3	4	4
2	5	5	4	4	3	5	4	4	3	5
3	5	5	4	5	4	4	4	4	4	3
4	5	4	4	5	4	3	3	5	5	5
5	5	5	5	4	5	4	5	5	5	5
6	3	3	5	5	4	5	4	5	5	4
7	4	5	4	5	4	4	4	3	4	3

8	3	3	5	5	4	4	4	5	5	3
9	3	4	3	3	4	4	3	4	5	4
10	5	5	5	5	5	5	5	5	5	5
11	2	3	3	5	2	2	2	4	5	4
12	3	3	5	5	3	2	4	5	4	5
13	5	5	5	5	5	4	4	5	5	5
14	5	5	5	5	5	5	5	5	5	5
15	5	5	5	5	5	5	5	5	5	4
16	5	5	5	5	5	5	5	5	5	3
17	4	5	4	5	3	3	3	4	5	4
18	5	5	5	5	5	5	5	5	5	5
19	4	3	5	4	3	5	5	4	5	5
20	4	4	3	5	4	3	3	5	4	5
21	5	5	5	5	5	5	5	5	5	4
22	5	4	4	5	4	4	5	4	5	4
23	4	4	5	4	4	5	5	4	5	5
24	4	5	5	5	4	5	4	5	5	5
25	4	4	3	5	5	5	4	4	4	5
26	5	4	4	3	4	4	5	4	5	4
27	4	4	5	5	4	3	4	5	4	5
28	5	4	4	5	5	4	4	3	5	3
29	4	5	5	4	5	5	4	5	4	5
30	5	3	4	5	5	4	3	5	5	4

Table no. 7: Feedback Analysis - Encouraged how to think

Encouraged how to Think	No. of Student	
	Group A - Practical	Group B – Checklist
NOT AT ALL USEFUL	0	0
NOT VERY USEFUL	1	0
OK	4	0
FAIRLY USEFUL	1	8
VERY USEFUL	9	7

Graph No.1: Encouraged how to think

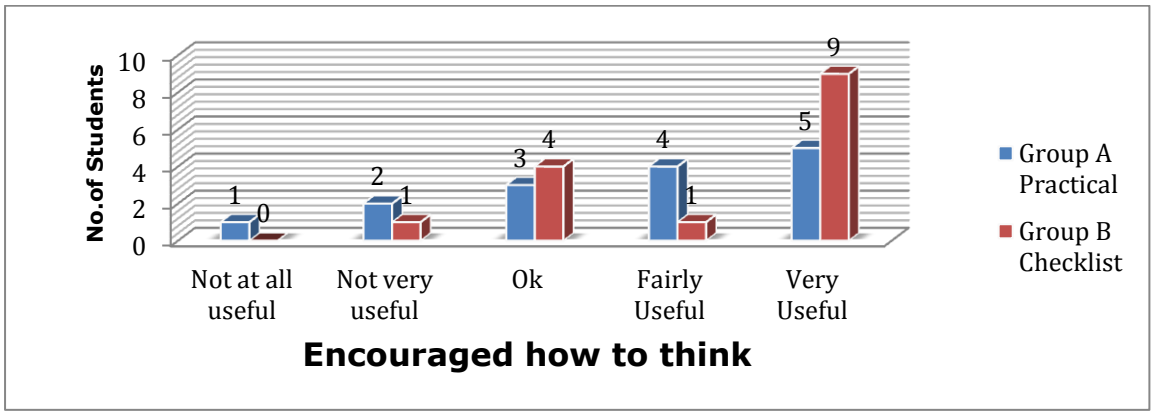


Table no. 8: Feedback Analysis- Stimulate interest in topic

Stimulates interest in topic	No. of Student	
	Group A - Practical	Group B - Checklist
NOT AT ALL USEFUL	0	0
NOT VERY USEFUL	0	0
OK	4	2
FAIRLY USEFUL	3	7
VERY USEFUL	8	6

Graph no. 2 Stimulates interest in topic

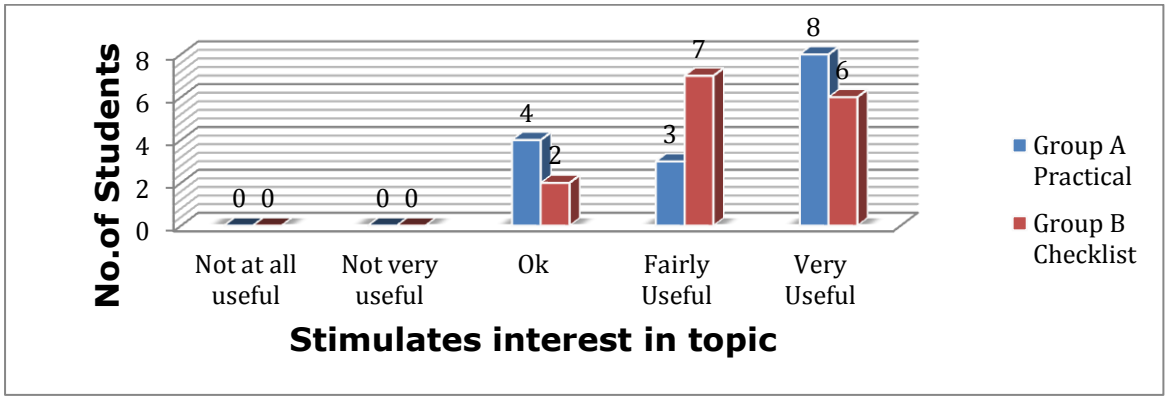


Table no. 9: Feedback Analysis- Helped in making decision

Helped in making Decision	No. of Student	
	Group A - Practical	Group B - Checklist
NOT AT ALL USEFUL	0	0
NOT VERY USEFUL	0	0
OK	2	2
FAIRLY USEFUL	4	5
VERY USEFUL	9	8

Graph no. 3 Helped in making Decision

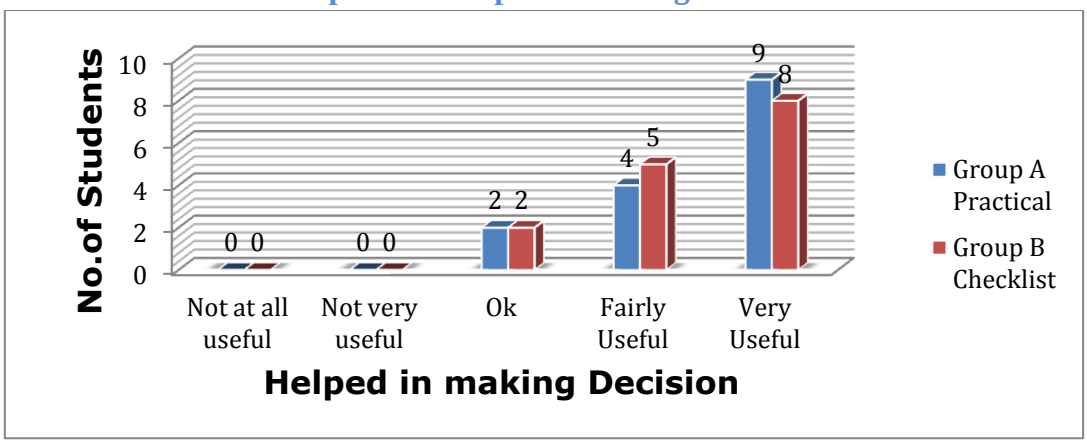


Table no. 10: Feedback Analysis- Imagine alternative

Imagine Alternative	No. of Student	
	Group A - Practical	Group B - Checklist
NOT AT ALL USEFUL	0	0
NOT VERY USEFUL	0	0

OK	2	1
FAIRLY USEFUL	2	3
VERY USEFUL	11	11

Graph no. 4 Imagine Alternative

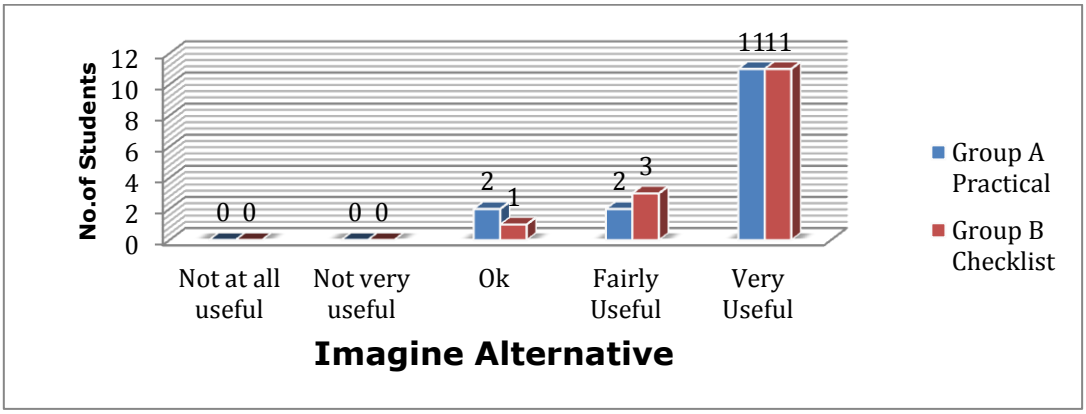


Table no. 11: Feedback Analysis- Built Argument

Built Argument	No. of Student	
	Group A - Practical	Group B - Checklist
NOT AT ALL USEFUL	0	0
NOT VERY USEFUL	1	0
OK	3	2
FAIRLY USEFUL	6	6
VERY USEFUL	5	7

Graph no. 5 Built Argument

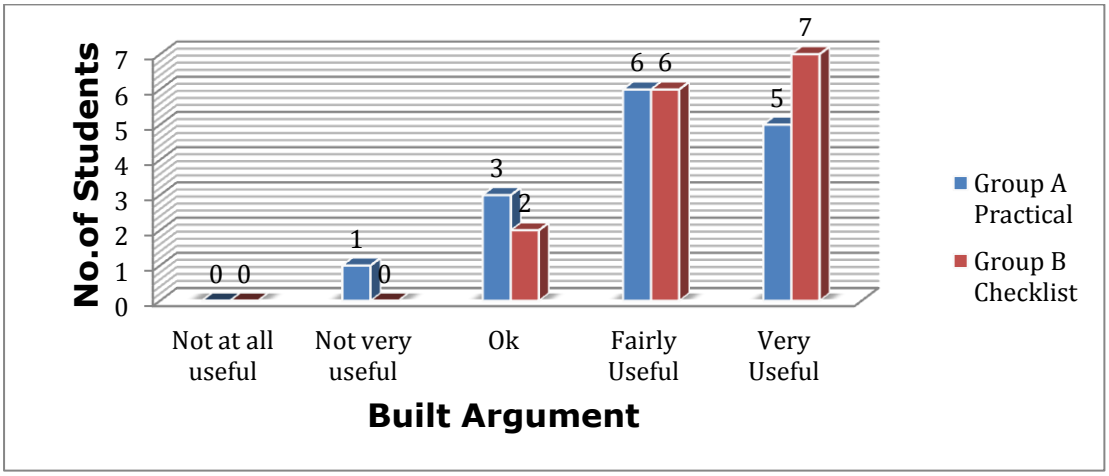


Table no. 12: Feedback Analysis- Analyse ideas

Analyse Ideas	No. of Student	
	Group A - Practical	Group B - Checklist
NOT AT ALL USEFUL	0	0
NOT VERY USEFUL	3	0
OK	1	3
FAIRLY USEFUL	6	4
VERY USEFUL	5	8

Graph no. 6 Analyse ideas

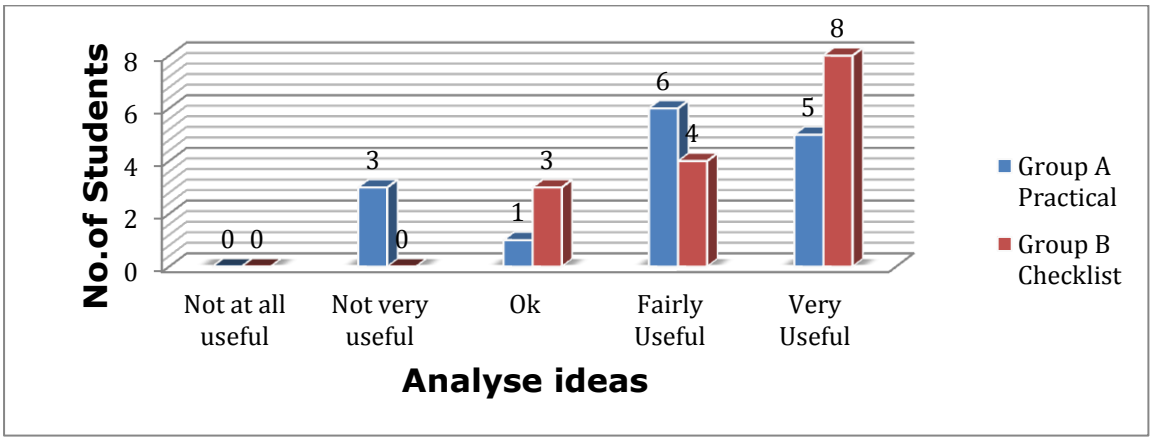


Table no. 13: Feedback Analysis- Useful for negative as well as positive implication

Useful for negative as well as positive implication	No. of Student	
	Group A - Practical	Group B - Checklist
NOT AT ALL USEFUL	0	0
NOT VERY USEFUL	1	0
OK	3	3
FAIRLY USEFUL	7	5
VERY USEFUL	4	7

Graph no. 7 Useful for negative as well as positive implication

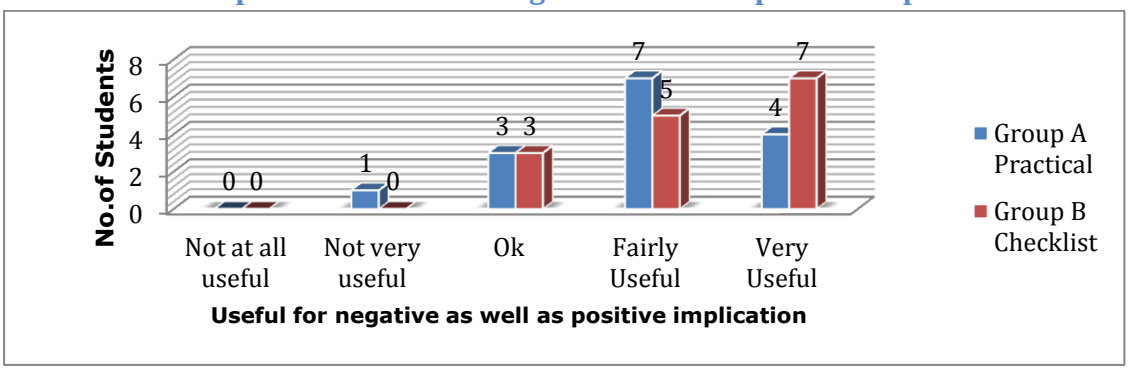


Table no. 14: Feedback Analysis- Identify key concepts and explain them clearly

Identify Key Concepts and explain them clearly	No. of Student	
	Group A – Practical	Group B - Checklist
NOT AT ALL USEFUL	0	0
NOT VERY USEFUL	0	0
OK	2	1
FAIRLY USEFUL	4	6
VERY USEFUL	9	8

Graph no. 8 Identify Key Concepts and explain them clearly

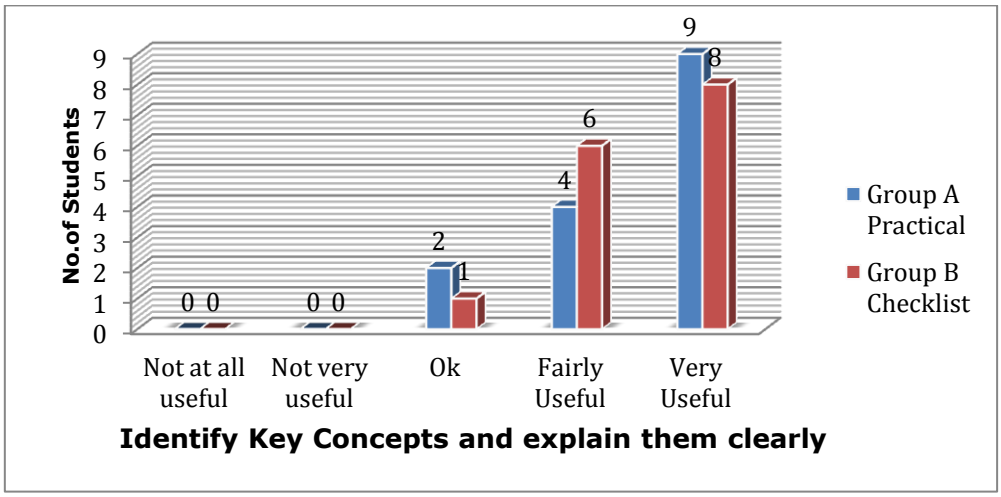


Table no. 15: Feedback Analysis- Gathered sufficient information

Gathered sufficient information	No. of Student	
	Group A – Practical	Group B - Checklist
NOT AT ALL USEFUL	0	0
NOT VERY USEFUL	0	0
OK	1	0
FAIRLY USEFUL	4	4
VERY USEFUL	10	11

Graph no. 9 Gathered sufficient information

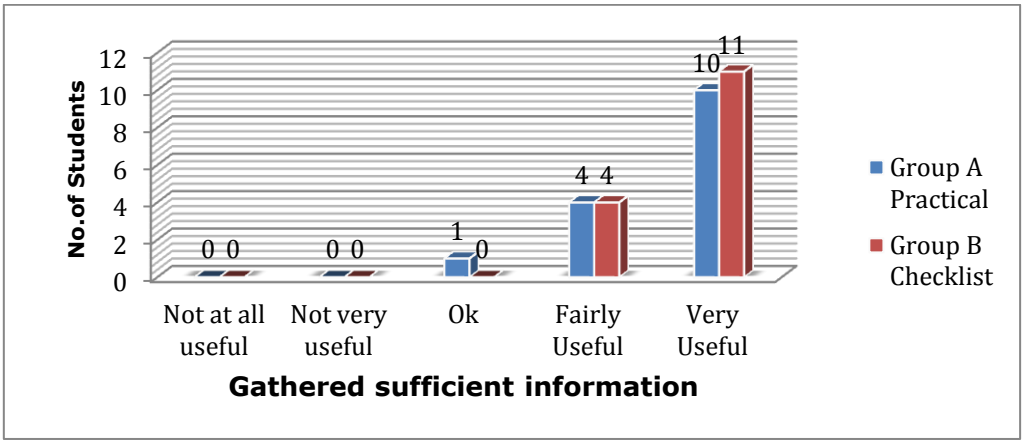
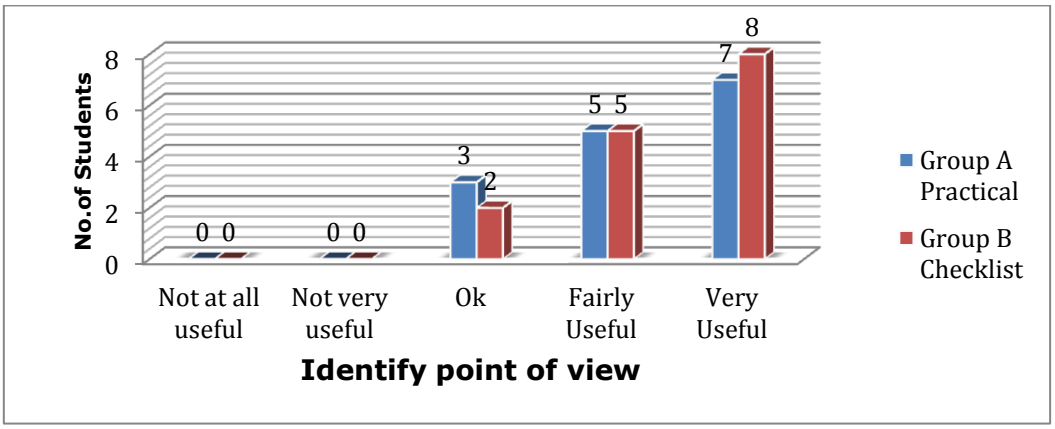


Table no. 16: Feedback Analysis- Identify point of view

Identify point of view	No. of Student	
	Group A – Practical	Group B - Checklist
NOT AT ALL USEFUL	0	0
NOT VERY USEFUL	0	0
OK	3	2
FAIRLY USEFUL	5	5
VERY USEFUL	7	8

Graph no. 10 Identify point of view



DISCUSSION: : New teaching method was completely student oriented. Students were not under influence of any teacher directly so this provided them complete opportunity to experiment and analyse their performance. Students found the method effective for self learning and also while observing the performance they were curious to find if any step is being missed and here they learned to critically analyze each other on the basis of knowledge they have. This method was found significant and improved learning. As the t value calculated is greater than the t tabulated value at p=0.05, therefore Practical is significant. As the t value calculated is greater than the t tabulated value at p=0.05, therefore Checklist based observation is significant. As the t value calculated is lower than the t tabulated value at p=0.05, we should accept There is no significant difference between Practical test and Checklist based observation. As per feedback students found the teaching method was very useful to learn and understand the topic.

As the t value calculated is greater than the t tabulated value at p=0.05, therefore Practical is significant.

As the t value calculated is greater than the t tabulated value at p=0.05, therefore Checklist based observation is significant.

As the t value calculated is lower than the t tabulated value at p=0.05, we should accept There is no significant difference between Practical test and Checklist based observation.

As per feedback students found the teaching method was very useful to learn and understand the topic. Group B found this method very useful to encourage how to think, in building argument, analyze ideas, helpful for negative as well as positive implication, in gathering sufficient information, and identify point of view. Group A found it very useful to stimulate interest in topic, in identifying key concepts and explain them clearly, both group A and B found it very useful tn making decision and imagine alternative, Group A found method fairly useful to encourage how to think, analyse ideas, helpful for negative as well as positive implication, Group B found method fairly useful stimulate interest in topic, making decision, imagine alternative, in identifying key concepts, both group A and B found it fairly useful in building argument, gathering sufficient information, identify point of view.

It was encouraging for involvement of department. Institute provided very helpful environment. Student co-operated and

demanded such teaching for all topics. Implementation of project was difficult with routine work but support from all in the department made it happen.

Traditional teaching method is always the best method as it is rationally adopted overall. Addition to it technology use will help both teacher and student to teach and learn through observation, visuals, hearing and reading. Out of which observation makes topic remain in memory for longer time duration as it enhance our thought process that is the importance of practical knowledge. *Prateksha pramaan* has limitation so it is advised by Acharya to focus on *Anumaan* and *Yukti Pramaan*. This is what scope for research in many ways. *Apta pramaan* is always followed through knowledge of Samhita and classical textbooks so there is huge gap in proper understanding of many concepts as they are so there is need in present scenario to come up with many ideas and work on them and compare with traditional method of teaching. There is further scope of study design and compare with regular way of teaching methods.

CONCLUSION: Critical Analysis is a very difficult and time consuming which may take years to evolve. It is only through this critical evaluation that students can distinguish among competing claims for truth and determine which arguments and points of views they can trust and those of which they should be skeptical. This work lays the foundation for students' progressing to staking their own claims in an intellectually rigorous fashion. Learning how to analyze and critically evaluate arguments thus helps them to develop a sound framework to test their own arguments and advance their own points of view.

A small project has been undertaken in which students are allowed to assess other students performance working in a team of 5 so that they can think assess analyse and give their feedback on the basis of knowledge and performance observed as well as performed. Students are divided into 6 teams of 5 each in one group. Pre test was taken on given topic. One group performed the practical other group observed the performance on the basis of checklist. All groups performed the practical simultaneously. Same day post test and feedback was taken from the groups. Analysis of pre and post test score was done and all students were assessed paired t test was used to compare Group A and B. Unpaired t test to assess all participants.

This study aim was to conclude on new teaching method there are many ways how a teacher can come up with ideas to make student learn topic with ease. Tradition method is equally important and all *pramaan* have to be used for proper understanding. Study design have limitation and hence there is further scope of more enhancement. Student found this method encouraging and interesting as involvement was equal for both groups and finding mistake was more challenging which developed keen observation in them. Thus study was useful for students.

REFERENCES

1. Perry, W. G. (1999). *Forms of ethical and intellectual development in the college years.* San Francisco: Jossey-Bass.

2. Brookfield, S. D. (1987). *Developing critical thinkers.* San Francisco: Jossey-Bass.

3. Bean, J. C. (1996). *Engaging ideas: The professor's guide to integrating writing, critical thinking, and active learning in the*

classroom. San Francisco: Jossey-Bass. (Elbow, cited in 6, p.142),

4. King, P. (2000). Learning to make reflective judgments. In Baxter-Magolda, M. B. Ed.), "Teaching to promote intellectual and personal maturity." *New Directions for Teaching and Learning, 82*. San Francisco: Jossey-Bass. (5, p. 24).

5. Angelo, T., & Cross, P. (1993). *Classroom assessment techniques* (2nd ed.). San Francisco: Jossey-Bass.

Corresponding Author:

Dr. Shweta Zade,BAMS, MD, PG Diploma in QA QC, Professor and HOD Department of Ras Shastra & Bhaishajya Kalpana, Sardar Patel Ayurvedic Medical College and Hospital, Balaghat Madhya Pradesh

Email: dr.shwetazade@gmail.com

Source of support: Nil Conflict of interest: None Declared

Cite this Article as :[Critical Analytical Skill: A Tool To Improve Learning in Students of Ayurveda] *www.ijaar.in : IJAAR VOL VI ISSUE X SEP - OCT 2024Page No:447-457*