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A comparative evaluation of teaching and learning methodology on effective perception by *Guru Shishya Parampara* versus Audio-Visual Method with special reference to *Trividha Roga Vishesha Vignyaniya Adhyaya*

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ABSTRACT

Teaching and learning methods are two important phases in educational system. In this the term education is not only the art of learning the facts but also training of the mind to think. In the present study the topic selected was *Trividha Roga Vishesha Vignyaniya Adhyaya*. In this chapter the 3 folds for examination of *Roga-Rogi pariksha* is *Aptopadesha*, *Pratyaksha* and *Anumana*. Here, we had adopted the principles of *Guru-Shishya Parampara* and Audio-Visual method. In the present study *Guru* (mentor) gives his knowledge to *Shishya* (disciple) by adopting the principle of GSP. This study randomly enrolled 50 students of 2nd year B.A.M.S. students with an aim to compare the learning outcomes of both traditional *Guru Shishya Parampara* method and Audio-Visual method. Pre and post study evaluation was done by MCQ test and feedback was obtained on a questionnaire. Data obtained was analysed statically with help of Wilcoxon signed rank test and Chi square test. It is concluded that GSP was useful to enhance the learning with significance level $p < 0.0001$.

Key words: *Guru-Shishya Parampara, Integrative Teaching Learning Methodology.*

INTRODUCTION

Teaching and learning is a continuous process that process that promote teacher's teaching skills, master new knowledge, develop new proficiency, which in turn help improve student learning. Teaching is an act or process of imparting knowledge or skills to another whereas learning is an activity or process of gaining knowledge or skill by studying, practising being taught

or experiencing something the activity of someone who learns.

Now a days the teaching and learning process has become more "Memory oriented" rather than "Understanding and Practical approach towards the concept". And the present graduate level of teaching is in monotonous way i.e. there is lack of interaction between the teachers and students.

Where as, In ancient India, education was imparted through *Gurukul* system. Though we have entered into our new millennium, but our culture remains unforgotten. When we converse a lot about the culture, how can we forget the *Guru*, who has given this ancient knowledge, which he himself has got and preserve from his *Guru's* tradition. Here we can say that the *Guru* is the core of all education, arts, culture and knowledge. The *Guru* is a teacher who guides the *Shishya* from blindness or ignorance to bliss, wisdom and enlightenment. It was also known as the *Guru-Shishya Parampara*.

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They were residential in nature, with pupils or *Shishya* living near the *Guru*. In *Guru Shishya Parampara* system of education, students lived in the *Kula* (family) of their *Guru* (teacher) and studied the *Vedas* (sacred scriptures) and other subjects such as *Vyakarana*, *Jyotisha*, *Arthasastra*, *Dharmasastra*, *Sastravidya*, *Kala* etc. under his *Guru's* guidance.

And the components of *Guru Shishya Parampara* were *Adhyayana* (study), *Adhyapana* (teaching) and *Tadvidya sambhasha* (discussion).

And the another teaching method adopted here was Audio-Visual method to increase the interest among students and for better perception of knowledge of the topic.

Considering all these facts we had planned to access the perception of topic "*Trividha Rogavishesha Vijnyaniya Adhyaya*"^[1] by both these methods and then feedback from students was taken in order to evaluate the efficacy.

The *Pramana Vijnana* is not only limited to *Roga* and *Rogi Pariksha*. But they are the evidence of the scientific approach of system of medicine, it was mandatory to look for scientific methods or devices of approach. In Ayurvedic system of medicine, *Pramana Vijnana* refers to scientific investigation.

Pramana which represents the ancient methods of applied research, is of great significance in studying and developing research methodology in Ayurvedic system of medicine. As per *Charaka*, substances are either existent or non-existent and in order to investigate them we require application of *Pramana Vijnana*.

In this study we had discussed the applications of *Trividha Pramana* as source of examination of *Roga – Rogi Pariksha* by both means of study GSP method and AV method. And then we have developed a integrative method of teaching with a view of enhancing the quality of education.

OBJECTIVES OF THE STUDY

1. To study in detail the teaching and learning methodologies explained in Ayurvedic classics.

2. To compare the learning outcomes of both traditional i.e *Guru Shishya Parampara* method and Audio-Visual method.
3. To develop a integrative method of teaching with a view of enhancing the quality of education.

MATERIALS AND METHODS

The approval from the institutional ethics committee was obtained before starting with the interventional study. Later, the relevant Ayurvedic, Vedic, and contemporary literature related to the topic of present study was scanned thoroughly. For the purpose of collecting the contemporary literature, the relevant textbooks, journal articles and various authentic websites were consulted.

Population

Population for the present study will be selected from the 2nd year BAMS of BLDEA's AVS Ayurveda Mahavidyalaya. The intention of selecting 2nd year BAMS students is because of the reason that the topic selected for study is inculcated in their syllabus i.e *Trividha Roga Vishesha Vijnyaniya Adhyaya*.

Materials required for the study

1. Laptop
2. LCD projector
3. Feedback form
4. Questionnaire

Methodology

This is an interventional cross-over study to compare the learning outcomes of both Traditional i.e. *Guru Shishya Parampara* method and Audio-Visual method. And then feedback from students will be taken in order to evaluate the efficacy.

First stage

The topic for discussion is *Trividha Roga Vishesha Vijnyaniya Adhyaya*. In this stage, the topic will be evaluated by comparing the effectiveness of *Guru Shishya Parampara* and Audio-Visual teaching methods.

In Group A, the topic will be discussed under 3 components of *Guru Shishya Parampara* i.e. *Adhyayana*, *Adhyapana* and *Tadvidya Sambhasha*.

But the other group, Group B will be taught the same topic by Audio-Visual method i.e. by preparing Powerpoint presentations. In both the groups the topics will be discussed within 1 hour per day for 3 days.

Assessment of the learning outcome:

The learning outcome will be assessed with the help of feedback form and questionnaire.

Second stage: Cross over

After the completion of the assessment of the learning outcome in first stage. Second stage will be conducted where in both groups were crossed over, during which the teaching methodologies were interchanged.

Here in second stage the Group A students will be taught the topic by Audio-Visual method. And the Group B students will be taught the same topic by the 3 components of *Guru Shishya Parampara* method. Duration of session will be 1 hr per day for 3 days.

Assessment of the learning outcome

The learning outcome will be assessed by feedback form and questionnaire. Results of both stages of teaching will be evaluated by gradings and the effective perception of learning outcome of both GSP and AV Method will be compared and evaluated.

Sampling and randomization

The 50 students of 2nd year BAMS class will be randomized and grouped separately into 2 equal groups i.e Group A and Group B of 25 students each. Here we will use the = RAN () function available with Microsoft Excel 2007 workbook for this purpose.

Study Design

Group A - Intervention – Teaching *Trividha Roga Vishesha Vijnyaniyaadhyaya* by GSP – *Adhyayana*, *Adhyapana* and *Tadvidya Sambhasha Vidhi*.

This learning method is having three components. In *Adhyayana* students were informed about the topic of

next class and they were guided for source of information to prepare for the class. In *Adhyapana* the topic will be explained thoroughly and the queries were solved in the class. In *Sambhasha* one student from class will be asked to brief the topic and remaining helped to complete if some points were forgotten like this the whole topic was completed.

Group B - Intervention – Teaching *Trividha Roga Vishesha Vijnyaniyaadhyaya* by Audio- Visual method

In this learning method the same topic will be explained by Audio- Visual method i.e preparing powerpoint presentations, slides etc.

OBSERVATIONS

After the completion of each experiment, the feedback was obtained from the students in the form of questionnaire and feedback form. This feedback form was in the form of questions consisting of 30 statements. All the statements demanded students level of agreement on a five point likert scale. The five levels of agreement were 'Agree', 'Strongly Agree', 'Neither agree nor disagree', 'Disagree' and 'Strongly disagree'.

And the questionnaire consisted of 25 questions from the topic '*Trividha Roga Vishesha Vijnyaniya Adhyaya*'. The mean score of the students before and after cross over were evaluated by pre and post test marks score.

RESULTS

Table 1: Depicting academic performance of students before and after cross over by Wilcoxon signed rank test based on Questionnaire.

Academic Performance of Students Before and After Cross-over	Pre test		Post test		Wilcoxon signed rank test	Remark
	Mean	SD	Mean	SD		
Marks score	12.14	2.42	18.61	3.61	P<0.0001	HS

HS: Highly Significant

Table 1 shows the academic performance of 50 students of BAMS 2nd year, both pre test and post test mean and S.D are 12.14, 2.42 and 18.61, 3.61 respectively. It depicts that p value is highly significant when compared to pre and post test.

Table 2: Depicting students opinion about GSP Method and AV Method based on feedback form.

Teaching Methods	GSP Method	A V Method	Chi square test	Remarks
Agree	9 (16)	20 (40)	X ² =29.449 P=0<0001	HS
Strongly agree	38 (76)	14 (28)		
Neither Agree nor Disagree	3 (6)	2 (4)		
Disagree	0 (0)	9 (18)		
Strongly disagree	0 (0)	5 (10)		
Total	50	50		
HS- Highly Significant				

Table 2 depicts the response of students from feedback form based on likert scale.

Students opinion regarding GSP method:

16% - Agree

76% - Strongly Agree

6% - Neither agree nor disagree

Students opinion regarding AV method:

40% - Agree

28% - Strongly agree

4% - Neither agree nor disagree

18% - Disagree

10% - Strongly disagree

Here, P value is obtained by Chi square test is 0.0001.

Hence, it is statistically highly significant.

GSP method of teaching and learning is found highly significant in this study.

DISCUSSION

Discussion is the most essential phase of any research work as a research is said to be complete only after it is properly discussed about its nature, utility and importance.

Vitarka (Ability of discussing on the basis of *shastra*) is one of the features to be present in a good scholar. In a research work after the formation of a hypothesis, it has to be tested and observed by various methods and eventually the results should be obtained.

All these should be well supported by proper reasoning or logic based on observed data and then concluded. The hypothesis before it is proved or disproved must be discussed thoroughly from all angles. This is essential because the hypothesis gets established as a principle only if the reasoning given for it is satisfactory, otherwise it remains as it is.

Discussion on Guru-Shishya Parampara

Though we have entered into our new millennium, but our culture remains unforgotten. When we converse a lot about the culture, how can we forget the *Guru*, who has given this ancient knowledge, which he himself has got and preserved from his *Gurus* tradition. Here we can say that the *Guru* is the core of all education, arts, culture and knowledge. The *Guru* is a teacher who guides the *Shishya* from blindness or ignorance to bliss, wisdom and enlightenment.

The *Guru-Shishya Parampara* has been an inevitable part of education in Ancient Indian culture. In *Guru-Shishya Parampara*, a student approaches a *Guru* in his chosen area of expertise and requests to grant admission. Once *Guru* accepts the *Shishyas*, he will go for a formal initiation ceremony, where the *Guru* takes responsibility for well-being and progress.

Discussion on Trividha Gyanopaya

The three ways to attain the knowledge and proficiency are *Adhyayanam* (studying), *Adhyapanam*

(teaching) and *Tadvidya Sambhasha* (discussions) with the persons well versed in the subject.^[2]

The first mean to achieve knowledge is *Adhyayana* i.e. learning from the teacher or the texts and other things pertaining to the science.

Sushruta^[3] tells that the student who has become pure by his both body and his mind and who has worn good clothes and who has concentrated mind should study the *Shastra* and recite them word by word or verse by verse. Again they should be linked together properly as words, phrases and verses. Having thus formulated them, they should be repeatedly recited. One should recite neither too fast nor in a hesitant manner nor in nasal twang but should recite bringing out each syllable distinctly without over-stressing the accents and without making any distortions of the eye-brows, lips and hands. One must recite systematically and in a voice not too high pitched or too low.

In *Adhyayana* all these methods of study are mentioned so that the *Shishyas* / students should recite the *Sutras* in proper way, and if improper utterance of *Sutra* is there it gives a different meaning of the context mentioned.^[4]

The second method of attaining knowledge is *Adhyapana*^[5] (teaching) i.e. exposition which consisted of expounding the subject before the students. *Adhyapana* or Teaching others was regarded important in making the subject clear to the person himself and enabling others to understand the science properly.

The teacher who teaches the worthy disciples will obtain all the auspicious fruits of teaching, those described and even others not described here and obtains all auspicious qualities for himself as well as for his disciple. This is the procedure of the Teaching.

The science of Ayurveda is better learnt when learnt directly from the preceptor and repeatedly studies and practicing it.

In *Adhyapana Vidhi* the *Guru* elaborates / explains each and every word / *Pada* of a sentence so, that the

students can perceive a clear idea of the given context.^[6]

The third method to attain knowledge was the *Tadvidya Sambhasha*^[7] (discussion) with the men of his own profession who has acquired skill in exposition. This will give the final finishing of his proficiency and enlarges his field of vision by throwing light on many obscure point and sharpens his wits and methods of cogent argument. He becomes then an expert in the full sense of the term. This will correspond to the clinical meetings of the colleges and conferences of the present day.

In *Tadvidya Sambhasha*, mainly its aim is to achieve or gain knowledge by all means of sources through discussions, seminars, presentations etc. It not only increases our knowledge but also increases our knowledge but also increases our vocabulary / command over the subject.

Discussion on *Pramana* and *Pariksha*

The main purpose of Ayurveda is to maintain the normalcy of the dosas in healthy persons and to treat the patients ailing with the diseases. For the fulfilment of this aim valid and proper knowledge is essential. This valid knowledge arises through the means only which are called *Pramanas*.

After attaining complete knowledge regarding *Pancha Lakshana Nidana* or *Vyadhi Bodhita Nidana* and examination of the patient and diagnosis of the disease and finally treatment should be given in a scientific process. The entire process is called *Pratipatti*. This *Pratipatti Jnana* is the result of *Pramana*. Because the entire process of knowledge of *Nidana*, treatment is possible with the help of *Pramanas* only. Hence the *Pratipatti Jnana* is the result of *Pramanas*.^[8]

For the successful treatment of any disease through and careful examination is mandatory. Thus, Ayurveda being a medical science of investigating nature often uses the word "*Pariksha*" for "*Pramana*". The *Chikitsa* cannot be performed without *Pariksha*. The physician should examine the disease first then the drug should be administered and thereafter the management

should be done. He should always proceed with prior knowledge, for which *Pariksha* is mandatory.^[9]

Discussion on Results

This study using the ancient TL methodology developed the capability of self-learning skills in students. They collected the topic-related material from various sources and updated themselves for class discussion. Thus they developed interest in the subject. The repetition of topic helped to clear the basics and improved the level of confidence.

The academic performance of 50 students of BAMS 2nd year, both pre test and post test mean and S.D are 12.14, 2.42 and 18.61, 3.61 respectively. It depicts that p value is highly significant when compared to pre and post test. GSP method of teaching and learning is found highly significant in this study.

CONCLUSION

In this interventional cross-over study an attempt is made to evaluate the effectiveness among both the methods *Guru-Shishya Parampara* and Audio-Visual method.

Ancient educational system *Guru-Shishya Parampara* lays equal emphasis on both theoretical as well practical training. Hence, environment given to the student ensured he would turn into an accomplished person in his field of interest.

This study shows that students were very satisfied with the GSP method. It developed the capability of self-learning skills in students. Basic knowledge acquisition by preparing for the upcoming topic for lectures, collecting the topic-related material from various sources and updating themselves for class discussion were the highlights of the study. Students improved decision making skill, co-ordination and developed interest in the subject. The repetition of topic helped to clear the basics and improve the level of confidence. Modern education system has evolved with time and has been influenced by the western system. It has been affected by the changes and advances in technology. There must be an adjustment

and a mix of both cutting edge if the *Gurukul* framework is to survive. The objective of the new age *Gurukul* education should be to prepare students in a manner that they do not just have the learning of the current training framework, but also beyond that. We strongly believe that GSP can give new direction to study the Ayurvedic text and be the ray of light for medical education system.

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