

# AN EXPLORATORY STUDY ON SCOPE OF HEURISTIC METHODOLOGY FOR TEACHING IN HOSPITALITY INSTITUTES DURING PANDEMIC

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## ABSTRACT

**Background:** *Learning is the on-going and continuous process through our lives , there are some learning which is done through exploring new ventures, thinking differently to solve a particular problem, some learnings are through experiments and demonstrations which cannot be taught in white and black, this is where the heuristics learning evolve and came into existence and it also help the teachers or educators to break the monotony of traditional teaching methods and let the student to swim in the ocean of knowledge and get to the shore with the best possible results to the problems. Objectives:* This study is to find out the acceptability and enlist prominent attitude for the heuristic learning along with the major challenges faced by the faculty in implementation of same in hospitality education. **Methodology:** *A descriptive cross –sectional design was adopted. The study was conducted in hospitality institutes pan India through online Google Forms in form of questionnaire. Respondents were the faculty members of the institutes which were approached by sending e-mails and through online survey. Total 210 respondents participated in survey. The analysis was done by using relative importance of index along with averages and percentages. Results:* The most important attitude required by faculty for the implementation of heuristic methodology are the acceptance of unique solution of students (0.867) and after testing the solution correct knowledge should be imparted to the students (0.856) (relative index of importance). The acceptability of heuristic methodology among the faculty is on average level with response of (39%) use of heuristic methodology for giving inputs to students. Various challenges in implementation are the syllabus needs a major change. The initial set of skills and knowledge are required by the students (56%), completing the syllabus will be a challenge as all the topics in various subjects are not teachable with heuristic methodology (38%). **Conclusion:** Respondents have given their responses towards mild acceptability towards using heuristic methodology, on the other hand the issues of challenges faced and various attitude required are strongly reflected towards the heuristic education. The need of proper training and right kind of changes in syllabus are must of the successful implementation of this methodology.

**Key Words:** *Heuristic Methodology, Learning, Explore, Discover, Facilitators*



## INTRODUCTION

Heuristic literally means to explore or discover. The student has to find the solution of the problem on their own, independently without any help from the facilitator, the student is to be put in the situation where he/she has to find the near solution of the problem by exploring different means and ways. Heuristic methodology of learning is one of the tools which are used as problem solving or self-exploring the answer to the problem may be doing practically or theoretically, it may not be the perfect solutions to the answer which a student is looking for, it may be estimated or approximate to the correct answer.

When a problem is kept in front of the students, the students have to think out of the box, from where and how the problem is to be solved. The various methods which may be used by the students for example are trial and error method, guessing method, using previous experiences with the similar kind of questions etc. which certainly help the students to develop his decision making ability and cognitive skills. It gives rise to the mental shortcuts for evaluating the specific issues, and help in taking decision in a better way, however it also raises the biasness which effect the decision on the basis of personal judgments.

Before pandemic the students may be given the situation by the facilitators and asked to find the answer by various means using library, doing the practical in the lab, or attending the workshops etc. Here the role of the facilitator is to ignite the flame in the student to find the solution of the problem which helps to take out the new creative ideas or light up the creative thinking and imagination power to come near to the answer.

When the nation was under the effect of pandemic, the situation demanded to remain under lockdown and till date the situation is not getting normal especially for the students, the sudden change which came into the education system pushed the system to switch over towards virtual platform instead of physical classes, it was a great switchover for teachers as well as for students. In hospitality education where simulation training is very essential the online teaching for the same is difficult and challenging. Here come the heuristic methodology in picture, facilitators were just giving some virtual inputs about the topic and students where learning and finding answers , reaching to the near solutions with the help of internet and other online means and ways which ultimately enhance the reasoning power of the students.

Satchakett and Art (2014) added that the world is progressing or developing in every horizon such as human psychology, economic status and technological developments which ultimately creating new problems and required accurate solutions which does not exist in past and does not have any solutions earlier, these problem has to be solved in novel way that is finding solution own their own, for solving such new problem analytical and statistical point of view is required which come by heuristic learning.

Faculty from the various hospitality institutes had learnt this kind of methodology in the trainings provided by National Council for Hotel Management and Catering Technology in form of Qualitative Learner Facilitators and Certified Learner Facilitators, where faculty are not suppose to provide the answers to the students, whereas the student itself reaches to answer by various means given by facilitator like, group discussions, role plays, personal presentations, case studies etc.

Blomberg (2013) stated that how the video on the particular topic helps the students to know about the particular topic before the actual delivery of the content, he writes the importance of showing videos, how it helps student to think about the topic in all perspective and when these videos are actually required to be shown to the students and act as a medium to support learning. He further added, when a new teacher/facilitator starts his/her teaching career they do not feel comfortable in research based teaching, they apply their own methods which they have learnt throughout their education, which does not provide room for thinking as a student, to cope up with this difficulty in teaching, the training must be given to the future teachers before they join the teaching service. For this the writer added some suggestions:-

Use of videos in teaching process create environment of self learning, some major decisions need to taken for this kind of heuristic method of learning to create better environment of learning. They are-

1. Facilitators need to identify which topics are to be learned through watching videos.
2. How would be the activity to be framed or structured and aligned with the goals to be achieved.
3. When the goals and instructional objectives are decided, then carefully find out the videos which are needed accordingly and may be different videos may choose which may trigger their thoughts pertaining to the topic and develop thinking for related topics too.
4. Therefore the facilitator should identify advantages and disadvantages of use of videos and should highlight the disadvantages of learning in particular video.

Lastly all the above decisions are to be checked again.

Cardelle-Elawar.M (1992) explained that the teaching should be done in such a way that the teacher ends the topic with the how, when and why, with some spark in the mind of the student that when the student leave the classroom he/she must go to find the answer of his/her curiosity. The student's quest for the solution may be unique for the particular problem. Writer further pointed that by the heuristic methodology the following objectives may be fulfilled:-

1. Student may find the solution by application of his/her ideas.



2. May do the experiments himself/herself.
3. Think out of the box.
4. Collect data on the basis of his/her experiments and analyse accordingly.

To achieve the above objectives the teacher's attitude also matters and it is the responsibility of the teacher to make the student self- dependent to achieve the right solution to any problem, for this teacher has to follow some guidelines/ norms :-

1. Not to provide readymade answer for the problem.
2. The teacher should give time to the student for thinking and make a path for student.
3. For heuristic method, teacher should act like a guide and only provide guidance to the student.
4. Should encourage the student by remaining courteous towards students
5. Just be a supervisor to the student and should not allow student to divert from the path.

Researcher found advantages of the heuristic methodology of the teaching in hospitality education, student develops himself/herself for enquiring about minute details, initiates self-learning, the will "learn by doing" as they will get to answer by reaching to the solution themselves and it will be their honest efforts, develop the habit of diligences among students, student will have a cordial relationship with their teachers.

When there are Pros for something there are cons also, it's a time consuming method of learning which is not possible to be done with huge curriculum and when the teacher have a pressure to finish the syllabus on time, not suitable for the level 1( beginners) , as student may get disinterested with the studies, not possible in the larger groups of the students, as the answer may vary for student to student and create vague environment, every task or problem cannot be solved with this methodology some needs proper skills or training to complete the task.

Muller (2016) in his writing wrote about how students and practitioners learn. They learn in two ways by providing single solution and second is by making them accountable, to find the correct answer. As far as hospitality education is concerned the knowledge is categorized in two parts-first experienced leaning which is not language based need observations, learn more than it is actually told, and second is deductive and logical which is written in the books, can be found in search engines or which is easily accessible. He also stated heuristic methodology with the slow thinking of the student where the student thinks for the solution in a systematic way like "brainstorming", solution for the problem/ topic requires proper detailed thinking, focus and step- wise process.

(Anonymous, 2013) In this the author stated that heuristic method of teaching is divided into 4 parts or steps, the learning methods is designed in such a way that students are engaged in self learning, the teacher role is to take a break from traditional methods of teaching and just become a pathfinder for the student by bringing the student on the path of finding result by clarifying doubts, explaining the process, asking questions from there quires, suggesting techniques to find the solutions by group discussions, role plays and case studies.

Heuristic method aid in organising the thoughts, and up bring critical thinking and come up the logical answers, it helps the students in deeper understanding of the problem and creative thought process with heuristic methodology (Clarke,1990).

The process of heuristic method involves 4 parts. Part 1- Looking out the problem:- here the students are put into the situation or problem where they find out the possible solution which a facilitator required the student reach to and to find how much the student already know about the topic. In this part the student find books, internet, or do experiments and collect all the information and put it in the series or sequence and judge is it related the problem/ question/ topic which is asked by the teacher. Part 2- Make a blueprint of strategy and select one of the strategies:- here the students are asked for collecting the required information which is relevant to the topic and find which information is reflecting the problem and then ask the students by which means and ways they are going to find the solution to the problem, in this part or step they may suggest to undertake, systemize the information in sequence or series, draw flow charts/ tables or diagrams for the same, think about same kind of problem which they might had come across earlier, define patterns, work in backward integration, use trial and error method, zero down to the best solution. Part 3 - Take out actual solution - in this part students are asked to use above two parts and find out the right solutions, by doing this students may solve similar kind of problems with same strategy, they will think big and find the right solutions. Part 4- Look in depth - this part is to find out whether the students did any learning or not, if they have learnt, what is there learning for the problem, by this we can find out that the answer for the problem is correct or not. In this part the following things may be done, check the answers they had derived, does the answer is related to the problem or going out the way, what process they have used in finding the answer, watch for silly mistakes, ask students to share their path they have chosen for getting the answer.

Pertaining to the above mentioned steps required in heuristic learning brings us to the point where one cannot overlook the significance of support of the faculty in implementation of heuristic learning therefore following objectives were framed in order to seek the preparedness and acceptability for this teaching model among the faculty members of hospitality institutes.

The objectives of the paper were:

1. To find out the acceptability of heuristic methodology of learning among the faculty of hospitality institutes.
2. To enlist the most prominent attitude required for implementation of heuristic methodology in learning hospitality studies.
3. To study the various challenges faced by the facilitators in implementing the heuristic methodology of learning in hospitality institutes.

## METHODOLOGY

**Research Design:** Descriptive cross –sectional design was adopted.

**Locale:** The study was conducted in hospitality institutes pan India. Respondents were the faculty members of the institutes which were approached personally and through online survey.

**Sampling Design:** Faculty of IHM (Government 32 & Private 14) total 46 participated in responding for questionnaire filling. Total 210 respondents participated in survey, which was inclusive of 160 male faculty and 50 female faculty. Convenience Sampling was done.

**Tools and Technique:** Structured interview schedule was prepared for collecting information on socio demographic profile and heuristic method specific inputs and expectations of respondents. Questionnaire was developed to evaluate the acceptability of heuristic method of education among faculty of hospitality institutes with respect to the implementation as teaching tool. The tool was in English. On the basis of initial information obtained from initial review of literature list of various goals of heuristic method of education and possible attitude expected from faculties towards the students were listed and respondents were asked to rank these factors form 1 to 5 where 1 was least important and most important. Averages were taken from the responses and analysis was done for the same to find the most important goal and attitude required in implementation of heuristic method of teaching.

Goals for heuristic method was studied through the set of 6 statements and faculty attitude was studied through the set of 5 statements where respondents were asked to chose from Likert scale 1 to 5 were 1 being least important and 5 being most important. The data obtained from questionnaire was analyzed through Relative Index of Importance.

Relative Index of Importance =  $\text{Sum of weights } (W_1+W_2+W_3+\dots+W_n) / A \times N$

Where W= weights given to each factor by the respondents and will range form 1 to 5 where 1 is least important and 5 is most Important. A= Highest weight (i.e. 5 in each case) and N= total number of respondents.



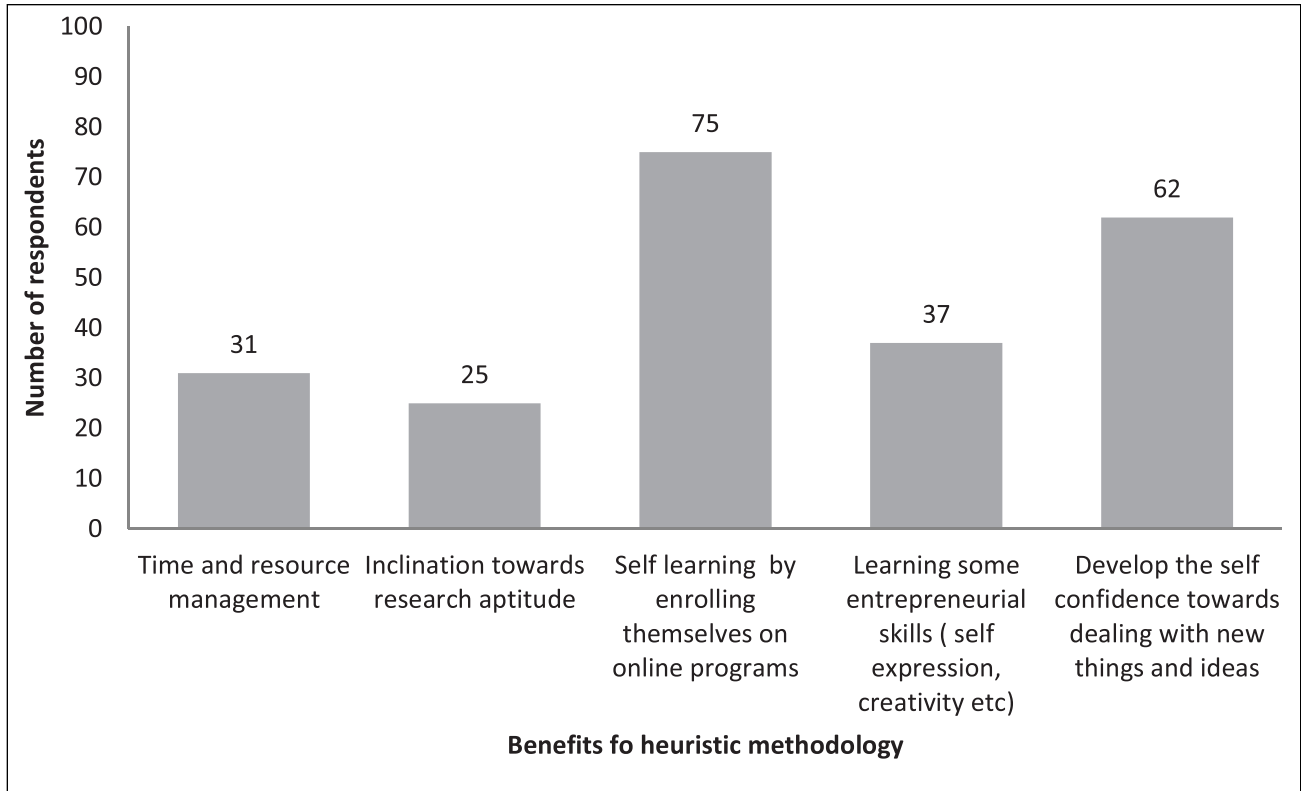
**Data Analysis and Statistical Analysis:** Data was also analysed on the basis of teaching experience, subject of expertise and preferred teaching methods benefits etc. The results were expressed in terms of frequency, percentage, mean and rank was calculated for statistical analysis.

## RESULTS AND DISCUSSION

**Demographic analysis:** The respondents were the faculty members from the various institutes throughout Pan India including Government and Private institutes, where they are developing new age learning for their students especially on virtual platform which is yet challenging for the faculty those who have more than 10 years of experience in traditional teaching above all they adopted new age learning and created environment for heuristic learning. Most of the faculty members are adopting various ways for making learn possible in all ways and means.

*Table 1: The demographic data of respondents*

S.No.	Particular	Number (n)	Percentage
1	Gender		
	Male	160	76%
	Female	50	24%
2	IHM Set up		
	Government Institutes (IHM & FCI)	32	70%
	Private Institutes	14	30 %
3	Number of years in teaching		
	Less than 5 years	10	5%
	Between 5-10 years	50	24%
	Between 10-20 years	90	43%
	More than 20 years	60	29%
4	Subject of expertise		
	Food Production	90	43%
	F&B Service	21	10%
	Front Office	21	10%
	Accommodation	57	27%
	Others	21	10%
5	Preferred method of teaching during pandemic		
	Lecture method/traditional method	21	10%
	Case studies based	21	10%
	Power Point presentations	69	33%
	Simulation training based	19	9%
	All of the above	80	38%

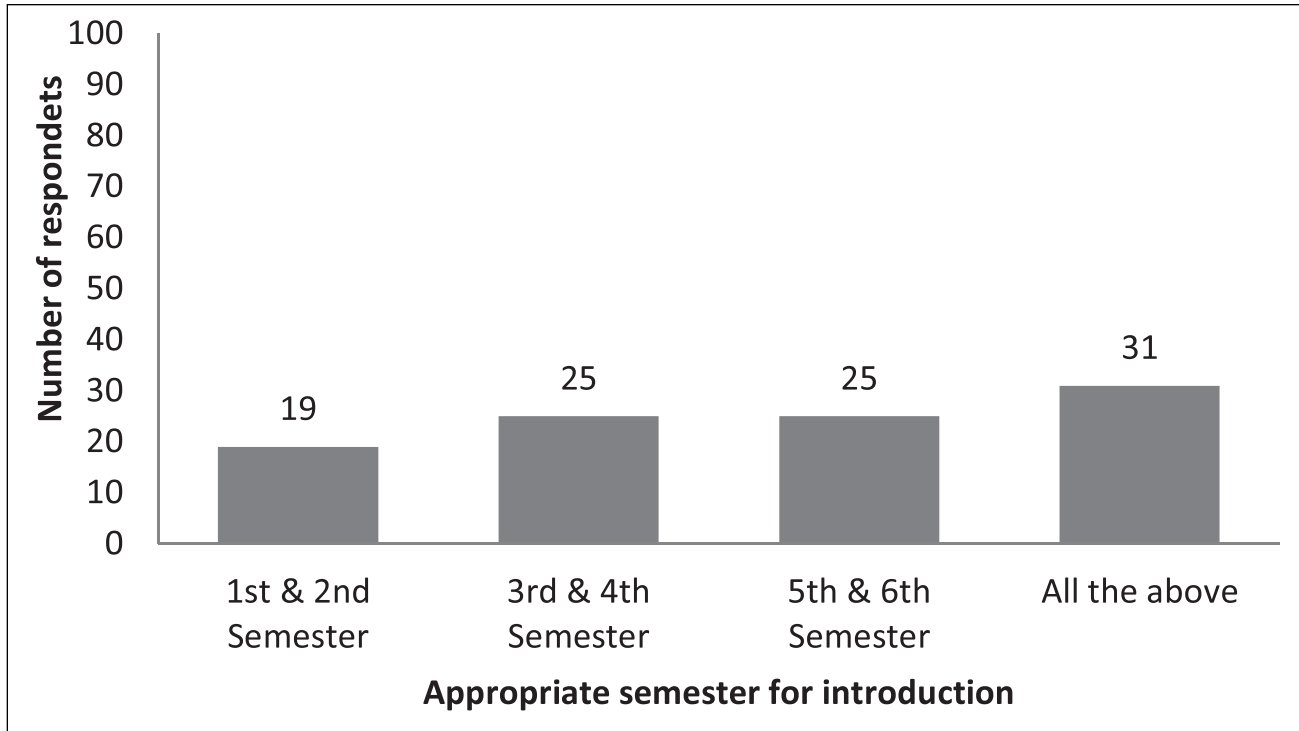


**Figure 1: Benefits of heuristic education methods**

In above majority of respondents inclined towards self-learning by enrolling themselves onto online programs (75%) where they learn new advancement in the sector of education and in their subject expertise which ultimately benefits students. Followed by developing confidence towards dealing with new ideas and things prevailing in learning scenario, learning entrepreneurial skill which includes creativity etc., then time and resource management respectively.

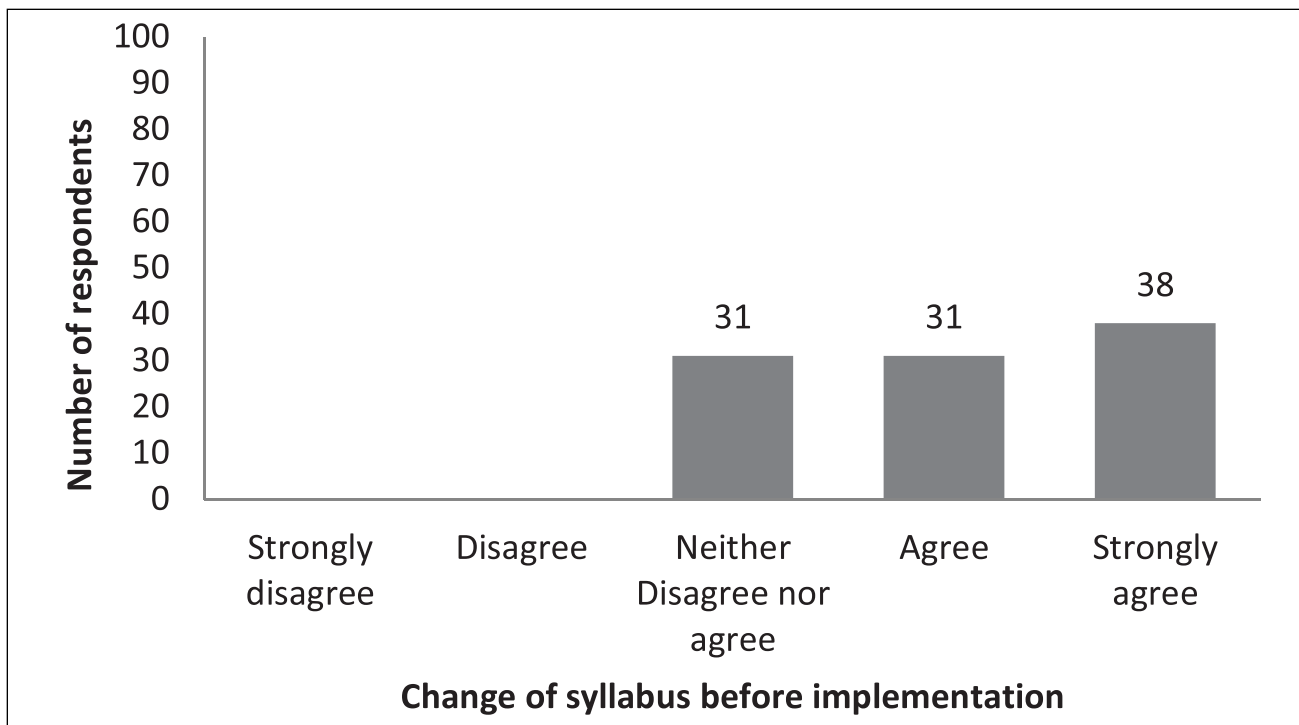
Schoar (2014) stated that “the benefits of such heuristics are not only that they reduce complex information to a simple and manageable set of choices, but also that they help people turn an intention into a realized action.” which is very much sync- in and almost close to above research finding with the given data. Koriat (2009) stated that the cognitive skills of children are seen to be more developed when they go through the observed mode of education with proper feedback system. The learners are a found to gain better cognitive skills when undergoing the task based assignments as compared to the traditional methods of education. These skills also grow with age and when the learner participates in heuristic based learning setup they are able to perform better than other students.





**Figure 2: Most appropriate semester for introduction of heuristic method**

In the above figure the many of the respondents agreed that the heuristics learning is required in all the semester and with different level of difficulty in each semester where they equally consider that it should be in implemented in higher semester than in basic level of education.

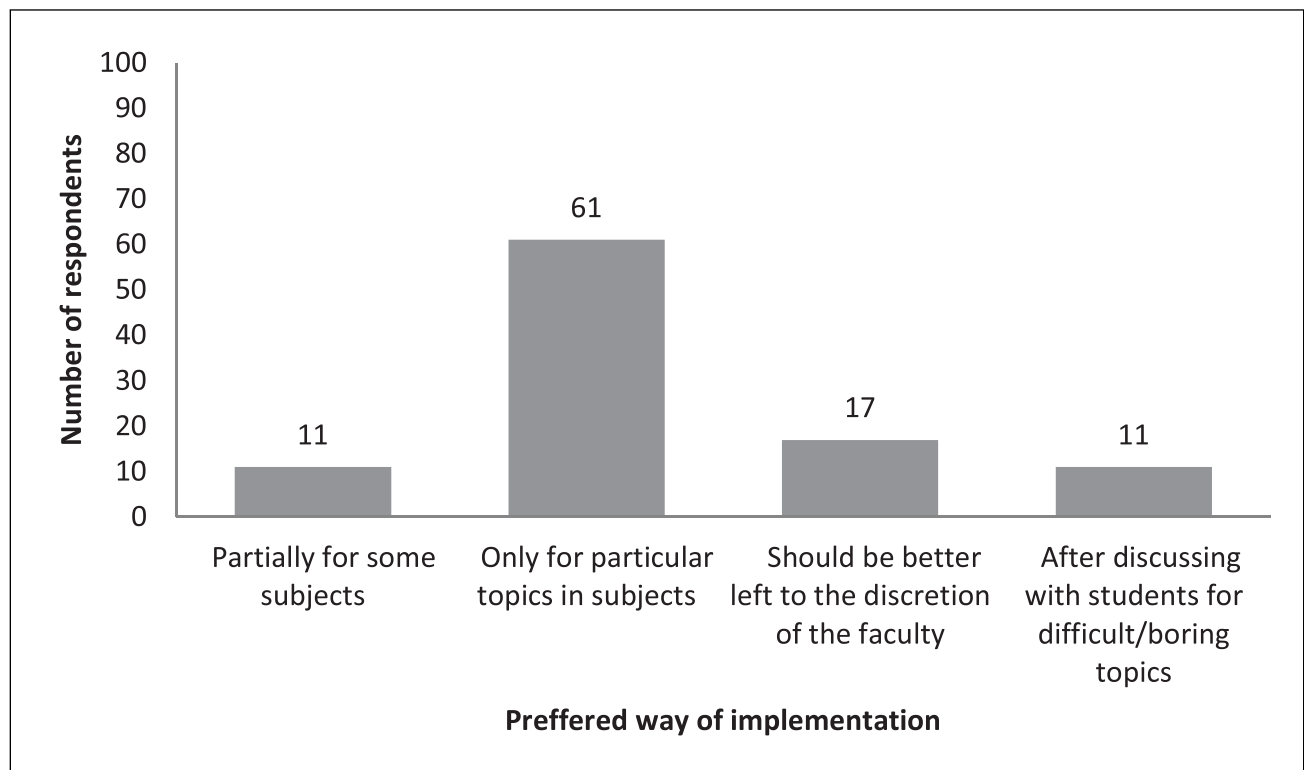


**Figure 3: Change required in existing syllabus**

The result showed in above figure state that to have a major change in syllabus (38%) is required before implementation of the heuristic methodology of education which is agreed by many of the respondents.

Bogaard (2015) stated that the curriculum change is applied with 3 levels in mind such as task level, classroom level and lastly at university level with 4 principles firstly the type of education the university is imparting and seeking to attain (purpose), secondly which type of learning should take place to fulfill the objective of attainment of learning to students. thirdly which learning will help to increase the effective instruction impartation and fourthly how the learning will be evaluated. They further added the real change is hard and difficult because the change is not major as compare to previous curriculum like course content, approach for teaching etc.

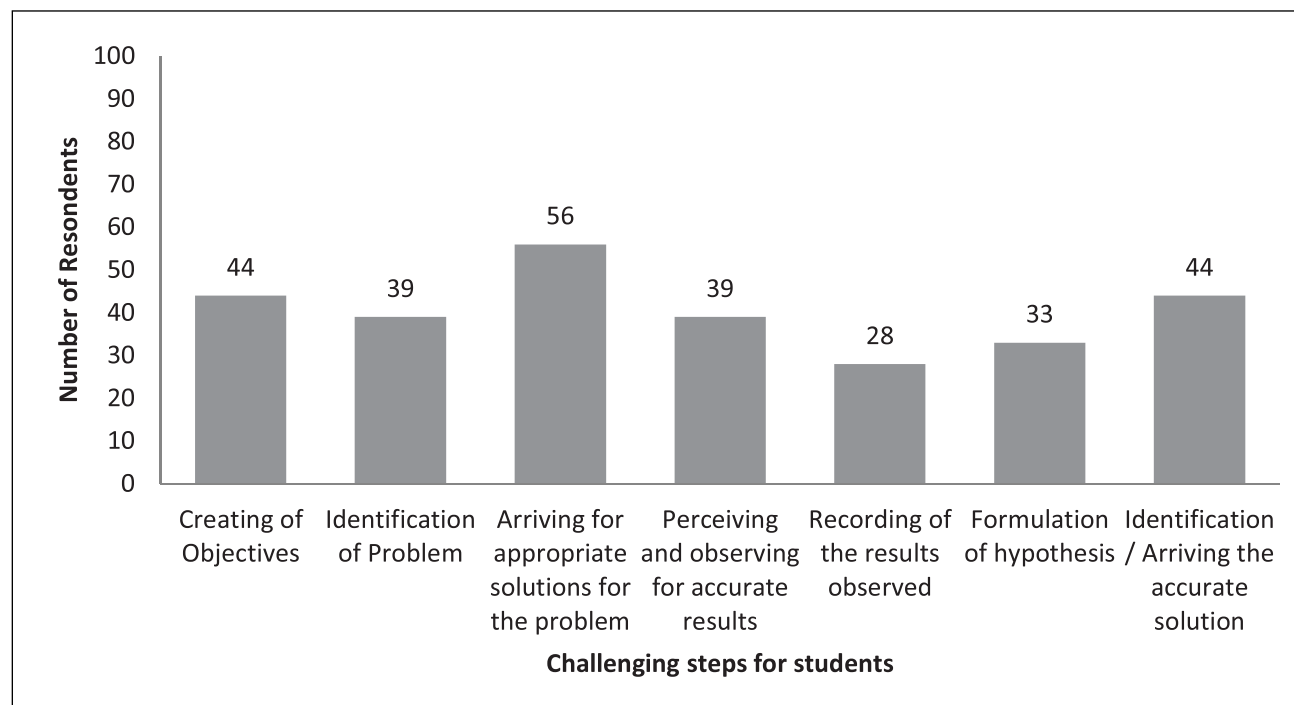
For the curriculum change in any course programme demands the long list of changes especially in attitudes of teacher, it implementation, education culture, scope of innovation, preparation according to of new curriculum, description of curriculum change and most importantly the satisfaction with the new curriculum.



**Figure 4: Preferred way of implementation in hospitality institutes**

With reference to the implementation of heuristic methodology majority of respondents agreed upon that heuristic methodology should be implemented for particular topics of subjects only (61%) not for all the given subjects in course. And many of them consider that it should be better left to

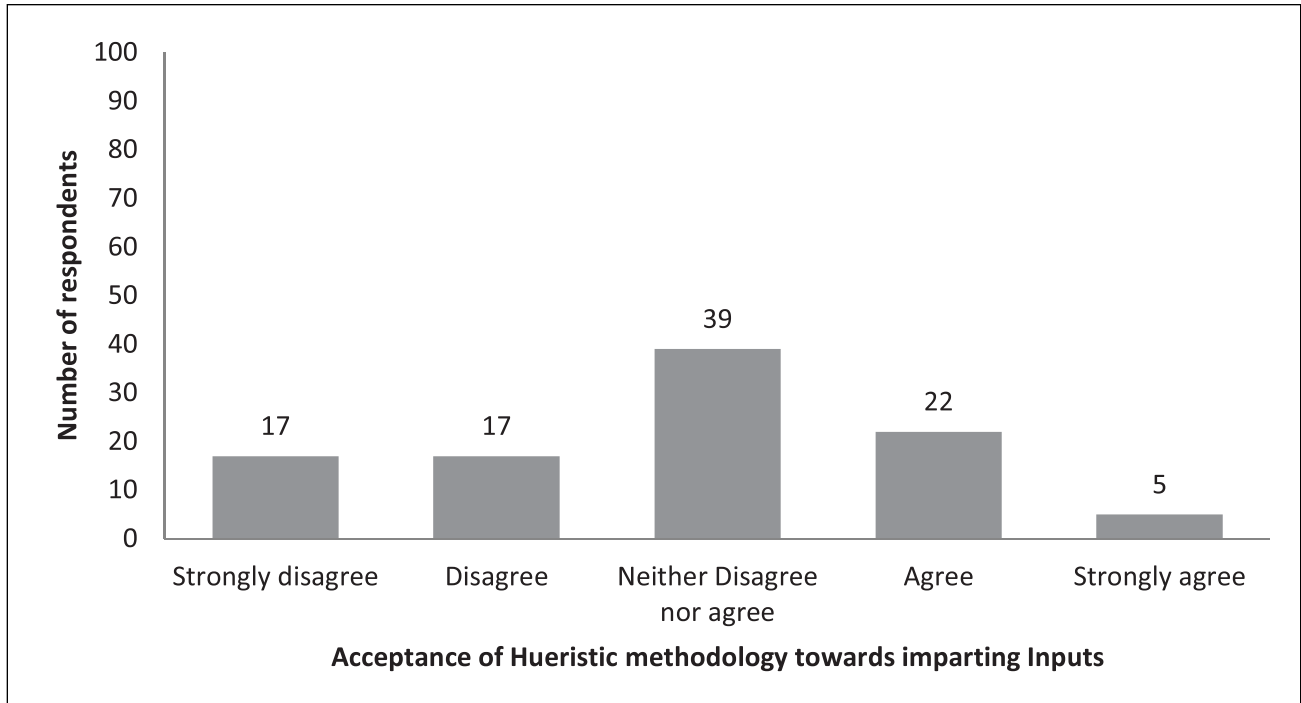
the discretion of subject teacher (17%) on which topic they want the student should learn through heuristic method.



**Figure 5: Challenging steps for the students with respect to heuristic learning**

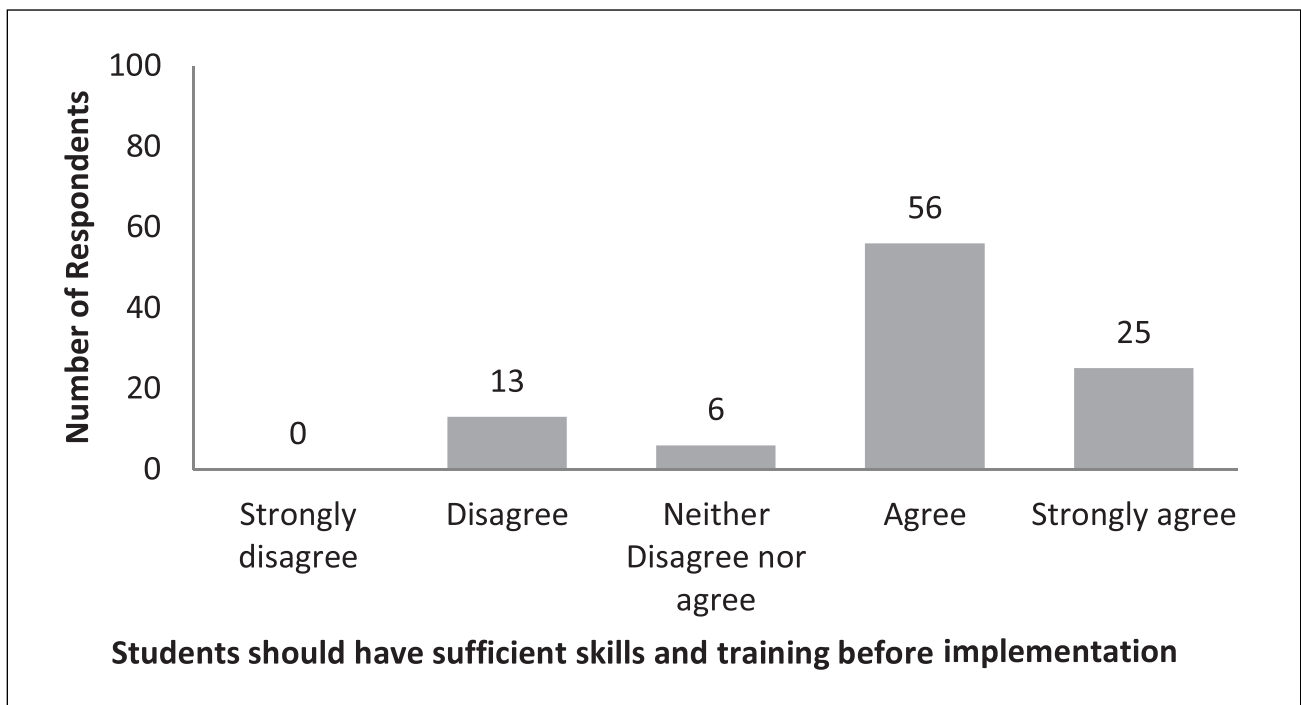
Arriving for appropriate solutions (56%) for the problem was taken to be a prominent challenge which can be faced by the students with respect to heuristic learning. The same was suggested by Cardelle-Elawar (1992) in which certain objectives were achieved by students while learning through heuristic methodology followed by the challenge of identification and arriving to the accurate solution (44%) as per respondents.

Kamid (2021) stated that in the present century the students need to be more attentive and actively participate in learning rather the teachers involve themselves in answering the problems, they further added that innovation is required so that students should be able to solve the given problems, where they suggest the LAPS- heuristic learning model which aids the students to solve numeric problems easily. They added that the teaching methods with innovations can improve the students discovery for problem solving it is named as discovery learning model. In this model the students are push towards exploring the answers logically, critically, systematically and analytically, so that students should become confident that whatever they are finding it is correct and accurate.



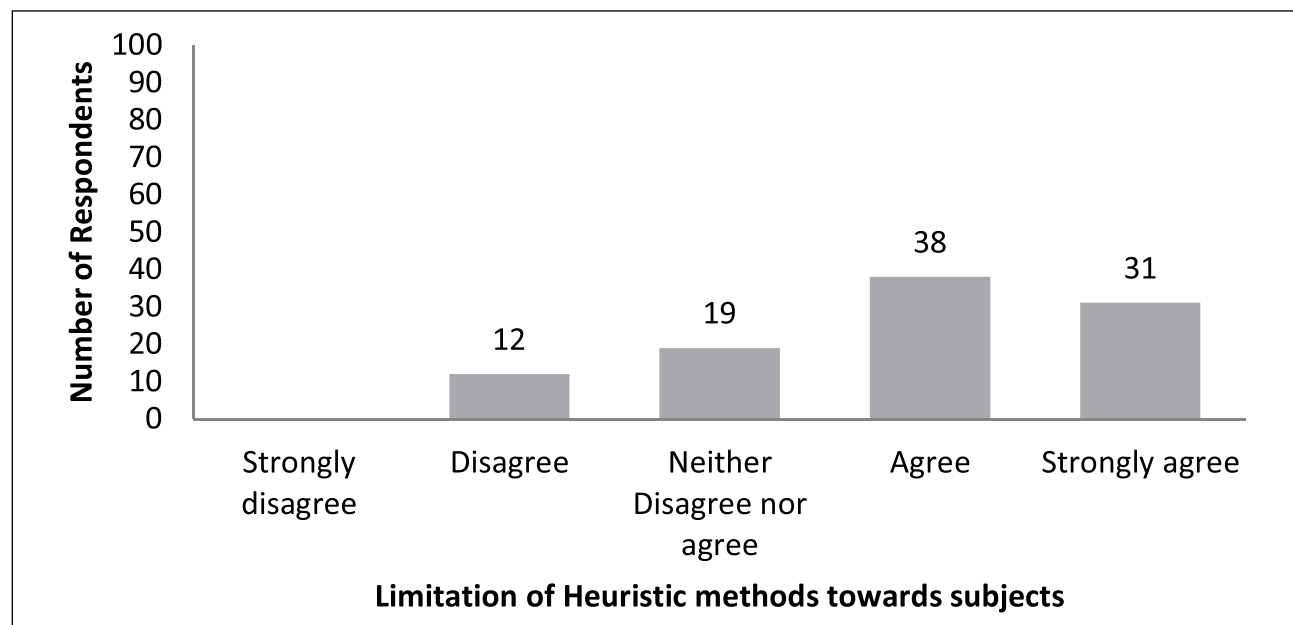
**Figure 6: Acceptance of heuristic education for imparting the inputs of hospitality subjects**

In the above figure the respondents followed that acceptability of the heuristic methodology with respect to theoretical and practical inputs is not found to be on the higher side as majority of responses (39%) are in state of being neutral.



**Figure 7: Whether initial skills required by students**

The above graph shows that respondents do agree (56%) that sufficient initial skill and training is required by the students before heuristic learning is implemented.



*Figure 8: Heuristic methodology is not for teaching all the subjects*

In the above graph the respondents strongly agreed that some subjects have limitation where the heuristic method of learning cannot be implemented whereas many respondents disagree with the same.

*Table 2: Relative importance of index for the most important attitude required for heuristic education in faculty.*

S. No.	Attitude required by faculty in order to implement heuristic education in hospitality institutes properly	Relative Index of Importance
1	By testing the ideas given by students, one should suggest the correct knowledge to the students.	0.867
2	Acceptance of unique solution from the students	0.856
3	Faculty should be sensitive towards students behaviour	0.856
4	Ready to accept any suggestion for the solution from students regardless how irrelevant it is.	0.800
5	Faculty should never expose the students to ridicule for their suggestions of possible answers	0.800

Above table clearly showed that the most prominent attitude for the heuristic methodology are by testing the ideas given by students, one should suggest the correct knowledge to the students,

and followed by acceptance of unique solution from the students. In Addition to above finding Cardelle-Elawar (1992) agrees that the similar attitudes are required with regard to implementation of heuristic methodology of learning.

**Table 3: Relative importance of index for most important goals of heuristic teaching in hospitality institute**

S. No.	Goals of heuristic education methods with respect to the teaching of students in hospitality institutes	Relative Index of Importance
1	Faculty should aim for all round development of the students	1.056
2	Develops self-confidence among students	0.856
3	Developing professional attitude and creativity among the students	0.856
4	Helps to explore the new environment in search of the solution of the problems	0.856
5	Develops the interest for the subject in the students	0.856
6	Develops power of self-expression	0.833

For the response towards the important goals of heuristic methodology it was found that respondent clearly aimed for the all round development of the students and development of professional attitude along with creativity among students which they want to achieve through the implementation of heuristic methodology.

The study done by Schuler (2016) gives the significance of system thinking with regard to the higher education for the better understating of complex problems and dynamics among the students. The support designed to measure the effects of heuristic education among the students play an important role in student and faculty way of thinking and further influencing the attitude towards the implementation and acceptance of heuristic learning.

**Table 4: List of topics found suitable for heuristic teaching by respondents**

S. No.	Topics from the subjects of expertise	Subjects
1	Lost and found method, Guest room cleaning ,Uniform designing Pest control, first aid	Accommodation operations
2	Development of new recipes for food stalls Understanding the international cuisines History, Basic History of cuisine theory, Identification of raw material, Floor planning of a kitchen Special traditional equipments used The above in relation to Indian regional cuisine (Each State)	Food Production operations

S. No.	Topics from the subjects of expertise	Subjects
3	Leadership qualities, Planning your department and planning budget for your department Service sequence, table layout, menu planning Situation handling, staff handling & control desk handling. Planning and design of outlets, managing events Regional Cuisine, entrepreneurship opportunities, development of tourism marketing Layout of stores, layout of bar, dispense bar	Food & Beverage Service operations
4	First-aid, Time motion study, and Types of keys Complaint Handling Up selling techniques	Front office operations

Respondents were asked to write the topics from their subject of expertise which according to them may be taught using heuristic method in response to this question many topics were suggested by the respondents which are mentioned in above table along with their subjects. The result are also matching with the responses given by respondents in figure 4 where majority agreed to the implementation for particular topics of subjects.

## CONCLUSION

Heuristic methodology although is not a new methodology for teaching but its use in hospitality institute has been very limited. This study was done with an objective of narrow down the various challenges in implementation and acceptance of heuristic methodology among faculty teaching in hospitality institutes. The responses have clearly shown that the syllabus needs a major change and implementation should be done in higher semester. It was also found that the initial set of skills and knowledge will be required by the students in order to understand the expectations and performing accordingly for the assignments of heuristic learning. The overall response to the implementation and acceptability of heuristic methodology is found to be average which again calls for the in-depth training of faculty and whole heartedly acceptance of methodology in hospitality institutes.

## RECOMMENDATIONS

As per the study it was found out that the heuristic learning in the hospitality education is simulation based learning. Students learn better when they do it themselves most of the theoretical learning does not give 360 view about the topic until and unless they explore by experimenting. So it is recommend strongly let's put the students into the situation and allow them to find out the most accurate solution for the given situation, all the individual are different they will think differently, we will have numerous





responses towards same situation. Therefore it is advisable to apply more of the heuristic methodology of learning in form of case studies, role plays, experiments in kitchen with new ingredients, giving question banks etc.

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