



Perception of commerce teachers at undergraduate levels on the use of inductive teaching methodology in Bangalore, Karnataka

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Abstract

University education in India has always been a quintessential determinant of quality output in terms of filling potential industrial positions in India. In this regard, commerce education which has experienced a paradigm shift in terms of its demand is constantly on a lookout towards innovative and revolutionary methods of classroom teaching, which if leveraged optimally, can go a long way in shaping the essence of pedagogical approach and cutting-edge practices are inculcated to the target students. In this regard, this study primarily focuses upon the perceptions of commerce teachers on the use of inductive teaching methodology in classroom teaching and examines the opportunities involved.

Keywords: university education, commerce, teaching methodology

Introduction

Inductive teaching approach has always been a subject of debate in being acknowledged as a revolutionary mechanism in introducing lasting and significant changes in perceiving a subject in a typical classroom setting. In this regard, social sciences have always lagged behind in terms of their undergraduate student output quality, the main disadvantage being superficial understanding of core concepts and lack of application-oriented learning.

Commerce domain has emerged as a major contributor in terms of creating many potential candidates for filling in industrial gaps. The university education of India plays a pivotal role in deciding the core competence of the prospective industrial positions. Hence the need of the hour would be to have an idea about the applicability of inductive approach of teaching in various focal subjects of commerce. Inductive teaching is essentially driven by illustrations. The totality of the implications of inductive teaching can be observed in various stages:

- Identify various real-life occurrences, and events which seem to follow a common pattern.
- Strike a linear or chaotic relationship between these occurrences and try to find out the causes for the same.
- Present the list of all possible causes.
- Establish a profound principle between all causes.
- Generalize the principle and find out if there are exceptions.

Important commerce domains with potential for inductive teaching

- Accounting is the fundamental crux for every industry. There have been evolutionary trends in trying to harmonize differences in terms of accounting standards as regards organizations and nations alike. The evolution of IFRS and its widespread impact necessitates a higher level of cutting edge understanding on its relevance.
- Industrial positions for candidates specializing in finance are on an ever-rise. The stock market trends, capital structure analysis, and all investment decisions of individuals and firms rest upon a strategic approach to this domain.

- Business economics is a domain which simplifies the macro-economic challenges surrounding a closed system to suit the needs of a business entity, and educates candidates about abnormal situations in an economy, and ways to surmount them successfully.
- Business statistics is the core of all social sciences which essentially takes up central tendency, dispersion and allied theoretical distributions, the fundamental purpose being sensitivity analysis with respect to risk.
- Marketing management is essentially driven by case studies on means and methods to strategically overpower competitors and assert oneself in the market. The complexity here lies in the conditionality of the domain being subject to volatility.
- Human resource management is a powerful area of business management which is treated on par with psychology. The complexity of the domain lies in its imperfection, being a reflection of the very essence of human nature.
- Business law also called as mercantile law, this field emphasizes almost exclusively on cases from history, extra-mundane situations, and logic. The success of teaching this domain rests on a thorough understanding of exceptions and the reasons behind the same.
- Banking concepts- are largely theoretical in nature, and addresses the history of the sector in the nation, and defines the challenges surrounding the sector. This domain is essentially descriptive in nature.
- Taxation concepts principles of taxation have always been subject to multiple perceptions, each being closer to the macro-economic objectives. The success of teaching taxation depends upon being able to decipher an intention behind every macro-economic decision.

Components of inductive teaching in commerce domain

The components of inductive teaching in commerce domain are essentially classified into three. They include:

- Illustrations- are the driving factors behind an inductive teaching session, and an array of illustrations finely

optimized conveys the required understanding of the core concept.

- Case studies- are popular occurrences in the history of domain, which would have provided groundbreaking facts for future analysis. These, when presented to students, make them frame independent observations.
- Derivations to formulae- formulae used in business economics and statistics are always obtained through a derivation, which explains the purpose of the research. These derivations are to be explained for students to arrive at the final formula, with their own pathway of understanding.

Review of Literature

"Does faculty research improve undergraduate teaching? An analysis of existing and potential synergies"- Michal. J. Prince, Richard Felder and Rebecca Brent (2007)"

The main purpose of this research was to identify whether faculties undertaking research had a greater impact in helping arrive at better classroom outcomes. A detailed focus was placed upon bringing research into the classroom, and the article concluded that striking a balance between faculty researches by means of involving the undergraduate students improved their learning abilities and led to better classroom outcomes. On the overall, it is observed that the study encourages student centered learning even in research topics.

Teaching of commerce with ICT-a novel approach- Girish Sahni (2016)

In this article, a clear understanding is given about the "commerce teachers seldom understanding the essence of ICT in their teaching sessions", and an emphasis was laid upon how ICT can be harnessed to make students self-sufficient and self-reliant. The article concludes with the limitations of the traditional lecture method, and rather argues for imparting practical and real-life application-oriented teaching to undergraduate students.

Emerging Trends and Revitalization of Commerce Education in India- Ms. Artiba V. Rana Swami Sahajanand College of Commerce & Management, Bhavnagar. (2015)

The primary purpose of this research paper was to express concern about the innumerable problems being faced by the present commerce education scenario. And a very strong suggestion is made regarding "soul searching efforts" to be made on searching for better methods of understanding the same. The article ends with a suggestion made about developing micro specializations which are skill oriented or job oriented.

A study about views of students on challenges in commerce education- Dr. Syamala and Ramajan Varunkar

The main purpose of the research was to Study the obstacles faced by the commerce graduates and to study the reason for the lack of employability skills and abilities of commerce graduates.

After detailed primary data observations, the study concluded that commerce education should not be treated as a course for the average students but should be regarded in the right perspective by the system. The study also implicitly observed a few shortcomings in the current syllabus criteria and suggested for a common syllabus criterion for all universities across India.

Statement of the problem

The number of studies that have been undertaken to research innovative techniques for teaching commerce subjects has been very limited. In this context, perception of the undergraduate teachers becomes very crucial to understand the subject-wise scope of inductive teaching for various commerce subjects, and decipher the opportunities and challenges involved therein.

The basic idea behind the current study is to try overcoming the various challenges surrounding a typical commerce classroom, by neutralizing the limitations of the traditional lecture method with the advent of inductive method of teaching. The roles played by illustrations, case studies and application-oriented problems in understanding the essence of the subject from a teacher's perspective is attempted to be understood.

Objectives of the study

1. To get a clear understanding about the classroom outcomes when inductive teaching is used from the teacher's perspective in comparison with the traditional lecture method.
 2. To identify the constraints if any for the use of inductive methods of teaching.
 3. To understand a subject-wise applicability of inductive teaching methodology for various commerce subjects.
- To give suitable suggestions.

Research Methodology

1. This study is based on primary data collected through questionnaires. The purpose of the survey was very clearly explained to the respondents. A convenience sample of 100 teachers from various undergraduate commerce colleges was adopted.
2. There are three segments in the questionnaire, the respective focal points being perceptions to inductive teaching in general, it's subject-wise applicability, and scope and the opportunities and challenges involved therein. The response options were offered on the basis of a 5 point likert scale, ranging from "strongly disagree" to "strongly agree".
3. For a few teachers who were unable to arrive at a conclusion in framing responses, responses were recorded objectively after a direct observation of the teaching session with their permission.
4. Tools of analysis
 - i) Data collected from the questionnaires have been quantified with 1 representing "strongly disagree" and 5 representing "strongly agree".
 - ii) Simple mean and standard deviation have been calculated for each of the statements, along with coefficient of variation to evaluate the consistency of responses among the selected sample.
 - iii) A score of 3 represented neutrality, and hence scores above 3 were considered to be acceptance of the statement, and below three implied rejection on an average.

Scope of the study

The study is confined to 100 commerce lecturers of various undergraduate colleges at Bangalore. The inclusion criteria clearly required every lecturer to have at least 3 years of

teaching experience and have taught varied commerce subjects. It covered their perceptions about inductive teaching, it's subject-wise applicability, and the opportunities and challenges involved.

Data Analysis

For the purpose of easily quantifying values to be obtained, strongly disagree is taken as 1 and strongly agree is taken as 5. 3 is taken as neutral value.

Table 1: Results of perceptions of commerce teachers towards inductive teaching in general

Statements	Mean	SD(+/-)	CV	RANK
1. Desirability of introducing a concept through a series of structured illustrations.	3.93	0.63	16%	3
2. Increased importance of case studies in understanding core principles.	3.65	0.88	24%	4
3. Supporting formulae with derivations to enhance real life applicability.	3.96	1.61	41%	2
4. Deprivation of competence with mere core concept	4.5	0.4	8%	1
5. Ability enhancement in problem solving by independent working out by the student.	4.5	0.6	13%	1
6. Whether application and skill-based cases/problems need to be a part of the syllabus	3.05	1.53	50%	5

Analysis: there is a high degree of agreement (mean score 4.5 with respective standard deviations of 0.4 and 0.6) towards deprivation of competence with mere core concepts, and the possibility to enhance students' ability by making them independently solve problems. There is also a high degree of agreement towards usage of illustrations in explaining the core concept, with a mean score of 3.93, and

minimal deviation. There have been varied responses towards the acceptability of case studies and application oriented problems as a part of syllabus, with the overall mean score being slightly favorable at 3.05, with a high variation up to 50%. On the other hand, there is also a strong acknowledgement regarding the use of case studies to improve core skills of students.

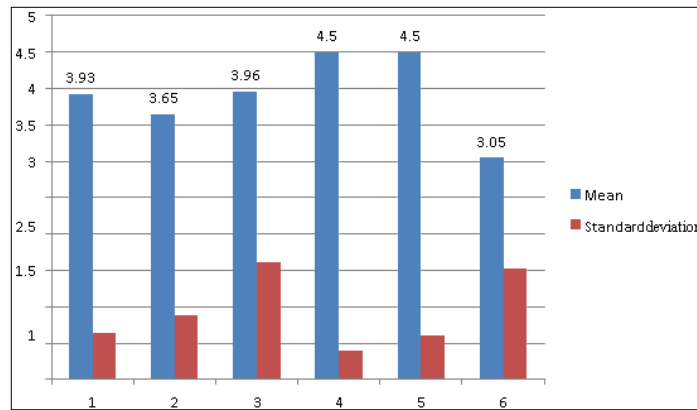


Fig 1: showing responses to various statements pertaining to inductive teaching

Interpretation: there is an overall positive response towards bringing in inductive teaching, which is seen through the perceived benefits of the use of case studies, illustrations, and making students solve various problems by

themselves. This reveals a greater scope for the introduction of inductive teaching, as a strong opinion is voiced as regards the deprivation of student's capability with mere teaching of core concept.

Table 2: Relevance of inductive teaching in various commerce subjects

Statement	Mean	Sd	Cv	Rank
Accounting and costing concepts	1.15	0.35	30%	8
Taxation	2.76	1.15	42%	6
Financial management	3.45	1.21	35%	4
Marketing concepts	4.22	0.4412	10%	2
Human resource management	4.03	1.74	43%	3
Banking theory and practice	1.29	0.45	35%	7
Business/mercantile law	4.6	0.2	4%	1
Business economics	4.6	0.3	6%	1
Business statistics	3.09	1.47	48%	5

Analysis-a vast majority of respondents very strongly advocates using inductive teaching towards business law and business economics. Marketing concepts rank next, with a mean 4.22, and a minimal variation of 10%. Human resource management has also seen a mean score of 4.03, indicating agreement, which is strongly questioned for consistency with a co-efficient of variation at 43%. Financial management and business statistics primarily have

received mixed responses, with respective mean scores of 3.45 and 3.09, and the corresponding variations being 35% and 48%. Banking and accounting concepts have received the poorest mean scores of 1.29 and 1.15 respectively, indicating that both are perceived to be largely principle oriented rather than being centers of innovative techniques, added to minimal deviations.

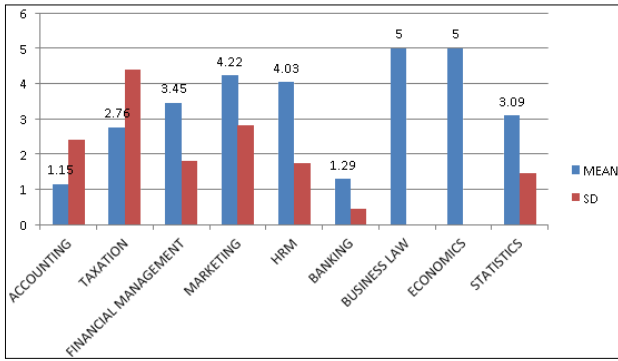


Fig 2: showing parameters regarding subject-wise relevance of inductive teaching

Interpretation: all the descriptive papers which can be easily synchronized with the real world occurrences have seen a welcome trend in terms of introducing inductive teaching methodology, while principle-centric subjects which are driven by stereotypical problems with rigidity in curriculum are preferred not be taught through inductive methodology, and its implementation is quite a challenge.

Table 3: Opportunities available in implementing inductive teaching methods in commerce classrooms

Statement	mean	SD(+/-)	CV	RANK
1. Time factor	1.12	0.32	29%	3
2. Current syllabus	1	0	0%	5
3. Student acceptance	3.4	1.57	46%	1
4. Availability of resources	1.05	0.22	21%	4
5. Possessing pre-requisite skills.	2.66	1.33	50%	2

Analysis: One of the main challenges that have been experienced by the respondents in terms of implementing inductive teaching methodology is time factor with 1.12 representing a disagreement to availability of sufficient time. Standard deviation is minimal at 0.32, which generalizes the opinion. The overall mean score is 3.4 as regards acceptance of inductive methodology by students, indicating agreement to inductive teaching. There is a strong disagreement regarding the adequacy of opportunities provided by the current syllabus, with a perfect score of 1, devoid of variations.

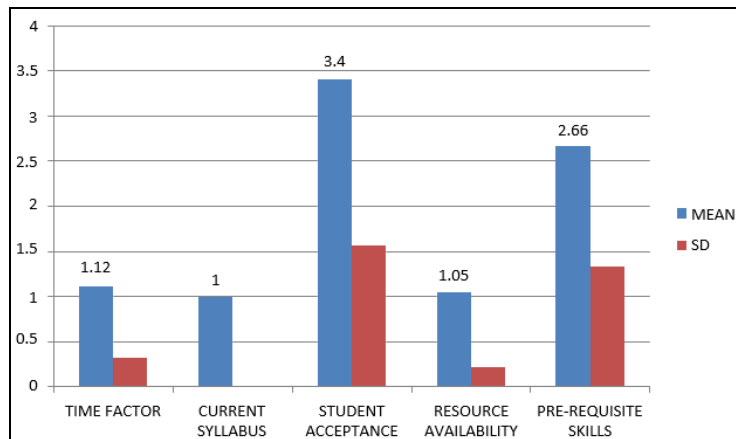


Fig 3: showing opportunities available for inductive teaching in classrooms.

Interpretation: inductive teaching can be successful only if adequate time and resources have been provided by institutions. Students can further be motivated to realize their areas of interest. In addition to this, there is a need to constantly upgrade the skills of commerce teachers as regards inductive teaching.

Findings and suggestions

Findings

1. There is an overall agreement towards the statement that it is desirable to introduce a concept through structured illustrations, represented by a mean value 3.93, with minimal deviation of 0.63, and a variation of only 16%.
2. Using case studies for teaching core principles have been on an average accepted by the sample, with a mean score of 3.65 as against neutrality at 3, with coefficient of variation 24%, indicating good consistency.
3. Though the mean score of agreement with the use of formulae derivations show a positive trend towards accepting inductive teaching methodology with a mean score of 3.96, the responses have been highly inconsistent with a high CV OF 41%, and a standard deviation of 1.61, revealing certain degree of

- disagreement to the same, the potential reasons being technicalities involved in deriving a formula.
4. There has been a very strong conviction among the respondents as regards the dismal effects of confining classroom teaching to core concepts, with a mean score of 4.5 representing almost an absolute agreement.
5. a vast majority of the respondents agree that the ability of students is greatly enhanced as regards critical thinking by solving cases and problems by their own efforts, represented by a perfect score of 5 devoid of standard deviation.
6. There have been mixed responses as regards the acceptability of case studies and application oriented problems as a part of syllabus, with the overall mean score being slightly favorable at 3.05, with a high variation up to 50%.
7. The subject wise analysis of the use of inductive methodology in teaching commerce subjects have shown varied responses. Business law and business economics have registered very positive mean scores of 4.6 with minimal standard deviation of 0.2 and 0.3 respectively, indicating that a vast majority of respondents very strongly advocate using inductive teaching towards these subjects.

8. Marketing concepts rank next, with a mean 4.22, and a minimal variation of 10%, indicating agreement of a vast majority of respondents towards inductive teaching in marketing domain, which can be materialized with case studies and illustrations. Human resource management has also seen a mean score of 4.03, indicating agreement, which is strongly questioned for consistency with a co-efficient of variation at 43%, and a deviation of 1.74, indicating, weak agreement by one part of the sample, and slight disagreement to a considerable extent.
9. Financial management and business statistics primarily have received mixed responses, with respective mean scores of 3.45 and 3.09, and the corresponding variations being 35% and 48%, indicating a mild degree of disagreement to inductive teaching in these domains.
10. Taxation has recorded an overall mean score of 2.76, which is an indicator of disagreement, and has a variation of 42%, indicating strong views both against bringing inductive methodology into the classroom teaching, since it is cannon-oriented.
11. Banking and accounting concepts have received the poorest mean scores of 1.29 and 1.15 respectively, indicating that both are perceived to be largely principle oriented rather than being centers of innovative techniques. A minimal standard deviation of 0.35 and 0.45 further confirms a vast majority of respondents preferring against inductive teaching.
12. One of the major perceived by the respondents in terms of implementing inductive teaching methodology is time factor with 1.12 representing a disagreement to availability of sufficient time. Standard deviation is minimal at 0.32, which generalizes the opinion.
13. There is a strong disagreement regarding the adequacy of opportunities provided by the current syllabus, with a perfect score of 1, without any standard deviation.
14. An overall mean score of 3.4 as regards acceptance of inductive methodology by students is quite encouraging, and a deviation of 1.57 is taken to represent examination-centric students.
15. The average responses are close to neutrality at 2.66 as regards possession of pre-requisite skills, which is further debated with the highest variation of 50%, making it clear that there is a high level of inconsistency among teachers in possessing pre-required skills for inductive teaching in classrooms.

Suggestions

1. All the management subjects are to be introduced through a wide variety of 3D stories and innovative corporate practices are to be introduced to the students.
2. Efforts must be undertaken by teacher undertaking descriptive papers to structure their instructional series to an extent where a perfect bridging of case studies and illustrations
3. application oriented questions shall be cautiously approached without either burdening the students or deviating from the core purpose of the syllabus.
4. Commerce teachers at the undergraduate levels must constantly upgrade their skills pertaining to inductive teaching.
5. Superficial explanation to concepts must be avoided at all costs, as it has clearly been observed that students are deprived of critical and analytical skills required for

industrial positions.

6. Accounting and costing concepts which are principle-oriented can be made more observational by understanding the evolution of the principle or the respective formula derivation.
7. Theoretical and descriptive subjects need to be blended with contemporary issues for cutting edge outcomes.
8. The responsibility of institutions is on an ever-rising scale to ensure that an appropriate environment and resources must be made available to an extent that commerce courses are treated in par with pure sciences.
9. The essence of business economics and business law is to be highlighted in every classroom, both in absolute terms and from an interdisciplinary approach.

Conclusion

There is a strong acknowledgement for the introduction of inductive teaching methodology in most of the commerce subjects, and emphasis has clearly been laid upon the benefits it seeks to offer, successfully surmounting the limitations of the traditional lecture method. If used in the right context, inductive teaching can revolutionize commerce education and improve the quality of output to fill prospective industrial positions.

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