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Innovative Practices in Education for Sustainable Development

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'Innovation' is the generation and application of new ideas and skills to produce new products, processes and services that improve economic and social prosperity.
The challenges and opportunities of globalization and technological development have led to a strengthened emphasis on innovation as a key driver for sustainable economic development, and on the nature and drivers of innovation. No society can prosper and flourish without education. Ancient India is a perfect example of it. We were considered to the most prosperous society not just because of our enormous wealth but because of our high quality of education.
Education systems have evolved over time and have been set up in a particular context for particular purposes. To enhance the contribution of education to innovation, higher education and training systems must undergo changes to become more innovative themselves, taking various factors into account such as structure, resources, stakeholder involvement in learning environments, teaching pedagogy, and learning methodologies.
Education and training should contribute to all three axes of sustainable development, namely the social, economic and environmental dimensions. However, there is an information gap on how the concept of education for sustainable development should be translated into practice.
The aim of this study was to prepare an inventory of innovative good practices in education for increasing employability and sustainable development.
Keywords : Higher Education, Sustainable Development.

Introduction

"Education for Sustainable Development is a lifelong process from early childhood to higher and adult education and goes beyond formal education. Education for Sustainable Development has to be considered as a "life-wide" process. It should permeate learning programs at all levels, including vocational education, training for educators, and continuing education for professionals and decision makers."

Higher education, can change the world through training and expanding young minds; researching answers to challenges and informing public policy; showing its own understanding and commitment through careful campus management; and by being a responsible employer and active member of the business and local communities. Providing the right information and education can change people's values and behaviors, encouraging them to adopt more sustainable lifestyles. It can also break the cycle of poverty, malnutrition and disease that affects so many worldwide.

The power of education within the context of sustainable development was given centre stage when the United Nations General Assembly declared the United Nations Decade on Education for Sustainable Development from 2005 to 2014. The Decade helped focus attention on the fact that education is an indispensable element for achieving sustainable development.

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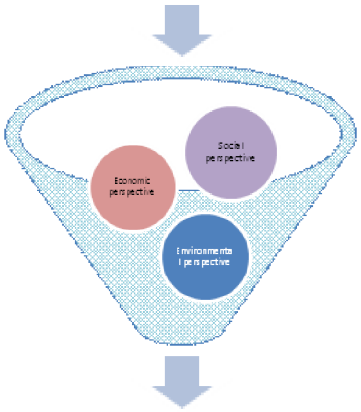
Education and training should contribute to all three axes of sustainable development, namely:

Education



Sustainable Development

The Social perspective - education and training strengthen social cohesion by investment in human capital;

The Economic perspective - education and training contribute to building a knowledge society based on sustainable economic growth; and,

The Environmental perspective - education and training are crucial for changes in citizens' behaviour on issues such as: consumption, transport, use of sustainable energies, etc.

In other words, the transformation of a university towards sustainable development requires a realignment of all its activities with a critically reflective paradigm which also supports the construction of more sustainable futures.

Objective of the study

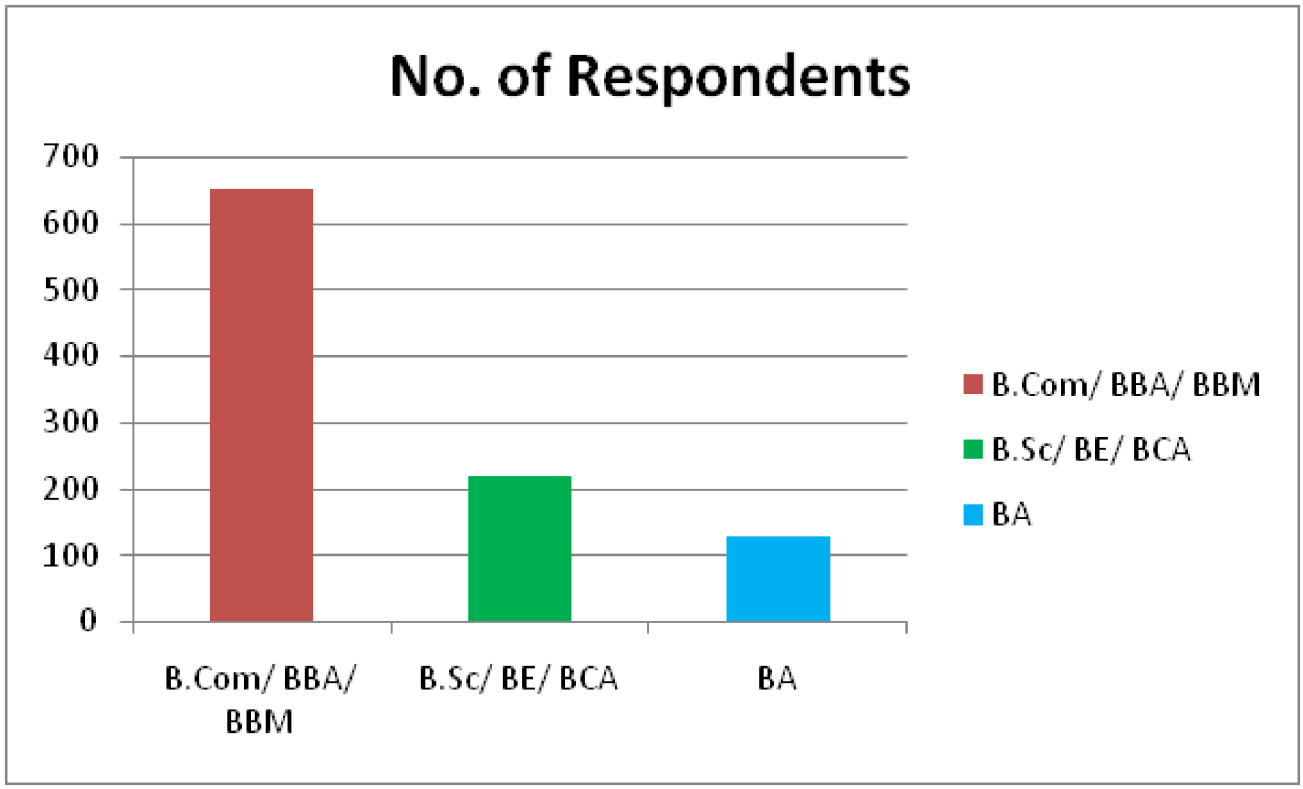
The aim of this study was to prepare an inventory of innovative teaching practices for the purpose of invigorating customer satisfaction and employability for sustainable development.

Methodology

The exploratory study was conducted by taking feedback from students pursuing higher education through questionnaire. The sample constitutes of randomly selected 1000 students from various management colleges. The sample design is shown in Table 1.

Sample Design(Table 1.)

Graduation Degree (Stream wise)	No. of Respondents	Percentage of Respondents
Commerce(B.Com/ BBA/ BBM)	650	65%
Science(B.Sc/ BE/ BCA)	220	22%
Arts(BA)	130	13%
Total(N)	1000	100%



The table 1 & graph 1 shows the sample design of 1000 students from various graduation streams. 65% of commerce stream, 22% of science stream and 13% of arts stream are pursuing post graduate degree in management.

Findings

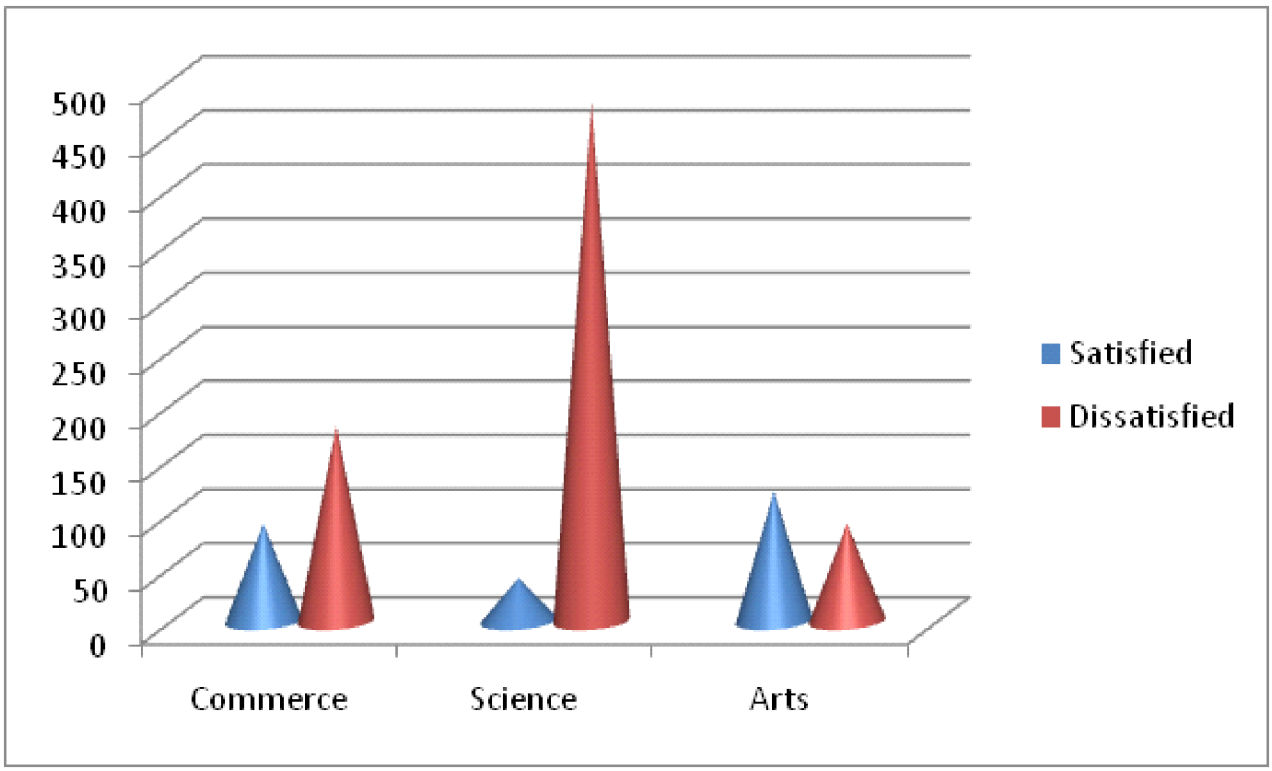
The various findings of the study are given below:

1. The satisfaction level of the students with present teaching pedagogy (Table 2.)

Table 2

Satisfaction of students	Graduation Stream						Total
	Commerce	Percentage	Science	Percentage	Arts	Percentage	
Satisfied	90	36%	40	16%	120	48%	250
Dissatisfied	180	24%	480	64%	90	12%	750
Total	270		520		210		1000

Graph 2 shows that out of 1000 respondents 25% of respondents are satisfied with the present teaching methods used and 75% dis- satisfiers includes students from different streams - 24% from commerce, 64% from science and 12% from arts who are not satisfied with the present teaching methods at higher education level.



Hypothesis

Ho: The stream of students have no significant relation with satisfaction level with the current teaching pedagogy at post graduate level.

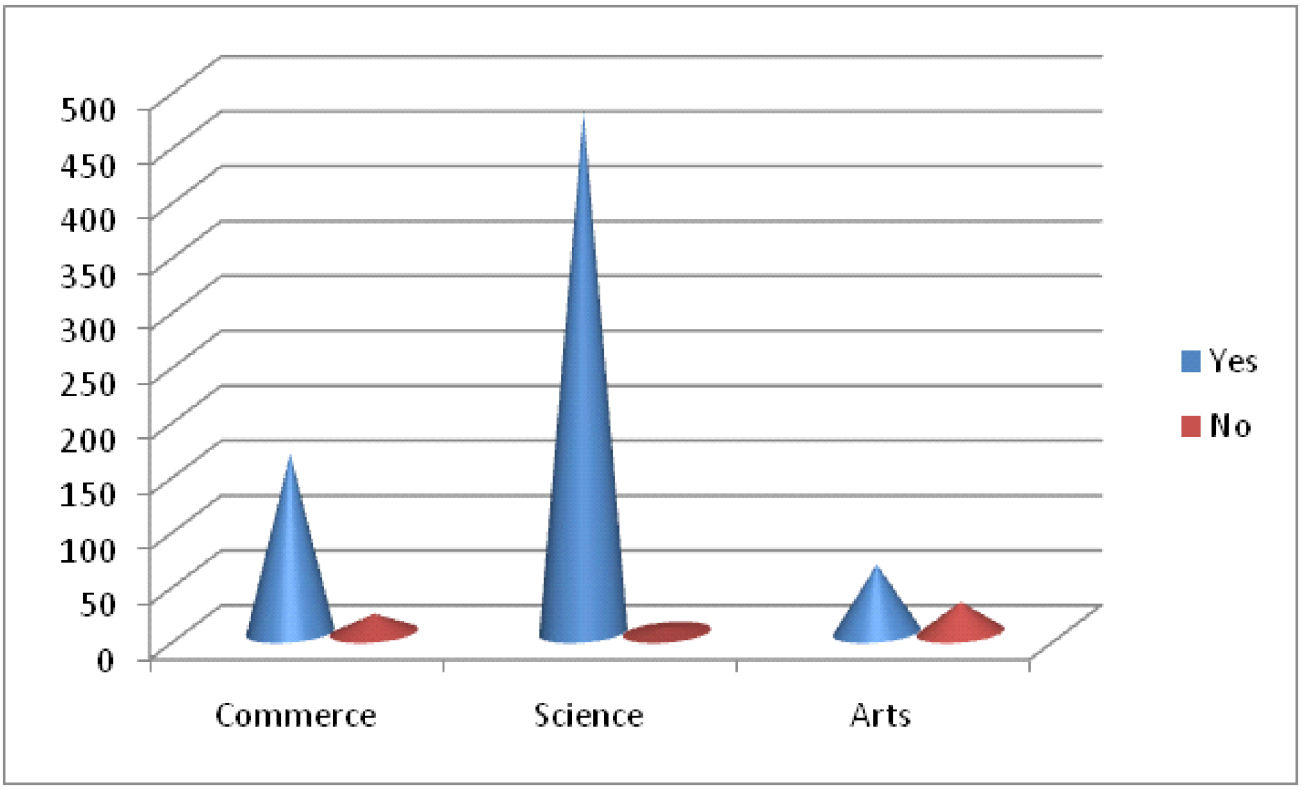
Ha: The stream of student have significant relation with satisfaction level with the current teaching pedagogy at post graduate level.

Karl Pearson's Chi- square Test			
Chi- square Value	**Tabular Value**	**Degree of Freedom**	**Significance Level**
208.79	10.6	2	.05

Inference: Since the calculated value is more than the tabular value, the null hypothesis is rejected and it can be said that the stream of students have a significant relation with satisfaction level with the teaching pedagogy at post graduate level.

2. Need of Innovation (Table 3.)

Table 3	Commerce	Percentage	Science	Percentage	Arts	Percentage	Total
Yes	163	23%	475	68%	62	9%	700
No	17	34%	5	1%	28	56%	50
Total	180		480		90		750



Graph 3 shows that out of 1000 students 750 were dissatisfied and out of them 700 i.e. 163 (23%) from commerce, 475 (68%) from science and 62 (9%) from arts stream said that innovation is required in the higher education teaching to bridge the gap between theory and real business world and increasing employability for sustainable development.

Hypothesis

Ho: There is no need of innovation in teaching pedagogy in higher education.

Ha: There is a need of innovation in teaching pedagogy in higher education.

Karl Pearson's Chi- square Test			
Chi-squareValue	**Tabular Value**	**Degree of Freedom**	**Significance Level**
113.07	10.6	2	.05

Inference: Since the calculated value is more than the tabular value, the null hypothesis is rejected and it says that there is a need of innovation in teaching pedagogy in higher education.

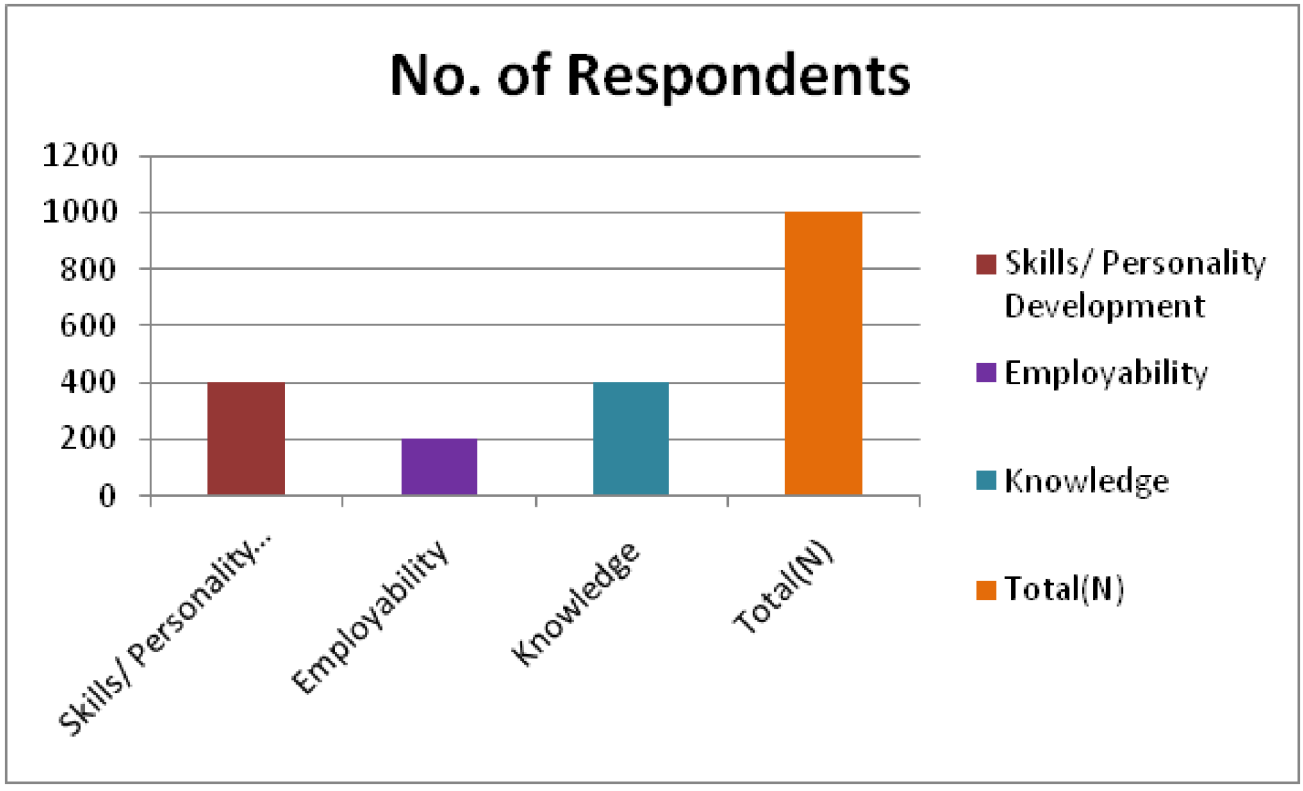
3. Challenges of Higher Education: The outcome of higher education is the main challenge

- Should the role of education be to impart knowledge?
- Should it be to make an individual a good citizen of society?
- Or, should it be to put an individual on a career path?

Outcome of Higher Education (Table4.)

Outcome	No. of Respondents
Skills/ Personality Development	400
Employability	200
Knowledge	400
Total(N)	1000

The outcome of higher education according to the students is shown in table 4. 20% students says higher education increases their employability,40% says that it increases their knowledge and 40 % are of the view that it results in personality development. Thus the higher educational institutes will have to introduce such teaching methods which enhances their employability and bridge the gap between theory and practical so that they can sustain in the real corporate world. The result are shown in the graph below.



4. Preferential Rating of Teaching Pedagogy (Table 5)

The above table shows the preferential rating given to different teaching methods by respondents from 1 to 13. The respondents have showed their priorities more towards the innovative methods as compared to those of traditional methods.

The smart classes have been given the first priority

Teaching Pedagogy	Preferential Rating													Total (N)
	1	2	3	4	5	6	7	8	9	10	11	12	13	
A)Traditional:														
1.Lecture Mode	60	90	80	120	20	80	80	90	100	80	20	150	30	1000
2.Blackboard Teaching	20	50	90	70	70	30	100	130	50	110	10	80	190	1000
3.Seminars	80	60	40	60	90	100	30	70	80	220	90	50	30	1000
4.Assignments	30	50	20	70	100	80	110	40	20	70	200	60	150	1000
B)Innovative														
1.PPT	40	100	80	60	120	220	30	90	50	10	110	70	20	1000
2.Case Study	70	80	60	20	160	70	140	80	30	40	110	90	50	1000
3.Workshop	70	90	120	50	30	70	170	40	140	20	90	30	80	1000
4.Group Discussion	80	40	70	50	60	110	20	190	100	40	80	60	100	1000
5.Individual Presentation	120	50	30	210	80	110	90	20	40	110	10	70	60	1000
6.Live Projects	100	50	180	110	60	20	120	90	30	70	40	50	80	1000
7.Hypothetical Situations	100	170	70	80	60	30	50	100	90	20	110	90	30	1000
8.Smart Classes	170	70	100	50	110	30	10	50	150	110	30	80	40	1000
9.Online Teaching	60	100	60	20	40	20	50	10	180	100	100	120	140	1000

among all the methods. The hypothetical situations were given second preferential rating. The third priority was given to live projects. Fourth preferential rating was given to individual presentations. Case study was given the fifth preference. Sixth rating was given to PPT's. Workshop was rated at seventh. Group discussions were preferred on eighth. Online teaching was given the ninth preference. Seminars were rated at tenth. Eleventh preference was given to assignments. Lecture mode was given the twelfth rating and the last preference was given to blackboard teaching.

Thus it proves

If you Teach me I will forget
If you Show me I will Remember
If you Involve me I will Learn

Conclusion

It shows that the traditional teaching methods are diminishing and innovative, interactive and participatory methods are taking place. Such innovative methods are in increased demand as it involves the participation of students and makes easier for them to learn things other

than theory books. It also encourages students to increase their knowledge and also develop their creative skills. The study presents a collection of innovative good practices in delivering higher education. The methods selected cannot be taken as representative of new trends however practitioners could take this compendium as a basis to identify topics for further discussions on innovative ways, including reflections on their utility, effectiveness and impact. The issues that could be investigated further are the utility of adopting an integrated and interdisciplinary approach to sustainable development, understanding the three pillars: environmental, economic and social and the importance of adopting interactive and participatory teaching modules .

Recommendations

- There is necessity of training teachers on most effective and innovative ways of delivering education
- The importance of developing wider networks of stakeholders working together, such as schools, students, parents, communities, business associations, etc. should be felt & implemented.
- There should be added value of the involvement of the business sector in developing employability
- Developing technical training for future professionals in adopting sustainable ways of productions .
- The role of higher Education should be to deliver sustainable models of consumption (i.e. from healthy eating to sustainable holidays); and,
- Inclusion of informal and non-formal education in targeting Higher education for sustainable development.

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