



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 9, Issue, 12(D), pp. 30102-30106, December, 2018

**International Journal of
Recent Scientific
Research**

DOI: 10.24327/IJRSR

Research Article

EMPOWERING YOUNG MINDS BY REORIENTING EDUCATION THROUGH SIGMA 6Q FOR SUSTAINABLE DEVELOPMENT

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DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0912.2987>

ARTICLE INFO

Article History:

Received 10th September, 2018

Received in revised form 2nd
October, 2018

Accepted 26th November, 2018

Published online 28th December, 2018

Key Words:

Sustainable Development, Curriculum,
Pedagogy, Transformation, Sigma 6Q

ABSTRACT

The complexity and the challenges in present era have compelled us to think towards the need for a teaching approach that prepares students for better sustainable consciousness and citizenship with right decision-making ability. Change is the law of nature while awareness and analysis are major milestones for transformation. Hence this research is taken up to sensitize and measure the consciousness of students with both conventional pedagogy and sigma 6Q pedagogy on environment sustainability. For the primary data, a total sample of 180 students of 7, 8 and 9 grade of our school were chosen randomly to study the effectiveness of sigma 6Q pedagogy on students which revealed that if the students are informed of sustainable development at initial stages of middle schooling, they are able to process, analyse and experiment with no rigid outlook and freely come out with solutions which can help them to develop and further inculcate habit to solve real-world sustainability problems. Henceforth our education system having factual knowledge with text-based curriculum and conventional teaching methodologies, needs transformation with evolved pedagogy having a solution-based approach for environmental issues for meeting the needs of present age students.

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INTRODUCTION

Our curriculum as well as teaching methodologies need transformation from conventional style to newly evolved pedagogies with a well-designed syllabus for meeting the needs of children in the present era. As already mentioned, we are now forced to think towards an approach in teaching that prepares students for better sustainable consciousness with right decision-making ability. This approach in teaching is called Education for Sustainable Development (ESD).

Dwelling in the history, the concept of sustainable development was defined for the first time in the Brundtland Commission Report, the World Commission on Environment and Development stating that 'Sustainable development is development which satisfies the needs of the present population without endangering the possibilities of future generations to satisfy their needs'. Increasing research and training is a national goal. UNESCO's (1997) report takes education as the most efficient means to meet the future challenges in society.

"Education, in short, is humanity's best hope and most effective means in the quest to achieve sustainable

development. It is not enough to mention challenges in the curriculum"

Many prejudices prevent the application of sustainable development, like indifference, ignorance and distorted attitudes. A lot of attention should be paid on the improvement of attitudes.

As Benjamin Franklin also quoted, "**Tell me and I forget, Teach me and I may remember, Involve me and I learn**".

Keeping the above motto in our mind, the transformation in conventional pedagogy with sigma 6Q and reorientation of school curriculum can empower students to deal and heal the issues with sustainable solutions. The purpose of this research is to sensitize students on sustainable development with a changed pedagogy at all stages of schooling.

Let us nurture our students and empower them by introducing sustainable education topics to solve real-world sustainability problems by simultaneously learning about contributing to devastating changes in society.

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Objectives

1. To understand the need of studying sustainable development at early stages of schooling
2. To find the level of consciousness in students after conventional way of teaching and Sigma 6Q pedagogy
3. To understand the role of sigma 6Q concept of teaching in schools
4. To find ways to include sustainable development education in the present curriculum of schools.

Tools Used For Research

Questionnaire, Observation, Interview

METHODOLOGY

The data was collected by placing students in two groups of 90 students each for each grade (7,8,9) for two different scenarios:

- A) Conventional Method B) Sigma 6QMethod

Students were sampled randomly from each class. They were taught the same topic in their syllabus on sustainable development using both the teaching styles. Then they were observed and questioned to see the variability in their understanding and learning. The two scenarios helped us to understand the irregularity in their consciousness which led us towards the sigma 6Q pedagogy. A small sampling was also done for underachievers and children with special needs. Later, the teacher compiled her observations to evaluate consciousness with some predefined criteria. (See Appendix II)

Data Analysis

Class 7th

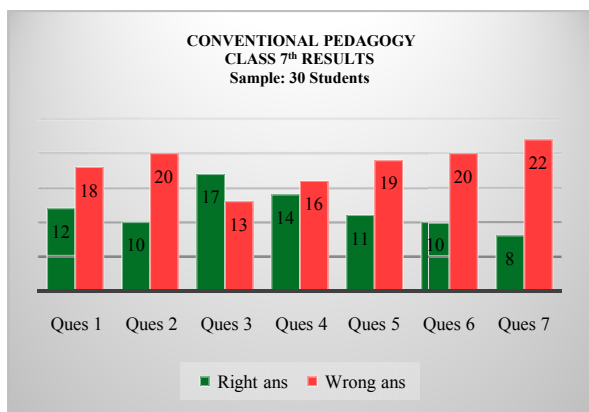


Figure 1

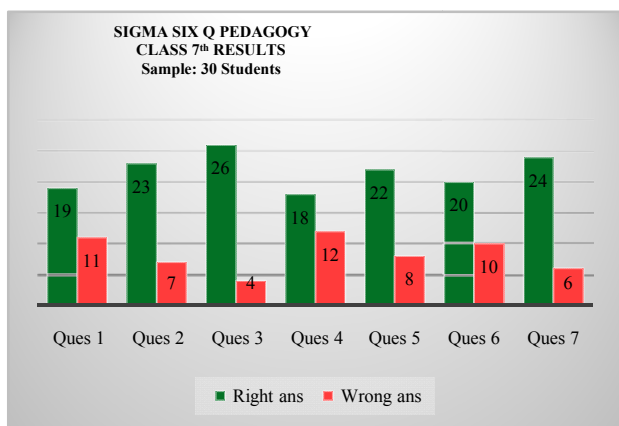


Figure 2

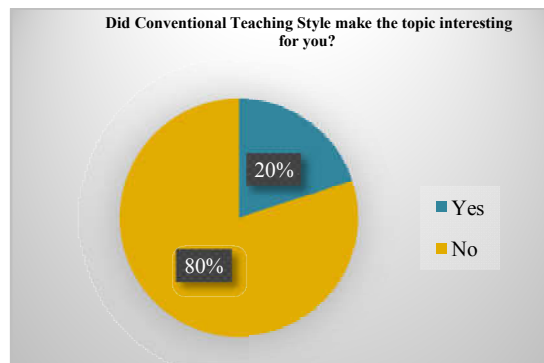


Figure 3

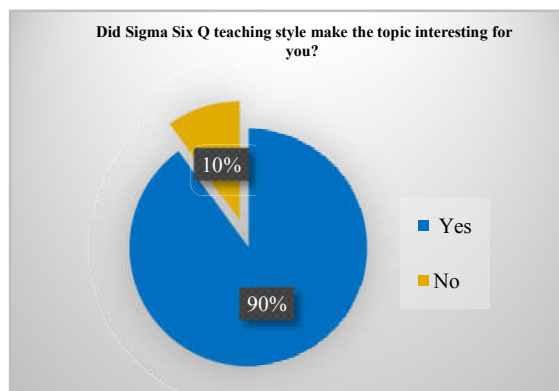


Figure 4

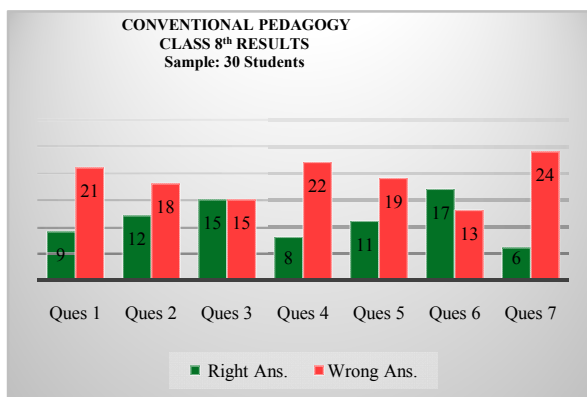


Figure 5

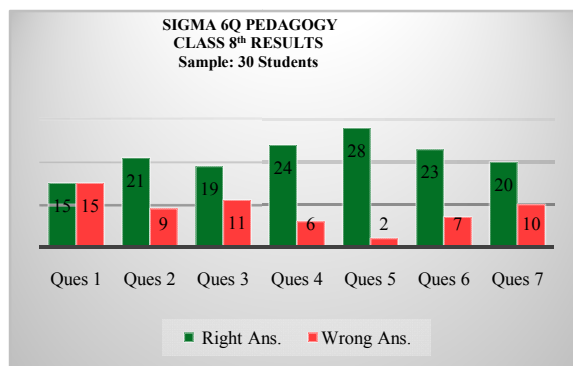


Figure 6

Class 9th

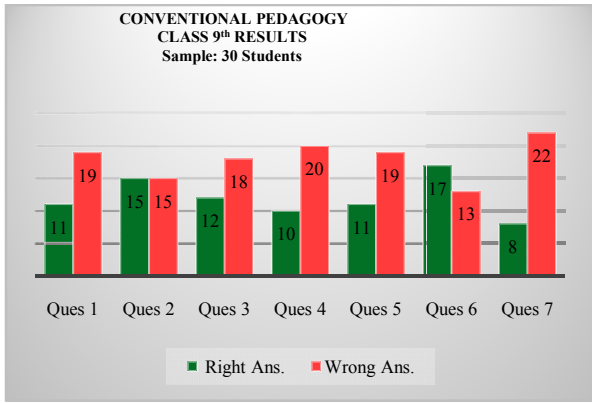


Figure 7

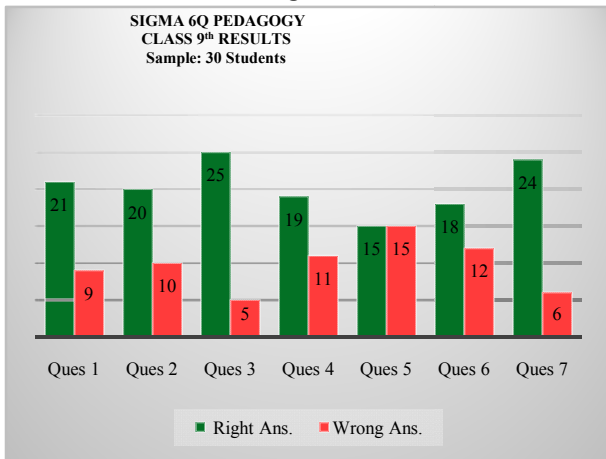


Figure 8

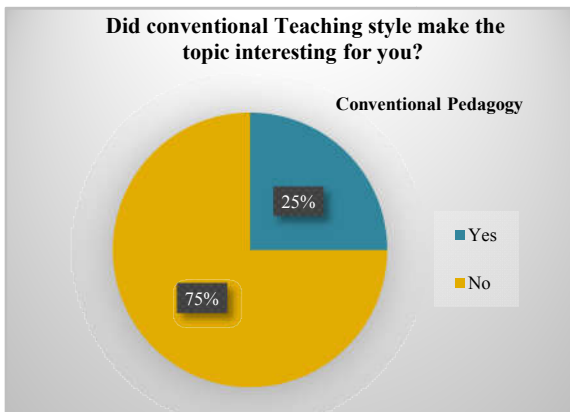


Figure 9

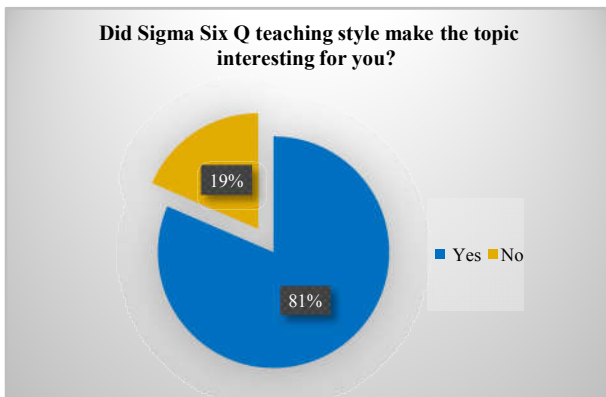


Figure 10

Class 8th

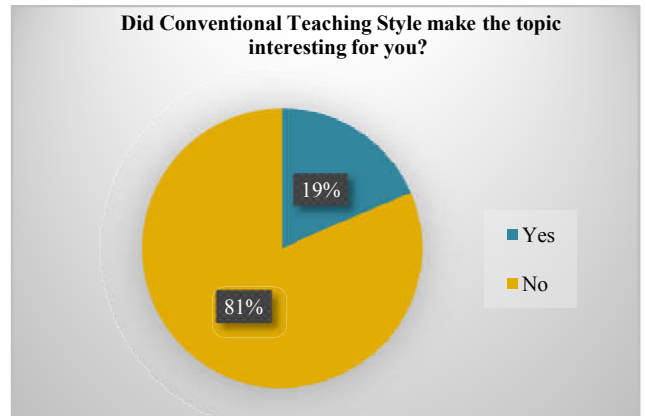


Figure 11

For Conventional style, majority of the students mentioned NO because (as stated by students themselves)

1. No case studies were discussed with us.
2. We were already aware of the redundant concepts in the book.
3. Monologue by the teacher.
4. Too much textual knowledge to be absorbed at a time.
5. Teaching just involved us in reading, discussion and homework.
6. Teacher shared her experiences, but we could not relate it to our life.
7. There was no opportunity/time for us to share our own experiences.
8. We had as such no confidence to share something new.

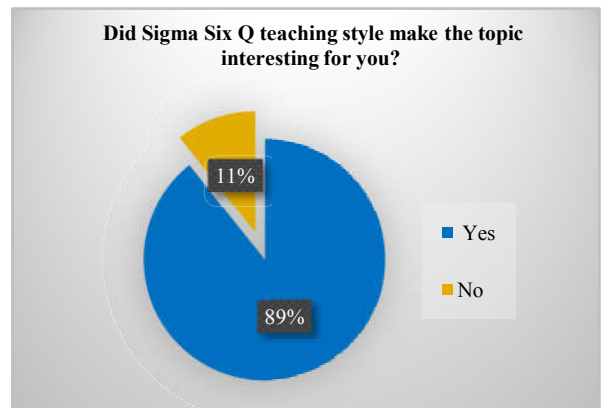


Figure 12

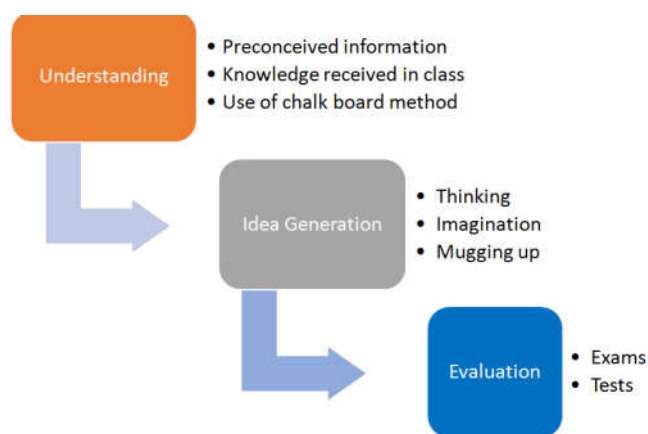
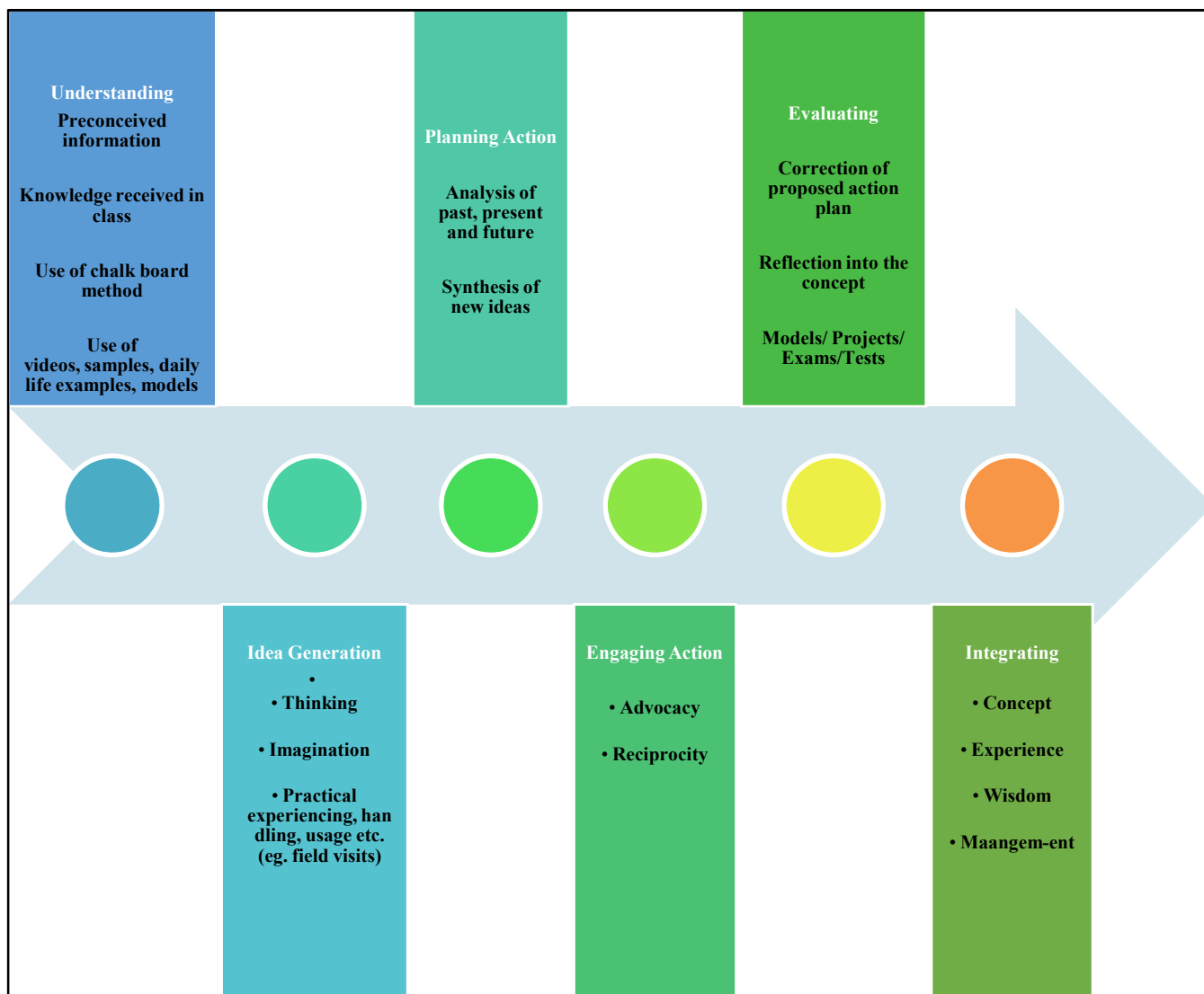
For Sigma Six Q method, majority of the students mentioned Yes because (as stated by the students themselves)

1. We were encouraged to share our preconceived knowledge on the topic with the class.
2. We had group discussions, so we also learnt from each other's experiences.
3. The teacher took us to a field visit and showed us the concept in practical life.
4. The teacher gave us real life case studies to read and discuss our understanding over the same.
5. After the topic was taught, we could relate that topic to so many evidences around us.

6. Teacher shared her experiences, and we could relate it to our life.
7. There were opportunities/time for us to share our own experiences.
8. We had so much to share as we did lot of research prior to innovation.

The findings were obtained by the researcher in following areas through teacher's Assessment Sheet:

1. Were there any differences in student's curiosity level between a conventional one and sigma 6Q one?



2. Does the student's interest in the topic dip in the classes in both conventional and Sigma 6Q pedagogy?
3. Was the student interested to discuss his/her doubts the next day?
4. Was there any interaction amongst the students in between or after the class in both the methods of teaching?
5. What was the progress in understanding when students with special needs were taught by sigma 6Q way after conventional way?

The students who were taught by conventional method showed

1. Medium to low curiosity level
2. Low interest in topic
3. Low impact of teaching pattern on students.
4. The students did not come to clear doubts or ask new questions

Findings

Evaluating the questionnaire and observing students, a contrasting variability in the consciousness of students was found. The main reason behind this was the methodology used.

5. The students were less interested at all to discuss their ideas/understanding on the topic with their classmates
6. Below average students and students with special needs were confused, lost, inattentive and stressed

The students who were taught by Sigma 6Q method showed:

1. Medium to High curiosity level
2. High interest in topic
3. High impact of the concept on the student
4. The students not only came to discuss the doubts and ideas with the teacher but also brought in everyday solutions for the school management to follow.
5. The students were so excited to learn new concepts relatable to their own surroundings that they discussed about it with other classmates after the class and shared their views.
6. Below average students and students with special needs were found less stressed, not confused at all, satisfied, confident and much more alert in the class.

On interviewing students and teachers, they said that schools have a vital role in promoting high standard learning of sustainable development, importance of good environment and solutions to a better life. Schools are the pivot point which can bring a change in a child by reorienting the content in curriculum and also bringing a change in teaching style through introduction of Sigma 6Q Pedagogy.

CONCLUSION

This research paper certainly shows clear indications of increased consciousness in students taught with a changed pedagogy and with a topic focussing on sustainable development, which is the need of the hour. According to the research, the core curriculum does not take much stand in student's motivation or set of values however there is an intention towards practical issues with application-based solutions which can lead to a better sustainable future.

The research shows that we need to reorient education and learning so that everyone can acquire the skills and knowledge that empower them to contribute towards sustainable development. Students can then grow in a 360-degree manner by learning and participating in all relevant programmes and activities that promote sustainable development.

Educational institutions/schools up to senior secondary need to implement this vision of education in curriculum, individual courses, and in extracurricular research activities.

This change will involve a planned transfer of responsibility from teacher to students in knowing what is learned, how it is learned, how learning is applied, and what is assessed and evaluated. Teachers and schools are game changers for the present education system and be reoriented to the needs of our children by evolved SIGMA 6Q Pedagogy.

Suggestions

1. Increase the subject choice for students to equip them with skills and knowledge to participate in changing world.
2. Various celebrations in the school calendar may be used to help the school towards sustainable development.
3. To emphasise integrative thinking and work between subjects with environmental issues.
4. Sustainable development can be introduced either in the core curriculum of education or as a subject entity called Environmentally Sustainable Awareness/ Eco Consciousness.
5. Outdoor activities should be taken as a part of curriculum. This will help in developing an urge to act for sustainability.

Acknowledgement

I would like to thank Ms Asha Prabhakar, an Educationist and Principal (BBPS, Noida) to motivate and guide me to take up my research at various levels in school.

I would like to thank Mr. Prem Prashant, IAS (Former Chief Secretary – Government of Haryana), President SPEEHA (Society for Preservation of Healthy Environment and Ecology and Heritage of Agra) for guiding to his best.

Last but not the least, I would like to thank my daughters Ms Hansini Bhatnagar (MBA) and Ms Noor Bhatnagar to be my strength and to my husband Mr GurDayal Bhatnagar to be my all-time support.

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How to cite this article:

Bhatnagar, Neerja.2018, Empowering Young Minds by Reorienting Education Through Sigma 6q for Sustainable Development. *Int J Recent Sci Res.* 9(12), pp. 30102-30106. DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0912.2987>
