



Correlation of Science: Teaching Learning Possibilities

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Abstract

Knowledge is wholistic. It is divided into different disciplines for our convenience of understanding. Each discipline provides knowledge from a different angle. When we integrate all these into a whole, we can develop wholistic knowledge. Every discipline is related with other such disciplines. It is made known while teaching learning of the subject is going on. So is the case with Science. Science is related with other teaching subjects of school in many ways. When students study the subject in this correlated manner, they develop rational thinking and improved comprehension of subject matter. Nature is made up of so many elements and processes that are interrelated. In isolation one cannot understand anything. Education is for life sustenance. Correlation and integration help students to understand life better. Students generally show interest in learning of those subjects that appear real life related. While teaching when this correlation of subject with real life is highlighted, it is more grasping thing for students. Wherever it is necessary we have to establish this correlation in order to comprehend the relationship between real life and subject knowledge. This brings out the efficiency of teachers also. This paper discusses such possibilities related to science and other school subjects in classroom situations and outside situations.

Key Words: *Correlation, Co relational Studies, Teaching of Science with correlation.*

Introduction

Correlation is important in developing clarity about information. It makes us understand the facts in a wholistic sense. In this era of globalization this view of life is important in sustaining life. One cannot survive in isolation, so is education. One cannot afford to

study the ocean of knowledge in the form of isolated facts, but can develop a clear picture when one is related to the other. This would be a convenient method to be adopted in schools, if one wishes to develop a whole child according to the wishes of the curriculum frameworks of recent origin.

Need and Importance of Correlational Studies in Education

Correlation in general helps in comprehending the relationship that exists among different variables in research. By adjusting the level of variables we can bring in the desired level of environment for achieving our goals. In education this correlation is seen among different subjects. This helps in developing a wholistic approach to education. Knowledge is wholistic. It is divided into different disciplines for our convenience of understanding. Each discipline provides knowledge from a different angle. When we integrate all these into a whole, we can develop wholistic knowledge. Every discipline is related with other such disciplines. It is to be made known while teaching learning of specific subject is being carried on. This will help to develop a respect and appreciation in student for different subjects as they understand their relevancy in sustaining life in future.

Correlation of Science with Other Subjects

So is the case with science. Science is related with other subjects in many ways. When students study the subject in this correlated manner, they develop rational thinking and improved comprehension of subject matter. Nature is made up of so many elements and processes that are interrelated. In isolation one cannot understand anything. Education is for life sustenance. Correlation and integration help students to understand life better. Students show interest in learning subjects that are real life related. While teaching when this correlation of subject with real life is highlighted, it is more grasping thing for students. Wherever it is necessary we have to establish this correlation in order to comprehend the relationship between real life and subject knowledge. This brings out the efficiency of teacher also.

Correlation in one way is relation in teaching learning and on the other it is to understand the dependence of one subject on the other to express. For e.g. science invention can better expressed with scientific use of language. One is non existent with out other. In the following discussion how science is related with other classroom and outside subjects is discussed.

Correlation of Science with other Subjects – Some Examples

Within science one can see the correlation of physics, chemistry and biology through discussions on topics like, biophysics, biochemistry, bioinformatics, crop botany, structure of eye and camera etc. etc. In addition science subject could be better expressed when one understands the relation of the subject with other subjects of the curriculum. A discussion is presented here.

Science and Mathematics are related on point of accuracy. To prove facts, theories, hypotheses related to science, mathematics is used. Statistics related to plants and

animals, crop produce, yield, diseases etc. can be known using statistics. All these provide the accurate picture of the reality and help us to take measures to reduce the impact. The facts of universe are all based on mathematical estimations. Satellite technology is an example of it.

Science can better be expressed through language. Science is a subject loaded with facts that hold same status throughout universe. They have to be expressed in terse and compact expressions. For this language has to be developed with specific technical terms. Scientific language all over the world is well developed and when made known to students through correlation can help in better expression and dissemination of scientific discoveries.

Science and social science are two sides of same coin. Geography, History and Civics are closely related with developments of science. Geography is related with the soil science and agriculture sciences. History gives us the evolution of science through ages in close association with social life. Civics is related with the ethical practices needed in science to achieve the social goals of development.

Science and technology are closely associated. Infact it is very difficult to separate them, hence the name of the textbooks is also 'Science and Technology'. Sophisticated gadgets coming out through inventions are helping to reveal facts of universe clearly to mankind. The advancements in fields of engineering and medicine and improvements in life and healthcare of people are a result of correlation of science and technology.

Science is better expressed through pictures, graphics and models. In this way it is closely associated with fine arts. All the inventions, machinery, organ systems and figures of living beings are clearly expressed using fine arts. The teaching learning aids of science are a result of use of fine arts in scientific expressions.

Science's relation with performing arts can be visualized through fields like dance, music. These fields are closely associated with body training and mind training to focus on goal achievement. This training part is closely related with science related reasoning. Infact these arts are developed after careful research and considering their effect on human body and mind development.

All the culture and traditional aspects of our life are closely related with the scientific aspects of nature. All the celebrations we do are in respect and reciprocal to nature's gift to us in form of food and other products. All the rituals are also based on scientific facts, like, use of haldi to avoid bacterial infection etc. All traditions and rituals are formulated following nature's changes in a routine. The food we eat, the festivals we celebrate are according to the changes in seasons of nature. All these are scientific fact based than simple mechanical rituals.

Science and yoga are closely associated fields of body and mind training. All the postures suggested as remedies for different body ailments and improvements are nothing but scientifically researched facts of ancient gurus. Patanjali yogasutras are an example

for this. Martial arts prevalent in different parts of world are also nothing but body protecting and mind focusing exercises.

If we examine the above discussion closely, it is evident that science is an inseparable part of human life, social life and universe.

Opportunities to Exploit Aspects of Correlation in Classrooms

Regarding opportunities to introduce correlation aspects in teaching learning, the present continuous comprehensive evaluation system adopted by various boards of secondary and higher secondary education is providing ample opportunities. This system emphasizes on activity oriented, life skills oriented and multiple intelligence oriented curriculum activities for evaluation. This provides a scope for thinking on part of teachers to integrate various aspects within content, various contents within one class and various contents of different classes within a school.

Within same class a teacher can integrate different activities taking a single content of one subject and expanding the projects, assignments, presentations to other content areas. For e.g. a lesson on cotton industry in social studies can be integrated within science as production of cotton plants, in language as projects on different cotton products, role play of cotton etc. in qualitative aspects of evaluation as different activities like relevance of cotton to real life, people etc. and as computer power point presentations on cotton dresses in computer science. This will help students to understand the relationship of content specific to content. They learn about production of cotton in science, history and evolution of cotton as clothing industry in social science, its relevance to social life through activities, presentations and power points. This will also help to develop a comprehensive understanding about the subject.

Among different levels of school one can introduce projects related to environmental awareness, health and hygiene that integrate social and science related many aspects to students. They can be involved in activities in groups consisting of students of different classes where experiences can be shared to develop comprehensive awareness about the problems. Care should be taken to integrate content related aspects and kept the activity under strict evaluation procedure in order to gain the attention of students.

Scope beyond classrooms include activities where students are exposed to real life problems through visits, excursions to places of relevant need. Asking them to submit reports on visits, discussions will help in generating materials to carry on further processes. We can make them aware of cultural and traditional rituals and scientific aspects hidden behind them though projects, Yoga classes will help them develop concerns of health through scientific exercises, visits to agricultural farms, zoos, and museums help them develop social relevance of education to their life.

Efforts Needed from Teacher Training Institutions

Training aspects at in-service and pre-service level are to be taken care of. Prosperous candidates need exposure to opportunities during training in order to implement at working levels. Teaching methods, practical components of the training programme

must contain inputs for implementing correlational aspects of science in teaching learning. Most important thing is to kindle a genuine interest and appreciation in candidates towards this aspect of teaching during training.

Further research has to be carried on science and other subject textbooks to explore about the scope of correlation in topics. If need be curriculum has to be reframed to bring out this aspect more clearly. Research also needs to concentrate on bringing out activities, projects, assignments and evaluation procedures to integrate correlation more actively in the teaching learning contexts.

Conclusion

Science is closely associated with real life. All the facts researches about universe, scientific inventions made are used to the welfare of the mankind. We find the negative impact of these aspects in the present century in form of pollution and natural disasters. Science when correlated and explained highlighting its relevance to daily life of human beings may result in the betterment of human beings.

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