



NEED TO REDESIGN CHEMISTRY TEACHING METHOD TO STRENGTHEN STUDENTS IN UNDERGRADUATE COLLEGES IN KARNATAKA

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ABSTRACT

Chemistry education plays an important role in enhancing the quality of teaching, research and development as well as ensuring that students are equipped with good knowledge to produce intensive good and services to mean human needs for food, health care products and other materials aimed at improving the quality of life. The claim infers that students are in sufficient interested in chemistry learning. one of the reasons mentioned quiet frequently in that learners do not perceive chemistry and chemistry education as relevant both of themselves and for the society in which they live. chemistry education in particular is a veritable instrument for national development.

Key words: Chemistry, students, reading habits

INTRODUCTION

Chemistry is an incredibly fascinating field of study which impacts all facets of our life. Chemistry education which in a formal sense means the teaching-learning process of chemistry, is the foundation of chemistry research. Besides chemistry research, chemistry education also puts one in an excellent position to choose out of a wide variety of useful, interesting and rewarding careers. The list of career possibilities for chemistry professionals is very long and varied. A well-trained chemist always remains one of the most highly sought after and employed scientists anywhere in the world. Chemistry is the central in the drive of global sustainable economic development. It plays the major roles in food (fertilizers and insecticides), clothing (textile fibers), housing (cement, concrete, steel, bricks), Medicine (drugs), Transportation (fuel, alloy materials). Presently, man is experiencing an era in scientific and technological development that affects his life in one way or the other. Virtually everything we use daily involves science. Chemistry is often referred to as the central science because it joins together physics and mathematics, biology and medicine, and the earth and environmental sciences. Knowledge of the nature of chemicals and chemical processes therefore provides insights into a variety of physical

and biological phenomena. Knowing something about chemistry is worthwhile because it provides an excellent basis for understanding the physical universe, we live in. For better or for worse, everything is chemical!

1.1 PRESENT SCENARIO AMONG STUDENTS

Decline in the Reading Habits: Reading habits improves to success in education. It is the core of all courses offered in institutions. It is therefore crucial to investigate Colleges of Education students reading habits and how to improve the skill. The majority of students look out for a easy method to meet their academic requirements with minimum reading efforts. The findings showed that a declining interest in reading among students by bunking classes.

There are teachers and parents who inspire their students to develop interest in reading textbooks, newspapers, magazines etc. But many of the students rarely pay heed to their words. They spend most of the time in social media like FB, YT, NF, whatsapp, Instagram etc. rather than reading. Chemistry lecturers of some colleges in Mandya, Mysore and Chamarajanagara districts and university opined that many students nowadays are need to earn money in order to meet their expenses. Obviously, students moved to jobs in E-commerce. They came the college campus to meet their friends and without attending classes they spend their time as reported by many teachers.

Benefits of Good Reading Habits Based on the Inherent Advantages:

1. Good reading habits increase students' reading skills (Reyhens, 1998)
2. Reading habits widen students experience and knowledge (Green, 2002).
3. Good reading habits develop reading speed, fluency, vocabulary, general knowledge and academic achievement (Cunningham & Stanovich (1998) in Chettri & Rout 2013).

1.2 TEACHERS ROLE

The majority of a chemistry teacher's time is spent with students in the classroom, with a smaller percentage spent in planning periods and meetings with other staff and parents. The duties of a chemistry teacher include creating lesson plans; preparing and delivering lectures; creating power point presentations and preparing laboratory solutions, lab manual for students; evaluating student performance; maintaining classroom records; meeting with parents, teachers, and other and participating in campus beautifications, conduction of village peoples meet, health camp etc. They may use a variety of teaching techniques including the use of textbooks, black boards, technology tools and hands-on materials.

1.3 RECOMMENDATIONS:

1. Library should be equipped with adequate and up to date books, Research Journals, Newspapers, Science magazines, Spiritually related books, Biography of some renowned persons etc. available in the library for the students to develop love for reading. Librarians should make the library environment attractive to the students. They should also organize seminars, film show and other students attracting programmes in the library.

2. Laboratory classes are a common part of chemistry students at colleges and universities. Laboratory work allows students to improve their observation and critical thinking skills, especially at the introductory level where students are first introduced to the material.

3. ICT enabled education is not only answer to the growing demands for enrolments in colleges but in tune with the mindset of the present-day students and helps meet the challenges of the growth of knowledge. Teachers need

to upgrade their ICT skills on usage of basic tools like word processing, presentation tools, spreadsheets, graphics, video capture & editing tools, anti-plagiarism tools, learning management systems etc.

Teachers, students, and even chemists would agree that understanding the concepts of chemistry are challenging. According to the American Chemical Society (ACS), using traditional classroom methods have become problematic as technology progresses and students lose interest in the dated methods of teaching chemistry¹. Many students enter into the chemistry classroom with a preconceived idea that the course will be extremely demanding and they will struggle to do well². This growing problem, as well as the high demands of teachers to perform well on high stakes standards testing, has led to students failing to understand the main concepts of chemistry³. One major goal for chemistry teachers is to develop more current methods to teach students the necessary concepts of chemistry. Researchers worldwide have been working to create technological advances for chemistry in the classroom. These new and improved technological advances have been created to ease the fear of the students and the possible misconceptions they may have about chemistry before even entering the classroom.

1.4 HUMOUR IN TEACHING

A sense of humour is also important as a teacher because it increases Students retention in learning. If a teacher has a quick enthusiasm and use of sense of humour can break the difficult situations in classroom. According to McDermott and Rothenberg (2000), students enjoy teachers with a sense of humour and found those teachers made learning fun. As long as it is not at any individual 's expense, good teachers can occasionally enjoy a laugh with the class and they can also laugh at themselves. Students recognize the strength reflected in teachers who are not threatened by foolish or silly mistakes that they make. Since students sometimes find themselves in similarly embarrassing situations, good teachers can provide a wonderful model for how to deal with an embarrassing situation effectively. Studies have shown that a sense of humour can improve students mental and physical health boost attractiveness towards learning.

1.5 CHEMISTRY MODELS ASSISTED TEACHING

Much of the chemistry lesson can be represented with models to indicate type of atoms and their linkage to form molecules, manufacturing process diagrams etc. The models are more than communication tools; they provide means for understanding, describing and explaining scientific and theoretical concepts they help to make science relevant and interesting and worth learning. Harrison and Treagust (1998:422) also state that educators need to plan the use of models in their lessons.

According to Ikeobi (1990) process approach is one of the best ways to teach chemistry. The students are taken out to observe natural things relating to chemistry such as water flow, volcanic eruptions, raining, cooking gas, Gobar gas manufacturing method, photosynthesis etc.

Studying chemistry enables careers in industry, medicine, food, pharmacology, education, and academia. Skills developed while studying chemistry can be applied in many other areas (Lechleiter, 2013).

1.6 ADVANTAGES OF CHEMISTRY STUDIES

1. Encouraging students to take up projects related to their studies to acquire work experience, inviting executives and technical staff of the industries as guest faculty.
2. With the department extending its research facilities and expertise available within the department to nearby Industries to give exposure to students.
3. Providing consultancy services in chemical testing. Under this programme the B.Sc. and M.Sc. Students are getting hands-on training.
4. Some PHARMA companies, DST-FIST and NANO Technological institutions., UGC projects, BSR (Basic Scientific Research), AICTE (All India Council for Technical Education), SERB (Science and Engineering Research Board) are encouraging to young chemistry students and research scholars gives roadmap for Research to solve major chemical and technical challenges in selected domains necessary for students growth.
5. Active participation of students through guidance of lecturers for poster presentation and oral in international and national seminar is plus point of chemistry success benefiting student knowledge and research basics to survive in global world.
6. Various organizations like Syngene Biocon Company, Bangalore, Grasim industry, Mangalore, Apotech Bangalore, Astra Zeneca pharma, Strides Arco lab, Mangalore and Vetcare, Bangalore, CIPET Mysore, HIKAL LIMITED Bangaluru, ORIGO Pharmaceuticals etc. offer jobs for chemistry degree students.

CONCLUSION

Chemistry education needs to be thoroughly redesigned keeping in view the needs and goals of the Present students knowledge development. We need to have modern but light syllabi, embrace innovative learner-centric pedagogies to improve students' learning.. Seminars and workshops should be conducted for teachers to emphasize the role of chemistry education in chemical industries.

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