



ROLE OF TEACHER IN USING SCIENCE SONGS AS AN INNOVATIVE METHOD TO TEACH SCIENCE IN SCHOOL EDUCATION IN FUTURE

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Abstract

*The role of a teacher has changed in present times. There is a shift from a normal traditional teacher to a smart tech savvy teacher. The role of a teacher has to be more of a facilitator, mentor, guide, advisor, and more or less as a friend. The traditional teaching methods or pedagogies have become boring to the present generation of students and hence, a teacher has to present her knowledge in more and more innovative ways. So, **the future of teacher education is highly dependent on how the teacher is able to deliver the information differently.** Use of songs with music is also one of the innovative methods which can be used in teaching and learning of science. The present paper discusses on how science songs can be used for teaching science in a fun and interesting way.*



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Introduction

The role of a teacher has changed in present times. A teacher was the only source of knowledge in earlier times but in present times a teacher has to be much more than just a mere source of knowledge. At present the teacher must have an ability to integrate technology, to make inclusion of every student, and to engage all the students in the learning process. There is a shift from a normal traditional teacher to a smart tech savvy teacher. The role of a teacher has to be more of a facilitator, mentor, guide, advisor, and more or less as a friend. As the times have changed, there are many challenges a teacher comes across while teaching like for example, being tech savvy and up-to-date with current knowledge, being more patient and not punishing or disciplining the child, and using more innovative methods for teaching-learning process. Use of innovative methods or pedagogies is a major challenge faced by a traditional teacher. Earlier the teacher's word was whole and soul for the students but now the students are so clever that they can acquire the knowledge from various other sources like internet. Due to this advanced technologies the teaching-learning process has become difficult and the traditional teaching methods or pedagogies have become boring to this generation of students and hence, a teacher has to present her knowledge in more and more innovative ways. So, **the future of teacher education is highly dependent on how the teacher is able to deliver the information differently.**

Science and Mathematics are considered as the most difficult subjects in the school curriculum. Hence, the teacher of these subjects needs to be more innovative in her teaching to be able to develop and create interest in these subjects in the students. Students should

enjoy learning these subjects. When we enjoy doing some work we tend to forget the complexity of the work. So, if the students enjoy learning science and mathematics, they will forget about the complexity of these subjects and in turn will gain interest in them.

The development of any country is highly dependent on the advancements in the science and technological fields of that country. So, if the students develop interest in science and mathematics, in future they can become good engineers, doctors, scientists, etc and develop the nation.

To create interest in language learning the language teacher makes use of story-telling techniques, use of poems, rhymes, etc. Every child from her infant days would love to listen to songs or music. If this technique of using poems with music is also used in science, the students will definitely love the subject more and will retain the knowledge for long time and the notion of science as a complex subject will be removed very soon.

It is quite difficult to make poems on all the topics of science but definitely it is not an impossible task. I have made an attempt in making a poem on the topic 'The digestive system' in science. The poem is as follows,

I am the digestive system,
of your body
Oh! I break down the food
And give you energy
To work and to play all day!

My first part is mouth,
Which grinds and mix the food,
With the digestive juice,
And digest the starch in food,
Oh! I break down..... all day!

My second part is food pipe,
Which passes the food,
From mouth to the stomach ,
and helps in this way,
Oh! I break down..... all day!

My third part is stomach,
Which secretes gastric juice,
And kill some of the germs,
And digests the proteins,
Oh! I break down..... all day!

My fourth part is small intestine,
Which digests the carbs and fats,
And absorbs the food into the blood,
Oh! I break down..... all day!

My fifth part is large intestine,
Which absorbs the water,
And sends out the waste,
Out of the body,
Oh! I break down..... all day!
(The tune for this poem is same as "we shall overcome" song.)

Each science song can add a unique twist to science lesson plans and help students memorize and understand scientific concepts. Teaching science will be much easier when we use science music resources in the classroom. Poems like above are appropriate for grades 4-9 and are excellent for review or extra learning needs.

Kids love learning science through songs, these songs/poems helps them remember science lessons and scientific vocabulary in a fun and easy way.

In a review about a website which sells science songs there was a comment like Kids' Learning curve peaks thanks to educational science songs that kids enjoy and can use as effective mnemonic devices.

Use of songs, poems, rhymes is a very common age-old method in teaching any language while use of such poems is very uncommon in teaching of subjects like science. If we take the example of rhymes like "one two buckle my shoe" this rhyme teaches math numbers sequence from 1-10 in a fun exciting way. The other rhyme like "chubby cheeks dimple chin" teaches the parts of the face in a stress free enjoyable environment. Such rhymes are usually used in nursery level but use of poems is normally seen in all language curriculum of grade 1 to even graduate level students. Hence, use of songs/poems should be encouraged in teaching of science too.

Significance of the topic

The present paper is significant because it paves way for an innovative method of teaching and learning science and gives an insight to the science educators and guides them on how songs/poems can be effectively used in teaching and learning of science.

Research on the use of songs in teaching science:

1. A paper by Gregory Crowther titled "Using Science Songs to Enhance Learning: An Interdisciplinary Approach" Department of Medicine, University of Washington, Seattle, WA 98195 Submitted August 8, 2011; Revised November 10, 2011; Accepted November 18, 2011. **Abstract** : Music is recognized as an effective mode of teaching young children but is rarely used in university level science courses. This article reviews the somewhat limited evidence on whether and how content-rich music might affect college students' understanding of science and offers practical suggestions for incorporating music into courses. Aside from aiding memorization, songs may potentially improve learning by helping students feel relaxed and welcome in stressful settings, engaging students through multiple modes (verbal vs. nonverbal) and modalities (auditory vs. visual vs. kinesthetic) simultaneously, challenging students to integrate and "own" the material through the medium of song lyrics, and increasing students' time on task outside of class through enjoyable listening or songwriting assignments. Students may produce content-rich songs of good quality if given sufficient assistance and encouragement by instructors and peers.

The challenges ahead include 1) defining the circumstances in which music is most likely to promote learning and 2) developing rubrics for evaluating the quality of songs.

2. A paper by Sherry-Ann Brown titled "Creative expression of science through poetry and other media can enrich medical and science education"

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Introduction: Creative expression of scientific observations and principles through poetry and other media can enrich medical and science education. This debunks the expectation that science and poetry, for example, are mutually exclusive. Instead of coexisting as parallel lanes without interaction, poetry and science can cross over as one merges lanes. Kurtz and Loewenstein suggest that "spontaneous transfer of useful knowledge across domains is a powerful cognitive tool", in this case, the domains of (i) science and medicine, and (ii) creative expression including poetry. Poetry hones critical skills in imagery, metaphor, analogy, analysis, observation, attentiveness, and clear communication. All of these are commonly useful in understanding, problem-solving, and decoding scientific and medical mysteries. Creative science expression facilitates this skills transfer, is not limited to poetry, and can include other media such as visual or performing arts. Active use of metaphors in this way helps learners understand science, and relies on their imagination to deconstruct and construct their perception of science. This serves as a vehicle for processing observations and assumptions, and can

enrich education and facilitate learning. Jemison, a doctor, dancer, and astronaut embraces this kind of collaboration and teaches that science and arts are avatars or manifestations of the same human creativity.

Thus from the above reviews we can see that songs with music on science topics are an effective teaching concepts. In India is not so much in use but in countries like America, UK students are encouraged to create their own songs/poems based on difficult science topics so as to create interest in the students in science subject and also to increase the creativity of the students.

Elementary schools and middle schools are incorporating fun online games, songs and videos into their regular curricula as playing games, learning songs and watching videos online provides the results teachers want for their students.

And best of all, kids have fun while learning!

Conclusion

Use of songs with music is also one of the constructive approach which can be used in teaching and learning of science, no doubt there are various other ways in which we can make our lessons interesting and effective in this fast paced world of technology but we just need to challenge our thinking and push ourselves a bit more beyond the envelope to make an impact on the students.

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