

## **WALO'S #**

Hello,

### **FIRST WALO**

The group 4 project aims at a collaborative experience where the sharing of perceptions and concepts of all the disciplines takes place. I started thinking about a few topics where students could analyse an issue or a topic where the investigation of each of the sciences (Physics, chemistry and biology) can occur. The topic can then be set in a local, national or even an international context. The group 4 projects involves collaboration of all the science subjects Physics, chemistry, and Biology .The group 4 project allows students to appreciate the environmental, social, ethical implications of sciences. The emphasis is on processes involved, interdisciplinary cooperation in scientific investigations.

After lot of filtration and decantation, the festival of Navratri that is one of the most celebrated festivals in our organization as well as in Gujarat state seemed to be an exciting project. I went with the idea, to Mr Hardikar and after a discussion, he gave his approval.

My first walo was collaborating with, Mr.Shekhar Hardikar, our IB coordinator to plan a group 4 project with the IB students. My next step was to introduce the project to the students. All the science teachers and students assembled in the lab area in the advisory period, as the introduction of the topic 'THE SCIENCES INVOLVED IN NAVRATRI FESTIVAL' took place, the queries from students started flowing one after the other. After a brief explanation, the students could connect the festival to not only the 3 sciences but to history, art , business and management, economics and literature too. I had planned a small activity on 'Essential questions and product' in a manner, which we were introduced at the HTH odyssey. As the list of essential questions and products came up on the board, a volcano of ideas started pouring in my mind that I had not thought of earlier. We divided the 18 students into 3 groups. Each group was to handle any one of the sciences. The students selected their group leader.

The grading criterion was also addressed. Here manipulative and personal skills are assessed. The aspects involved are- following instructions accurately, adapting to new techniques, circumstances, competency, perseverance, working within a team and self-reflection where the students show a thorough awareness of their own strength and weaknesses and evaluate their learning experience.

After the introduction session, the students saw samples of HTH projects and hence formed a concrete directive regarding our project. We dispersed the session with a common thought 'let us make this project a memorable learning experience'. The concept of making our work beautiful and the culture of excellence was the common goal in everyone's mind.

I was a little worried as I was adding on to one thing onto my LONG list of things I want to do in my classroom. Being a chemistry trainer for over two decades, I was worried about collaboration. I found myself calling it as our project, it was a transition indeed (earlier it was student's project). After the topic selection, the activities to be carried out, from planning to action and evaluation stage had to be worked out. Now the project tuning stage was needed, I realised I should have done it earlier.

I decided to have a brainstorming session with the chemistry group of students on a weekend. On request, Mr. Hardikar joined in for the session. The students were first asked to give a critique on the project they saw the previous day, which was done by the grade 5 students. The critique had to be kind, specific and helpful. The students had 2 minutes each to express their opinions. After this, we all had 5 minutes to prompt our views on what should be our essential questions and products. This was an objective feedback, which proved to be an essential landmark, which made my earlier apprehensions disappear and further encouraged all of us.

Food chemistry, dyes, and metallurgy were the topics we could connect with the festival. People fast during navratri, and eat only fruits and carbohydrates. No intake of grains takes place during the 10-day festival. We decided upon interviewing students of all age groups, who participate in the traditional garba dancing and come out with a suitable menu of food items that they could eat to keep their energy levels high. Many women fast during this festival. We also thought of bringing about awareness of eating a balanced meal. The colourful dupattas(stoles) worn in this celebration are sent to the dyers. We decided to visit the local dyers and learn the process. The jewellery worn during the festival are made of oxidised silver, consequently our idea of connecting it to metallurgy, oxidation of silver. This inspired a detailed focus on Rajkot, which is famous for silver jewellery. As we progressed, further in our discussion I realized that there was a gap that can be bridged if we have this session with the physics and biology teachers and all the students.

As my critical friend Daisy had suggested class critiques, silent gallery walks for peer critiques are very helpful. I could now identify the weak spots...the main one being backward planning. The project tuning session needed practise. The students stumble in this area. I need to tailor the programme to their specific needs based on strengths.

If we are serious about preparing students to become innovators, educators have some hard work ahead. Getting students ready to tackle tomorrow's challenges means helping them develop a new set of skills and fresh ways of thinking that they will not acquire through textbook-driven instruction. Students need opportunities to practice these skills on right-sized projects, with supports in place to scaffold learning. They need to persist and learn from setbacks. That is how they will develop the confidence to tackle difficult problems.

## NEXT STEPS

- Listen closely to students and find out what makes them curious. Include students while designing projects and ensure that my driving questions increase their curiosity.
- Encourage effective teamwork. Teach students how to break projects into small pieces and bring out the best ideas from everyone on the team.
- Guide students to share their work with audiences beyond classroom using digital tools. Bring an expert to guide them. This will form their idea of what an ideal critique is.
- Teach students to step outside their own perspective and see issues from multiple viewpoints. This would lead to better solutions with objectivity.
- Passion is what motivates all of us. Find out what drives students' interests out of school time, and connect these pursuits with school project. This would set the stage for more engaging and involved projects.
- Learn how to critically evaluate others' ideas. Develop classroom protocols for student to critically evaluate each other's ideas. This would help in putting multiple components from multiple teams into final projects.

The above are my reflections on this initial stage of our project. It is an objective look at the various aspects and scope of the same. My subsequent reflections would focus on the execution and resultant products .It would comprise of more involved critiques and feedbacks.