INQUIRY NOTE

Science is Fun – A New Approach

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St Joseph School, Blata l-Bajda is one of three schools run by the Sisters of St Joseph of the Apparition. The school is located in the south east of the island of Malta. Presently the Primary Section of the school enrolls 356 students, ranging from 4 years to 10years of age. The students attending this school are mixed ability and no streaming is adopted in the classrooms. Around two percent of the students have special educational needs and these are additionally supported by the learning support assistants. Teachers provide a differentiated approach to learning as this is one of the main policies of the school.

The Senior Management Team (SMT) has always felt that training of staff is of utmost importance and has therefore always encouraged them to attend courses which could help in their development both for the good of the individual person but above all to enhance their teaching methodologies. Like all schools, St Joseph Blata l-Bajda Primary faces challenges which it strives to overcome so as to keep the school a place where it will be possible for learners to get a holistic education and acquire the skills and academic achievements which will ultimately render them valuable assets to society in general.

The new School Development Document (SDP) document which outlines the school's priorities for the next three years gives a clear indication of the context in which the SMT and the staff will be working. Rather than changing what the school has been doing, that of providing a holistic education to its students, it now aims at consolidating what has already been done and is trying to improve it by keeping abreast with modern trends in education.

The school administration has felt the need to embark on the project of inquiry science to direct Staff Development Training towards what is being suggested in the new National Curriculum Framework in Malta, and to strive to safeguard the ethos of the school which gives it its individuality. One of the main areas of concern was Science in the Primary. It was a growing concern amongst the school senior management team that science was not being given its due importance in the school curriculum. Teachers felt that they were not adequately trained and did not feel competent teaching science.

After extensive discussions it was decided that intensive training in the teaching of science was required for all members of the teaching staff. The necessary arrangements were made with Prof Suzanne Gatt and the school applied to take part in the Pri-sci-net project National Training. The training covered a whole scholastic year. All Continuous Professional Sessions were taken up for training, together with the three in-service days in July.

Outcomes of Training for the teachers

Training has proved to be very fruitful. Training offered a new and innovative idea of teaching science, offering

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hands on activities which gave the teaching staff the opportunity to experience a scientific process from beginning to end. The Pri-sci-net training gave the teaching staff the opportunity to identify the appropriate level of the inquiry skills of their students. Teachers were assisted in the planning of the curriculum. Training was also aimed at providing the teachers with the necessary tools to support their students carry out their investigations and stimulate their thinking skills. Having mixed ability classes it has also helped the teachers differentiate their planning to provide support for students who might find a task difficult while giving the opportunity to high achievers to perform their own investigations.

Figure 1: Teachers undergoing hands on training

After Training

Following the training provided by the Pri-sci-net project the school SMT discussed the changes necessary for such a change to take place. Textbooks were also changed to ones that support the teacher in promoting inquiry based learning. The school has also invested in purchasing the necessary equipment for investigations and hands on activities that needed to take place within the classrooms. Equipment from the laboratories in the secondary school which forms part of our school was also used for these activities. The school aims at continuing to invest in its resources

The Teacher

Since receiving training teachers now prepare lessons with greater enthusiasm and commitment. They feel more confident teaching the subject. Importance is given to hands on activities and working together as a group to solve a scientific problem. Formative assessment was always given its due importance in the school. This year students were given problem solving situations. The project helped teachers understand and appreciate the importance of providing their students with the necessary scientific skills. It helped teachers identify the proper level of inquiry and stimulate inquiry skills for each student in their classroom. They can then provide the necessary support and open up opportunities for each learner for learning to take place. It is no longer a matter of memorising knowledge but by actively involving each student in the acquisition of this knowlegde. Teachers plan hands on activities and students learn to work collaboratively on a given task in order to solve a presented problem. Teachers are now facilitators – guiding and keeping students on track while solving the presented task. Teachers help students observe and use the appropriate scientific language.

The Student

Looking at our students we can see that this type of approach has reached the desired outcome. It has helped

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our students really understand science, acquire new skills, as they work on a presented problem with the aim of coming up with a solution that is based on their conclusions after proper observation. They have learnt to work collaboratively to solve a problem and are able to discuss their findings using more appropriate scientific language.

Above all students have realised that science is FUN.

Inquiry–based learning provides a positive learning opportunity for the teaching of science to all students. It engages students in the learning process. This form of learner-centred approach equips learners with the necessary skills for a sound scientific background. It presents the students with a given task. The teacher guides her students in collecting evidence and presenting their findings using appropriate scientific language. Students learn to work collaboratively to reach a common goal by sharing resources and finally presenting their findings.

Inquiry-based learning is an innovative teaching method that makes science fun for both teachers and students. Teachers have become more confident to teach science and students look forward to the fun and challenging science lessons. The photos included provide some insights to the inquiry activities organised by the teachers.

Figure 2: Students working in groups – working on a scientific investigation

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