

**Observations from Schull Community College on the Early use of Metacognition Strategies
– a Report from the School Implementation Group (Feb. 2010)**

Use of the Metacognition Manual

Since the Metacognition workshop in September, the resource manual, *Metacognition for the Classroom and Beyond*, has been used increasingly in both mainstream classes and in supporting students with SEN in group work and in individual tuition. Pádraig O’Sullivan uses a range of strategies in his science classes and Jean Johnston and Lara Kelly are using some of the strategies that are most useful for individual teaching or with small groups. Since the meeting with Pauline Burke (Mercy Mounthawk Secondary School), the three teachers mentoring the first year groups have also been using strategies and ideas from the manual both for work with the small groups of exceptionally able students and, more recently, in their mainstream classes. A breakdown of the activities/strategies that we have found most useful, are listed below. Unfortunately, because of the supervision of pre-tests, it was not possible to get detailed feedback at this point from all teachers on the *Initiative* team. However, the expansion of our team has resulted in the use of these strategies by more teachers in individual, group and mainstream classes.

Areas from the SESS Metacognition Manual	Use of Strategies in Mainstream, Mentoring and SEN Teaching
Four ways to promote general metacognitive awareness (pp. 22-27)	<ol style="list-style-type: none"> 1. <u>Showing the students what metacognitive processes look like</u> Most of us agreed that we were already unconsciously modelling thinking, particularly in the areas of maths and science. However we monitored our use of this strategy. Pádraig uses it regularly in demonstrating the setting up of experiments and evaluating findings; Lara uses it consistently in working on maths with students who have SEN; Marian applied the use of it to teaching Irish grammar and to teaching maths; Elmarie models how she recognises different question types, how and why she answers some questions differently and she talks aloud through what won’t work and why and Jean uses it in working with students with SEN in talking aloud through processes such as planning a piece of writing, editing, analysing what information a question on text requires, identifying the information in the text and recording the response. 2. <u>Improving knowledge of cognition</u> Some of us use variations on the SEM model. For example, the skim/survey strategy, the activation of prior knowledge and the relating of new information to old are strategies regularly used by the members of the team who are working with students with SEN. Pádraig also uses most of these strategies consistently in teaching science to Junior Cycle students. 3. <u>Improving regulation of cognition</u> None of us have yet introduced a checklist to students for planning, monitoring and evaluation – this is the next step. 4. <u>Fostering classrooms that value metacognition</u> We are all now very conscious of the need to give time to students to think. Due to the pressure of the completing the syllabus and of getting through the work planned for each class, it took a conscious effort at first to get into the habit of giving time to students to answer questions. Pádraig has introduced the use of reflective journals to his second-year science students and gives time to the students to complete reflections at the end of each topic. He then gives feedback to the class on common themes that emerge. Lara uses ‘pair problem solving’ regularly in SEN groups, which, she finds, allows the students to get used to thinking and talking through problems.
Higher Order Thinking Skills	Questions are being categorised into the ‘Must, Should, Could’ by teachers in the team. Teachers are formulating more searching questions to ask students who are more able. Reading records that have exercises that are graded according to Bloom’s Taxonomy are being used by teachers in SEN who are working with twice exceptional students. These records were suggested by Pauline

	(Mercy Mounthwak Secondary School) and, with some modifications, we are finding them very useful. A strategy that is being used by several of the team is getting students to set questions on a text, instead of answering set questions. Strategies such as the Plus, Minus, Interesting are also being used and this is helping to develop lateral, speculative thinking.
SQ4R	A variation of this was already being used, based on the EXIT (Extending Interaction with Texts) model. This includes strategies such as: elicitation of previous knowledge; surveying the text; establishing purposes; posing questions; locating information; adopting an appropriate strategy; interacting with the text (visualisation, prediction, relating information to what is already known etc.); monitoring understanding; making a record; evaluating information and communicating information. SQ4R is rather easier to share and to use and we find it very effective.
K-W-L	While maths teachers do not see this as a usable strategy in mainstream classes, Pádraig is using it - for example on 03/02/10, he used it in a science class where he was teaching a class about hard and soft water. Jean has introduced the strategy to her SEN students to use when revising and checking on learning for tests and examinations - for example some 6 th year and 3 rd year students have been shown how to use it to check on their own revision. Lara is using it when post-teaching geography with a fifth-year student who has a hearing impairment. Marian uses it before teaching a topic in mainstream Irish classes and also as a revision tool afterwards. Elmarie, while seeing its usefulness in other subjects, has not found it a useful strategy for mainstream maths classes.
PMI – Plus, Minus, Interesting	Pádraig uses this in science – he used it, for example, on a water conservation topic and found that it worked very well. Jean has found it a fun exercise to use, especially in groups, at the end of a short story or novel. It really encourages higher order thinking. It's a good strategy to use when reviewing a topic in any subject area.
Concept Maps	Elmarie and Jean both see this as a very useful revision tool. Pádraig used this strategy when looking at water treatment with a Junior Cycle science class, having modelled the strategy on the three states of matter first. He found it extremely useful in eliciting information from the students.
Self reflection and evaluation techniques: questionnaires, learning journals etc.	Pádraig is using learning journals with a second year science class. He first introduced the journals for a reflection after finishing the Acids/Bases chapter in the text book. He allowed some time at the end of a class to reflect and complete the journal entries. He then gave feedback to the students on the common themes that emerged from the reflections. Many of the reflections were both scrupulous and thoughtful and many identified ways in which they could have made more effective use of the classes on this topic – e.g. by concentrating more in class, by preparing before the class by reading the preparatory material more carefully. Jean has encouraged self-reflection with twice exceptional students and with students with SEN by asking the students to appraise their own work and also by encouraging students to identify topics themselves that they feel they need to work on. The use of the K-W-L strategy also encourages students to reflect on their own learning.