

# New Leader

*Practical strategies for student achievement*

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## Differentiated Instruction: An Inescapable Truth

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*"The fact that students differ may be inconvenient, but it is inescapable. Adapting to that diversity is the inevitable price of productivity, high standards, and fairness to kids."*

-- TheodoreSizer

A simple definition of differentiated instruction is effective instruction that is responsive to the learning preferences, interests and readiness of the individual learner. As in many schools in the province, our school has been focused on deepening our understanding of differentiated instruction and ensuring it becomes part of regular practice.

To achieve this goal some of the strategies we have undertaken include: making D.I. a focus of departmental professional learning communities; teachers have presented best practices at meetings; we have engaged in book studies and we have been able to access significant board-delivered professional development. Our school has also benefitted from the involvement of our math department in a Ministry of Education, Student Success differentiated instruction project. Our involvement in this project has permitted us to increase

the use of differentiated instruction in grade 9 mathematics classes by focusing on student readiness, and it has helped students learn to better self-assess. The achievement of these milestones ultimately hinged upon the creation and implementation of a "stoplight" feedback system. As in the case of a traffic stoplight, our system was also based on the use of the three colours: red, yellow and green. For students and teachers, the colours had the following meanings.

Red - "I really don't understand this. Could we go over it again?"

Yellow - "I think I understand this but I may still need some help doing it on my own."

Green - "I understand this and think that I can do it on my own."

An initial concern of the project was the need to create a positive environment in the classroom. When the stoplight system was in full action students would be required to publicly express their comfort level on a given topic. We were very cognizant of the fact that this may be difficult for Grade 9 students struggling with their transition to secondary school. For the first month of the course, all communication of colours was kept private between the individual student and their teacher. This took the form of journal prompts reflecting on the topics covered in class, as well as, work with paper and pencil quizzes. On quiz days, students were given coloured stickers and were asked to code each question on the quiz based upon how they felt as they were answering it.

This provided a wealth of information for both the students and the teacher. This exercise gave students a visual signal of the topics that they still needed to work on as the unit progressed and it formed the basis of their review for end of unit assessments.

From a teacher's standpoint, the coding of each question helped to inform planning by highlighting areas in which problems still existed, and was an excellent starting point for reflection on lessons already taught. The most valuable part of this exercise was comparing a student's achievement to

their choice of colour. This served as a checkpoint for the understanding of the definition of each colour, which was crucial for the success of the differentiated activities to come.

Towards the end of the first month the colours were included as an aspect of group work. During group problem solving activities the members of the group would be asked to decide which colour best described their progress on the problem. Teachers used this to better circulate to the groups in need of assistance. It also helped with the timing of hints and suggestions for proceeding with a problem. The students had the safety of numbers, but they were beginning to make more public statements about their readiness.

Once it was established that students could accurately assess their colour on a particular concept, teachers began to use the colours to differentiate instruction. In some cases, students would be grouped according to their colour. In these cases, the teacher would typically work with the red students, while the yellow students would be presented with questions of equal difficulty from yesterday, and the green students would be given extension questions.

On other days, students would be grouped so that green students would be working with yellow and red students in a coaching situation. Regardless of the choice of groupings, it was hoped that all students would report being at least yellow by the end of this section of the lesson.

On the days when the Action part of the lesson contained the differentiated component, students would typically be grouped according to their report of comfort at the end of the previous class.

Again, depending upon the activity students would either be grouped in homogenous colour groups or mixed together. The amount of scaffolding that the students received to help them com-

plete the activity was based upon their colour, with green students being challenged to think about the concept in different ways to create a solution to the problem presented.

Differentiating based on student readiness was used most frequently during the Consolidate and Debrief section of the lesson. The movement from teacher led examples and discussion to student practice of the topic was often controlled by cues from the students. After each example students would be asked to hold up a coloured card to indicate their perceived ability to complete questions similar to this one on their own.

Once a fair number of students were reporting green, the students would be given questions to try on their own. Students still reporting themselves as yellow or red would be invited to work with the teacher through a few more examples.

This system resulted in fewer students needing homework assistance the following day, as they were able to work with the teacher on enough examples for them to feel comfortable with what they needed to do.

The main success of this project was that over the course of the semester students internalized the definitions of the colours. They would use them to describe how they were feeling in conversation with the teacher.

The students also tended to follow up red topics by asking for more help. The decision to use an overriding theme for differentiation, as opposed to one particular technique, also meant that the system did not lose its appeal as the semester wore on. The colours were used in different ways every lesson and therefore did not suffer the problems associated with over exposure.

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### Use of Exit Polls

The end of the lesson also saw the use of exit polls. Coloured dots were placed on the Smartboard at the end of a lesson, or through voting, where students placed tiles with their names on them into either a red, yellow, or green container. In both cases the results of the survey would be used to inform planning of the Minds On section of the next lesson and create any necessary groupings.

### Using the Colours During Various Points in the Lesson

#### *Minds On...*

- Colour coding of particular homework questions
- Introductory activities where students were grouped according to colour
- Coaching activities where students were put in mixed colour groups

#### *Action*

- Scaffolded problems
- Investigations

#### *Consolidate & Debrief*

- Movement from teacher led explanations to student centered practice driven by indications of readiness
- Exit polls to inform planning for next day