A flipped classroom flips, or reverses, the traditional model, where the teacher provides face-to-face instruction to the students in the classroom and then sets activities for the students to complete after school. So in the flipped classroom, the teacher provides instructional resources, usually online videos and interactive learning environments, for the students to watch or apply after school, and then works with the students in the classroom to apply and reinforce the knowledge and skills to which they have been exposed.

In the traditional scenario, many teachers deliver instruction akin to a lecture, leaving little time for differentiation for students with varying learning needs, and little time to provide effective remediation for students who misunderstand content or need more practice in a skill, or effective enrichment for students who have mastered the content or skill.

Students in the traditional scenario arrive home to study with the key resource – their teacher – nowhere in sight.

Effective teachers can address both instruction and differentiation, remediation and enrichment in their classrooms, but many simply proceed to the next topic and the cycle of face-to-face instruction and unsupported practice at home continues, with students struggling to learn.

What is a flipped classroom?
The flipped classroom flips the entire scenario, with a learning module of short video lectures providing instruction and demonstration of the concepts, knowledge and skills to be learned. These videos are then viewed by students at home before the class session, so that in-class time can be devoted to applying and reinforcing – and troubleshooting – the concepts, knowledge and skills.

Instruction in the flipped classroom approach is self-paced since the video lecture is controlled by the students: they can pause, rewind and review the lecture in the home environment until they clearly grasp the concepts, knowledge and skills to be learned.

The impact of flipped classrooms
The flipped classroom approach gives students time to make notes, clarify their thinking and identify key questions so that they and their teacher can troubleshoot and clarify as a class, in small groups and individually. Class time is spent doing problem-solving assignments or other interactive activities that consolidate students’ concepts, knowledge and skills that ordinarily may have been assigned as homework.

By flipping instruction and consolidation, the teacher in the flipped classroom is able to circulate, observe and intervene as students undertake assignments or other activities at their own pace. Teachers are then able to identify students’ mastery of concepts, knowledge and skills, and next steps for high-performing students; they are also able to identify any misconceptions, misunderstandings or skill gaps students may have. This provides struggling students with the opportunity for one-to-one support from the teacher and peers.

Students can also recapitulate by reviewing the learning module before advancing to new concepts, knowledge and skills.

Technology for the flipped approach
The video lecture is a key element of the flipped approach, such lectures being either created by the teacher and posted online or selected from an online repository. Prior to coming to class, students log on to the video lecture link, view the video...
assigned for the daily lesson, then typically take an online quiz that enables teachers to identify their students’ understanding of the material.

For some students, viewing the videos on DVD is the best choice while for others viewing the videos from a podcast stream with iTunes on a mobile device is a good choice. If students have limited or no access to the internet at home, teachers can provide some class time to view the content while other students carry out problem-solving assignments or other interactive activities to consolidate their conceptual understanding, knowledge and skills. These might involve working with partners, in small groups or as a whole class.

Analysis of the teacher-centric traditional classroom indicates that the major teacher behaviour is imparting information, with the teacher dominating talk time, and minimal time as a consequence for students to practise and demonstrate mastery of concepts, knowledge and skills, or for the teacher to assess that mastery.

The learner-centric flipped classroom reverses this, allowing the teacher to construct hands-on tasks, engaging problem-solving assignments or other interactive activities that enable students to practise and demonstrate mastery in ways that enable the teacher to assess them.

**Some practical examples**

Students in a flipped science classroom might first watch online the demonstration of an experiment and follow a verbal lecture explanation at home. Students would then conduct the experiment in the school laboratory, with the teacher working with students at the different lab stations, asking questions to identify students’ understanding of concepts, knowledge and skills, and to clarify queries and correct any misconceptions.

Students in a flipped maths classroom might first watch online a lecture explaining the concepts underlying a mathematical formula, the operations for the formula and a demonstration of some problems and solutions. A follow-up formative assessment to identify mastery or gaps in knowledge and understanding might then precede practise of problems and solutions to demonstrate mastery.

**Building relationships**

The flipped classroom promotes stronger relationships between student peers, teachers and parents as they all become not only connected participants but also co-learners and co-teachers online. The flipped classroom exposes the teaching methodology and the content of assignments and other interactive activities to anyone involved in the students’ learning in and beyond the school.

The flipped classroom also promotes efficiency by encouraging students to take responsibility for their learning and learn according to their individual abilities and work pace. Because the approach allows students to revisit and review information in order to fully understand concepts, knowledge and skills, and because the focus of class time is on trouble shooting and consolidation to achieve mastery, it reduces students’ stress and increases their motivation.

Best of all, it allows more learning to occur by giving teachers more time to explore deeper learning with their students, putting learning in the classroom, rather than hiding it at home.

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