

Open Gifted

Module 7. Differentiation in Gifted Education

Introduction

Welcome to module 7 in this short course on gifted education. In this video want to look at what differentiation is, why teachers should use it and how teachers can adopt it as part of their classroom practice. I outline the differences between a typical classroom lesson and a differentiated classroom lesson. The differences aren't huge but they make a big difference!

Why Differentiation

Differentiation is an approach to classroom instruction that takes account of the individual learning needs of the students in your classroom. It can include, but doesn't necessarily have to be, personalized one-to-one learning.

Differentiation expert Carol Ann Tomlinson has spoken about pro-active differentiation and reactive differentiation.

Phil Beadle (2010) writing about differentiation acknowledges that it rarely happens in part because it is very difficult to achieve.

Because of this most differentiation is reactive. Most teachers just teach their classes and provide additional support **if** it transpires there is a problem with a student's understanding of a topic. However, this assumes the teacher discovers there is a problem and this may not happen for sometime after the original class. By this time it may be too late to go back and revisit the topic. In this context Assessment for Learning is a very important classroom strategy that will enable you to identify the effectiveness of learning in your classroom.

Instead of reactive differentiation the more ideal situation is if teachers implement proactive differentiation. This involves deliberately planning in advance of a lesson or unit of study the objectives and learning opportunities that address the needs of all the children in your class.

For some lessons you will be able to identify a small number of groups in your class and design lessons according to these groups. For other lessons, you may consider pairs or triads and plan accordingly.

A typical classroom lesson

A typical classroom lesson begins with the teacher welcoming students to

class. There may or may not be a pre-planned seating arrangement. The teacher will usually write the learning objectives for the lesson on the board so that students will know what to expect during class. Students will record in their student journal the homework assignment (if any), which the teacher has already written on the board.

The lesson will begin with an introduction which will include motivation for the topic. This will be followed by instructional phase. Time will then be given over to student hands-on activity, followed by a plenary which may or may not include questioning. This will be followed by a summary and student exit from the class.

Depending on how the teacher organizes their class the time period of the lesson will include provision for taking up of homework, checking homework, returning homework, checking progress during the student activity phase or dealing with other classroom organizational issues.

There are many different approaches to presenting classroom lessons but most tend to fit this mold.

During the student activity phase there may be an opportunity for the teacher to engage with students on a one-to-one level. This provides an opportunity for the teacher to identify any learning issues that may have arisen during instructional phase. But this is far from a systematic consideration of all students' needs.

For the most part this approach to classroom teaching suits the majority of students. However weaker students may have issues with poor vocabulary or weak existing knowledge and so not learn as effectively as they might.

Academically stronger students may have already learned the material presented during instructional phase. And in this case, stronger students may leave the class having learnt nothing new. In a worse case scenario, the boredom of the lesson can lead to poor behaviour.

Differentiation is a process of teaching and learning that addresses this issue.

Differentiation

Carol Ann Tomlinson (2011) highlights 4 'non-negotiables' of differentiation. These are

1. The learning environment is safe, challenging and supportive so that it invites learning.
2. The teacher clearly outlines required knowledge and skills of the lesson.
3. Teacher assesses student's level of attainment relative to the lesson objectives.
4. The teachers uses information from the student assessment to plan further instruction so as to further progress or remediate.

There are three broad approaches to differentiation – Differentiation by content, process, and by product. These are followed according to a students level of readiness, interest and individual learning profile.

Content

Differentiation by content can involve differentiating a lesson by objective, resource and/or activities.

Objective

When a teacher differentiates by objective the teacher chooses learning objectives which are different for different students. However, these should be tiered so that they are available to all students.

Resource

When the teacher differentiates by resource, the teacher makes more content material available for gifted children. Again, all material should be available to every student.

Activities

When the Teacher differentiates by activity the teacher provides a range of activities which provide an appropriate challenge for students.

Process

Differentiation by the process involves differentiation according to student activity, pace of the lesson, student autonomy and grouping.

Student Activity

In differentiating by student activity, the teacher provides a range of activities which are tiered. This means that there is more than one activity and they become increasingly more challenging. Again, all activities are available to all students.

Pace

Differentiating direct teaching by pace in a mixed ability environment is next to impossible. Teachers have to consider the cognitive load of their instruction. While more able students can absorb more direct instruction and quite enjoy it, weaker students in a mixed ability classroom will have trouble keeping up. So instead, the teacher can differentiate learning by pace. Teacher provides opportunities for gifted students to move through curriculum content faster. The teacher may couple this with differentiation by content.

Autonomy

Teachers can differentiate by autonomy in which more able students are given greater autonomy to make decisions about how they learn. Teachers can facilitate this through a learning contract which builds into it student accountability for their learning.

Group

The use of flexible grouping is an important component in differentiation. Flexible grouping should be used in response to the demands of the particular lesson. This does not necessarily mean

more able pupils are grouped together. There are advantages for both groups in more able pupils being grouped with less able pupils.

Product

Product

Teachers can differentiate in terms of the product they expect from students.

To be sure differentiation requires a lot of additional work in particular in the upfront preparation of student activities. However once this material is prepared the workload becomes much lighter. In addition to this differentiation strategies can make for a much more interesting learning environment for both students and teachers.

So what is a differentiated lesson look like?

The first stage in differentiation is to identify the supports that students need with regards to the material which is to be taught. This means identifying student's prior knowledge, understanding differences in the current level of cognitive development, and noting language differences that may impact on learning (for example (English as an Additional Language (EAL) students). This is more traditionally known as 'useful to take account of students' individual personalities and their level of motivation and general attitude.

Pre-Test

So an important differentiation strategy at the beginning of any topic is to use a pre-assessment or pre-test to identify students existing knowledge.

The information gathered from this pre-test can be used to determine how

In my experience teaching second level geography in a mixed ability classroom I have found that the majority of students have very similar and low levels of knowledge of the topics I was about to teach. Therefore I could begin teaching the class as a group and concentrate on differentiating student activity. I could use the student activity phase to support weaker students. However, in more qualitative subjects such as mathematics, teachers might find that some students' mathematical ability is well ahead of other students and so they might need to adapt their teaching to take account of this.

Scaffolding

This approach to teaching and learning is supported by the work of Lev Vygotski (1978). Vygotski identified 'scaffolding' as an important strategy in bridging the gap between what is student currently knows and what they are expected to know. The gap between these two is known as the Zone of Proximal Development (ZPD). Scaffolding involves structuring activities that match the learning needs of the student so as to reduce this gap. The scaffolding can be provided by a peer, a group, or a teacher.

Because students will have different levels of readiness, they will be in different parts of the ZPD. So it is important to take account of this when preparing lessons.

Once a teacher is content that they have identified the learning needs of students in the classroom the next stage to design appropriate Learning opportunities.

Bloom's taxonomy of cognitive learning objectives is familiar to most teachers. The taxonomy begins with the lower order of thinking skills of knowledge, comprehension and application and extends to higher thinking skills of analysis, synthesis, and evaluation.

Bloom's taxonomy was revised in 2002 and the new levels are now remember, understand, apply, analyse, evaluate, and create.

In general gifted students can be challenged by higher-order objectives. Consequently, when designing lessons teachers should consider the level at which they pitch objectives so as to meet the needs of individual students.

There's a link below this video to a website by Ian Byrd's called the differentiator.

This is a fantastic page which will allow you to construct a wide range of creative learning objectives (as well as other components of differentiated lessons.

<http://byrdseed.com/differentiator/>

The NCCA's Guidelines for Exceptionally Able Students also contains some examples of individual lessons ideas written from the perspective of different learning objectives.

Teaching Strategies

The next stage in your differentiation journey revolves around the teaching strategy you adopt class. Most teachers use a range of different approaches but it's no harm to reflect on some of these.

Teacher instructional strategies can be arranged in a hierarchy starting with a lecture, drill and practice, direct instruction, coaching, demonstration, Socratic teaching, visualization, hands-on learning or doing, and multiple approaches teaching.

John Hattie's (2012) research on Visible Learning has shown the benefits of direct instruction. However the golden rule is variety is the spice of life. Using a single approach time and time again makes about the boring classroom and a boring teaching career.

In the next module we will examine some specific teaching strategies, however, in general, student activity can also be arranged in a hierarchy from role-playing through cooperative and collaborative learning, to problem based learning, an independent study. You'll notice that I have left out any mention

of worksheets. Work sheets are most useful when the purpose is to get students to reflect on their learning.

In the next video I will look at different classroom strategies you can use in your classroom.

References

Beadle, P., (2010) How To Teach, Crown House Publishing, Carmarthen.

Heacox, D., & Cash, R.M., (2014) Differentiation for Gifted Learners, Free Spirit Publishing, Minnesota.

Hattie, J., (2012) Visible Learning for Teachers: Maximising Impact on Learning, Routledge, Oxon.

See http://www.learningandteaching.info/teaching/what_works.htm

Tomlinson, C.A., & Sousa, D.A., (2011) Differentiation and the Brain, Solution Tree Press, Indiana.