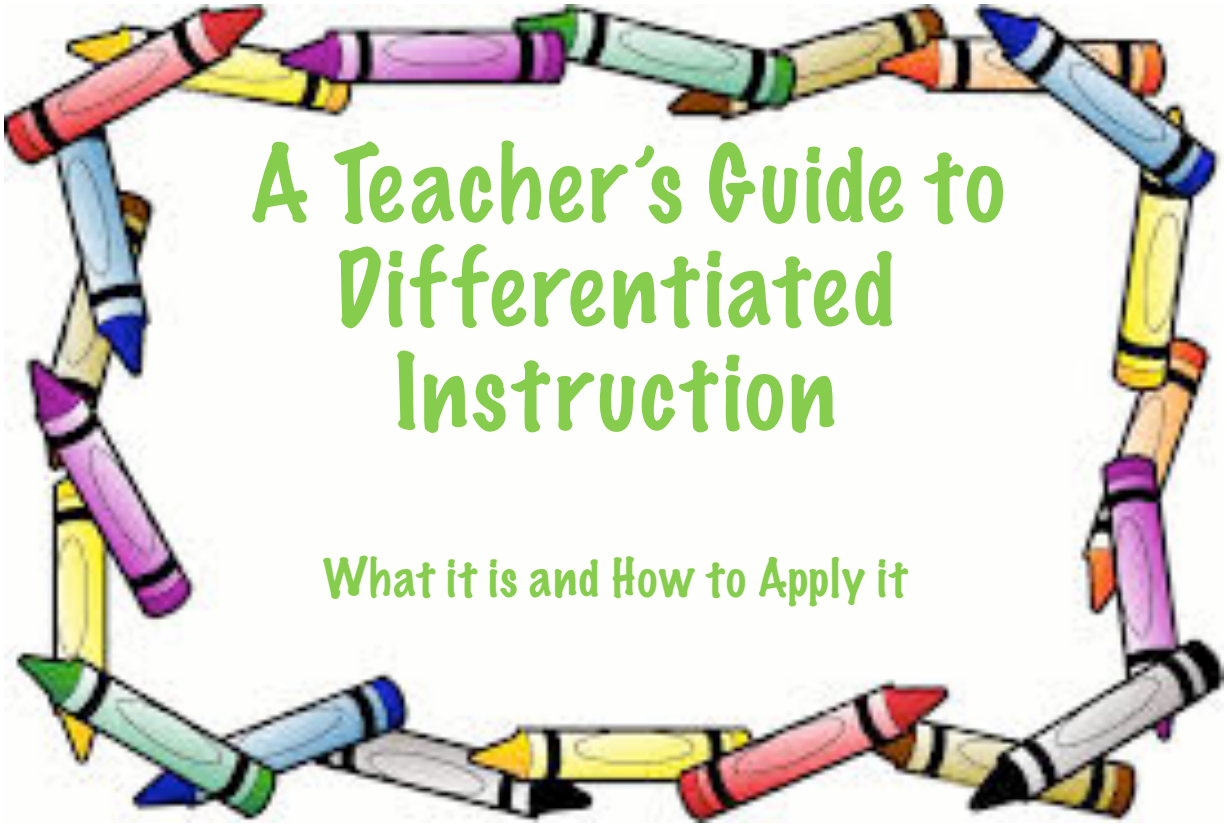

A Teacher's Guide to Differentiated Instruction

What it is and How to Apply it

Special Activity Project Report
submitted in partial completion of the requirements of the degree of
Master of Education (Educational Psychology)
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About the Author

During my third year of studies on my quest to become a teacher, I realized how truly unprepared I felt for teaching. Working with all these students led me to feel worried about how I will be able to teach all the different types of learners. Not only did I see that students didn't all learn in the same way, I also noticed that in one classroom, students seemed to be at many different levels. As a future teacher, how was I going to teach to a class when they all learn so differently and are at different levels in the curriculum?

Soon after, I heard about differentiation and it seemed to make sense. The only way to teach to a class is to differentiate the work provided to accommodate the most students possible. Once I started reading more about it, I felt that I was being bombarded with information and couldn't make sense of it all. I then began to wonder how can I differentiate when there is such a rigorous curriculum to follow? I watched the teachers around me struggle to keep up with corrections and daily planning. They didn't have the time to differentiate! Well, with standards to meet and material to be covered within a given timeframe, it was a race to the finish line with no time for any extra "stuff" like differentiating. The teachers I saw were provided with minimal support despite the high needs of their students and resources were scarce.

I completed my Master's Degree in Educational Psychology, in the inclusive education stream. I wanted answers and I wanted to come into a classroom prepared and able to reach as many students as I could. So, I condensed and combined ideas that were important to me and that I wanted to remember in a short research paper, based on the work of Carol Ann Tomlinson. This guide is to better equip myself and other teachers with the information necessary to implement differentiated instruction. After looking at some of the research and the technicalities of differentiated instruction, I provide teachers with easy steps and tips to follow when planning to differentiate. I hope that this manual will shed some light on the topic of differentiation and provide teachers with the guidance needed to accommodate students needs, meet curricular requirements, and have high student achievement.

Outline

Introduction

- Mission Statement

Review of Literature

- Abstract
- Understanding Differentiated Instruction
- Getting Started
- Assessment

Recap of Differentiated Instruction

Resources

Mission Statement

This Teacher's Guide will...

- Define Differentiated Instruction (DI)
- Review research supporting DI
- Explore the different components of DI
- Provide practical classroom strategies

Review of Literature

Understanding Differentiated Instruction

Abstract

With all the demands and time constraints placed on teachers, it is no wonder that whole-group teaching and one-size-fits-all approaches are prevalent in schools (Lewis & Batts, 2005). Researchers such as Lewis and Batts (2005) and Tomlinson (2000) have acknowledged the importance of whole-group teaching, however, teaching to the whole class and not applying any other strategies or instructional methods will not address the needs of all learners. Therefore, differentiated instruction is necessary for increased student achievement. Differentiation is a teaching practice that acknowledges that all students are unique and recognizes that instruction and learning tasks must cater to the differences and needs of all students. Student have differing strengths, needs, and weaknesses. Therefore, to differentiate means to look at students as individuals, to determine their needs, and disregard any prior labels (Tomlinson, 2003). To differentiate means to adapt ones teaching to the interests, learning styles, and readiness levels of each students. Tomlinson explained that usually teachers differentiate instruction by adjusting curricular elements, such as content, process, or products of a task.

Moving toward differentiation is not a short-term process and it demands time and energy of the teacher. Finding the time to differentiate can be challenging, however, the following review paper will help make the process easier. This paper reviews the development of differentiated instruction as well as what it is, and how to implement it successfully within a classroom. It will also provide teachers with clear guidelines on how to differentiate, outlining the process of implementation and preparation.

Table of Contents

The Development of Differentiation

Hall (2002) explained that differentiated instruction began in the general education classroom for students who were considered gifted and who were not being challenged enough by the material provided. Classrooms are populated by students with a wide range of needs, from students who are gifted, to those with learning disabilities and special needs, or combinations of the two. These students come from different backgrounds, have various abilities, and need particular degrees of support. Therefore, teachers need to provide different learning opportunities to address these differences and particularities (Wehrmann, 2000). Research conducted in this area will be subsequently further discussed.

Differentiation is explained by many, such as Hall (2002), as a collection of theories and practices. The main elements of differentiation come from early research, such as Lev Vygotsky (1978). Vygotsky is viewed by many researchers as central to educational change and enhancement and has had a strong impact on educational practices. Vygotsky advocated that students should be taught skills slightly more advanced then their readiness, which is called zone of proximal development (ZDP). Classroom research conducted on the theory strongly supported the idea of ZPD. For example, in a study conducted by Fisher (1980), researchers found that students working slightly above readiness level, or ZDP, learnt more and their feelings about themselves and the subject area improved (Fisher, 1980 cited by Tomlinson 2000). The study involved 250 classrooms and it was found that when students were working at a higher success rate (about 80%), they felt better about themselves and the topic of study. The study cautioned that student achievement is not likely to improve if students are practicing work they already know, and if students are frustrated by the work. This reinforces the importance for

teachers to successfully assess students' abilities and provide tasks at an appropriate level to increase student success.

Differentiation also draws from principles related to Vygotsky's socialcultural theory of learning (Subban, 2006). Social interaction is essential to cognitive development. Vygotsky characterized students as active learners who should participate in the construction of their own learning. Vygotsky's theory recognized education as an ongoing process in which students and teachers collaborate in reciprocal learning experiences and in the construction of meaning (Subban, 2006).

Differentiated Instruction

Differentiated instruction is not a method of teaching, but a set of beliefs about teaching and learning. Carol Ann Tomlinson has been a leading expert in the field and a guide toward helping teachers achieve a differentiated classroom. After many years of teaching experience, she recognized the high demands of the classroom and realized the "one-size-fits-all" way of teaching that surrounded her was not an effective method because students differ in so many ways. She sparked high interest in the idea of differentiation and spearheaded a movement toward differentiated instruction while writing many books in the process.

Tomlinson's understanding of differentiation steams from the work of Lee S. Shulman (1987). Shulman explained that differentiation is a method of adapting the material to fit the particularities of the students. He suggested that teachers look at characteristics that could affect how students respond to the material, such as, gender, ability, language, culture, and prior knowledge. Shulman stated that teachers should question characteristics that may influence how students interpret, approach, respond, and understand the material. He compares differentiation

to tailoring a suit: adapting the color, size, and style of the suit for the individual. Meaning, fitting the material to the specific students, not students in general.

The following section of this review explores the work of Carol Ann Tomlinson to gain a better understanding of differentiated instruction.

Tomlinson's differentiation model. Tomlinson described differentiation as a philosophy based on a set of beliefs. The following is a review of these beliefs:

1. Students of similar age differ in interest, readiness, learning styles, experiences and life circumstances.
2. These differences strongly affect what a student needs to learn, how much support they will need, and the pace at which they learn.
3. Students learn best when supported by adults who push them slightly above their level of readiness.
4. Students learn best when what they are learning is connected with real life experiences and learning opportunities are natural.
5. A sense of community and respect must be created for students to learn.
6. It is the school's main purpose to amplify student capability

Kelly M. Anderson is an assistant professor at the University of North Carolina at Charlotte, College of Education, in the department of Special Education and Child Development, and agreed with Tomlinson's definition. In her article, Anderson gave concrete examples while also providing classroom scenarios. She sums up differentiation clearly and argues that differentiated instruction, in conjunction with ongoing assessment and intervention programs, can help attend to the high and diverse needs of struggling students. Anderson (2007)

summarized Tomlinson (2000) and explained that differentiation is the belief that the purpose of education and of the schools is to maximize learning for all students based on their differences, preferences, interests, and how they learn. It recognizes that every child is unique and will learn in varying ways. It provides students with many options for learning new information and maximizes student success. Teachers who differentiate instruction will adjust teaching methods and the curriculum to suit the needs of their students, not expect the students to change themselves based on the requirements. Therefore, to differentiate is to react to the backgrounds, readiness, learning preferences, and interests of the students, to be responsive to learners and their differences (Anderson, 2007, Hall, 2002; Lawrence-Brown, 2004; Tomlinson, 2000). For differentiation to be successful, teachers must have different levels of expectations for each student and all students must benefit. With a variety of support and strategies, students can be successful and appropriately challenged (Lawrence-Brown, 2004). Research on differentiated instruction and its efficacy will be reviewed in the next section of this paper.

Readiness. Tomlinson and Imbeau (2010) described readiness as "a student's current proximity to specified knowledge, understanding, and skills" (p.16). Readiness does not mean ability. Ability is what some may believe to be fixed, but readiness level is temporary and should be always changing. Differentiating by readiness can be done by varying the levels of difficulty of a task (Anderson, 2007; Tomlinson, 2000). This can including placing children in alike groups, students who are at the same readiness level (Anderson, 2007). Providing students with choices in the tasks or tiered assignments are some examples of differentiation by readiness. Forms of evaluation provide the data necessary for teachers to differentiate based on readiness.

In a four-year longitudinal study of 208 teenagers, conducted by Csikszentmihalyi, Rathunde, and Whalen (1993), researchers investigated why some students continued to pursue their talents (in mathematics, English, science, etc.) while others became disengaged. The findings of the study further solidifies the importance of developing tasks to match students' skill level, or readiness. They found that students who were not being challenged enough had low involvement in the task and less concentration. These students also showed low achievement and lower self-esteem. The students that continued to pursue their talents were those who had teachers that developed tasks at their skill level. These students had the necessary skills to successfully complete the task. Researchers suggested that adjusting tasks to meet students' level of readiness not only kept students involved and improved their achievement, but helped increase positive attitudes towards learning as well.

Interest. When differentiating by interest, teachers use knowledge about the students and align students to different tasks or choose topics based on those interests. When students are interested in a topic, their motivation increases and learning is enhanced (Tomlinson & Imbeau, 2010). Teachers must get to know their students and manipulate the subjects studied to attract student to the topic and to make learning fun. An Interest-A-Lyzer, a term originally coined by Renzulli in the 1970's, is an example of an activity a teacher can do to help get to know students. This activity asks students a variety of questions concerning their hobbies and interests both in and out of school. Interests may differ according to students, strengths, cultural background, and personal experiences (Tomlinson & Imbeau, 2010).

In the study mentioned above, Csikszentmihalyi and colleagues (1993) also found that student interest played a key role in the continuation of talent development. Researchers

explained that student interest is important for them to stay motivated and to continue to pursue future complex tasks. Furthermore, students that felt satisfaction and interest from previous tasks were more likely to stay engaged in tasks that were presently uninteresting. Those students who pursued their talents were those who felt that the tasks were interesting and were also more likely to make a connection between competing tasks now to achieve future goals.

Learning profile. Learning profile refers to how students prefer to take in, explore, and express content (Tomlinson & Imbeau, 2010). Students' learning profiles are individual and include several elements. Some students prefer to work alone or in groups, others may need to sit still or move around while learning. Tomlinson and Imbeau (2010) explained that students' learning profiles differ in their intelligence preference; a neurological preference for learning. This includes multiple intelligences, which will be discussed later on in this review. Approaches to learning may also be affected by culture and gender. Teachers can use what they know about students learning profiles and can differentiate by providing students with different options. For example, by providing different areas to work that align with students' learning preferences (Anderson, 2007).

Sternberg (1997) selected 199 high-school students to participate in his study. After numerous questionnaires, Sternberg separated the students into groups based on their learning preferences. Students were then placed in a psychology class that was taught in a manner to emphasize a particular style of learning. After examining students' homework and test scores, Sternberg found that students whom received instruction that matched their learning profiles performed significantly better then those students who were not matched. He concluded that when instruction is given to match students' learning profiles, and when students can learn in a

way that enables them to capitalize on their strengths, students will perform substantially better then when taught in conventional ways.

The physical environment. Modifications can be made to the environment itself by offering students different areas to work in (Tomlinson, 2000). Teachers can assign one area where students can work quietly and without distraction and another area that invites collaboration. Furthermore, teachers should provide an environment that is structured by routine and have clear guidelines that match students needs when working independently. Tomlinson and Imbeau (2010) argued that routines help students learn more effectively because it limits wasting time and uncertainties. Students should know what to do when they need help, even when the teacher is busy with other students. In addition, students should be sensitized to the fact that everyone is different and learn in many ways. Finally, it is important to remember that a differentiated classroom provides an environment that is safe and inviting (Chapman & King, 2005). Students should feel comfortable to take risks to exceed expectations. Tomlinson and Kalbfleish (1998) explained that when a child feels unsafe or threatened, automatically, the brain will focus on self-protection and not on the learning. This statement is based on brain-based research conducted by Howard (1994), Jensen (1998), and McGaugh et al. (1993). The classroom is a place where success is celebrated that is designed to motivate and stimulate learning.

Research Supporting Differentiation

Several articles have noted that there is a lack of empirical validation and therefore future research is needed. However, testimonials can be found, such as those provided by Tomilson (2000), which discuss success with differentiated instruction in the classroom.

Furthermore, research is slowly beginning to surface to support differentiated instruction in helping diverse students learn and surpass barriers blocking them from moving forward. For example, Baumgartner, Lipowski, and Rush (2003) used differentiated instruction as a method of intervention to increase reading achievement among primary and middle school students. Students had difficulties and major deficits in areas of phonemic awareness and comprehension. The researchers used flexible grouping, student choice among activities and reading time, as well access to more resources as types of differentiated strategies. Differentiation was successful in student achievement and student attitudes toward reading. Students improved in several areas including phonemic awareness, decoding skills, comprehension, and an increase in reading levels.

In Alberta, a three-year study was conducted by Canadian scholars. They examined classrooms across multiple primary schools, among different levels that were implementing differentiation in their classrooms. Differentiation positively affected students, especially those with learning disabilities (McQuarrie, McRae, & Stack-Cutler, 2008). Results consistently indicated that students from differing grades (ranging from k-12) had positive results and showed increases in all areas of learning, especially when small groups or targeted instruction was used.

Diana Lawrence-Brown affirmed that differentiated instruction has many positive effects on learning for all students at any grade level, including gifted and students with disabilities. Considering previous work by Tomlinson and other authors in the field, Lawrence-Brown (2004) examined how teachers can address students' individual needs by adapting the curriculum by using numerous strategies including manipulatives, visual aids, and grouping. She also addressed how to offer a curriculum suitable for gifted students. Lawrence-Brown presented a

planning system as well as strategies and classroom examples to support differentiated instruction, which will later be described in more detail.

Lewis and Batts (2005) found that when teachers from an elementary school were using non-differentiated approaches to learning, students had an overall 79% proficiency rate on the end-of-year state exams. After five years of implementing differentiated instruction within the entire elementary school (652 student total), 94.8% of students scored within the successful proficiency range. The staff used Tomlinson's model of differentiation by addressing student needs through adjustments in the curriculum (through content, process, and product), teaching strategies, and the classroom environment.

Student-Centered Learning

Tomlinson (2000) explained teaching that is standardized will not be effective in helping students reach their maximum potential and respond to individual needs. Students are diverse in backgrounds, first language spoken, strengths, and weaknesses, among many dimensions. Tomlinson (2000), amid other researchers (e.g., Hall, 2002; Lawrence-Brown, 2004; Subban, 2006) confirmed that teachers must take these differences into account and accommodate areas of strength and weakness while teaching. Brain-based research supports differentiation and acknowledges that teachers must attend to student needs and differences for learning to occur, which will be discussed further in the next section. Brain-based research outlines the importance of responding to students readiness levels, interests, and learning profiles (Tomlinson & Kalbfleisch, 1998).

Brain-based research. Brain-based research looks at how students learn and how the brain works. Good classroom instruction must use all primary functions of the brain to process,

store, and retrieve information (Subban, 2006). There are three broad principles of brain-based research that play a strong role in differentiation (Tomlinson & Kalbfleisch, 1998).

First, students must all feel a sense of physical and emotional security in their learning environments. When a child feels unsafe, threatened, or intimidated, the brain has a natural reaction to self-preserve and will focus their attention on protecting themselves (Tomlinson & Kalbfleisch, 1998). This reaction may surface as misbehaving or withdrawal and learning will not take place. Sylwester (1994), based on his studies, found that emotions drive attention, which also affects learning. He explains that the emotional center of the brain has a stronger impact on behavior than other centers. Therefore, a stressful classroom interferes with learning. Positive environments allow for chemical responses that help students learn.

Second, the student must be adequately challenged for learning to occur. A student working well beyond their readiness level, will result in stress, which relates back to the first principle (Tomlinson & Kalbfleisch, 1998). With a one-size-fits-all approach, students are being challenged at one single level. Some will be over challenged, and some under challenged, therefore learning will not take place. Research conducted on the ZPD mentioned in a previous section reinforces this concept.

Third, students must create their own meaning and connect to the material. As stated by Tomlinson and Kalbfleisch (1998): “It is no more possible for a teacher to make me understand than for the teacher to digest food for me.” Because classrooms are filled with diverse learners who process and retrieve information differently, who have different preferences and interests, who understand and remember differently, teachers must find a way to connect the material while considering all these differences. Green (1999) summarized research conducted by Caine,

Caine, and Crowell (1994) on brain-based learning. He explained the authors' assertion that finding meaning is basic to the brain. Learning is increased when the environment is positive and the tasks challenging, but meaningful. Pieces of information that are unrelated to what makes sense to students are not absorbed well by the brain. Caine, Craine, and Crowell explained that, according to brain-based research, the more separate the skills and material being taught are from the students' prior knowledge and experiences, the greater the need for repetition and memorization.

Brain-based research provides much evidence indicating that people learn in different ways (Green, 1999). If students are learning under stressful conditions, where teachers are providing students with instruction and information that does not match their learning preferences, and they cannot show their learning in ways that capitalize on their individual strengths, success, motivation, and student achievement will decrease. Green (1999) explained that because learners are all diverse, teachers cannot assume that the one-size-fits-all approach to teaching will be effective for all students.

Learning styles. Learning styles help teachers identify students' weaknesses and enable them to capitalize on the students' strengths (Subban, 2006). Jane Kise is an educational consultant in Minneapolis, specializing in coaching, team building, and staff development, and has published some noteworthy material concerning differentiation and professional development. Kises's (2011) interpretation of learning styles provided an interesting explanation of the topic. Kise used the Jungian learning styles for the basis of her work on differentiated instruction. The Jungian theory is based on the work of psychologist Carl Jung, who developed psychological preferences. Kise explained that just as a basketball player did not choose the

preferred hand to dribble a ball, we did not choose our psychological preferences. She stated that learning in general is based on preferences for gaining energy and processing information. Some students are extraverted and will prefer to learn, or gain energy, through actions and through interactions with other students (Kise, 2011). These students thrive on movement and discussion with others. Others are introverted and gain energy through reflection and being on their own.

Kise continued to explain that students gather information in different ways as well. Students who prefer sensing rely on visual tools, hands-on materials, instructions, and examples. They look at reality and connect it to experiences. Sensing students start by using the facts to build bigger ideas. For example, they would build a tower block by block until it is done. Intuitive thinkers will rely on their hunches first. They take leaps of faith to connect ideas. They may not notice if every block is in the right place before continuing to build. If a block is missing or out of place, these students will not want to go back and fix the problem but will try to continue to move forward. Sensing students tend to enjoy repetition because it helps build their confidence and enjoy the practice. However, intuitive students may resent this type of work and want to move on right away.

Multiple intelligences. Howard Gardner's theory on multiple intelligences surfaced in 1983 and has had a huge impact on education over the past decades, even though it is a model or theory and has little research supporting it. Gardner placed on strong importance on problem solving and recognized that children learn in various ways. Gardner believed that instruction that focused on one type of intelligence would minimize learning opportunities for other intelligences (Subban, 2006). He focused initially on eight intelligences that have been widely accepted by theorist and researchers. This theory has been used to help structure curriculum and

classrooms (Smith, 2002). Classrooms should create learning opportunities for all students, by using multiple strategies, to accommodate as many intelligences as possible. Considering what we know from brain-based research, coupled with the idea of multiple intelligences, we should use this knowledge in our classrooms and teaching methods to increase our students' achievement and success. As teachers, we want all of our students to succeed and do the best they possibly can. By sensitizing teachers to the idea that students have different learning styles and learn in varying ways, the chances of accommodating students, responding to their needs, and having a greater range of students succeed and reach their full potential will hopefully increase.

Table 1

Garnder's Multiple Intelligences

Intelligence	**Core components**
Logical-mathematical	Logical, numerical patterns, reasoning, analyze problems
Linguistic	Sensitive to words, meaning of words, and language
Musical	Skill in performance, composition, sensitive to musical patterns, pitches, tones, rhythms
Spatial	Recognition and use of patterns, views of visual-spatial world accurately
Bodily-kinesthetic	Skillful in handling objects and movings one's body, using the body to solve problems
Interpersonal	Understanding of other people, works well with others and understand their feelings, moods, and desires
Intrapersonal	Understanding of one's self, knowledge of own strengths and weaknesses
Naturalist	Understanding nature
Existential	Ability to contemplate phenomena, questions, explores beyond the use of data, a philosopher

Source
Gardner & Hatch (1989); Smith (2002); Moran, S., Kornhaber, M., & Gardner, H. (2006).

Recently, Gardner wrote a published review about his theory and it's development over the past twenty years. This document, written in 2012, was published on his website and explained that despite the talk of there being other intelligences, such as spirituality, Gardner is "sticking" to his original 8 1/2--the 1/2 referring to existential intelligence--as the essential components (Gardner, 2012).

Classroom Elements to Differentiated

Teachers are put under loads of pressure to cover the given curriculum in a set time. Tomlinson (2000) explained that the goal of teaching now seems to be more focused on raising test scores than learning itself. She stated that we must examine our own teaching methods and reflect on the purpose behind our teaching. Differentiation will take the big ideas and key concepts of the necessary curriculum and asks students to use these big ideas in important ways related to real life and the students involved. Brain-based research implies that by focusing on big ideas, struggling students are able to better focus on the most important aspects of the curriculum (Tomlinson & Kalbfleisch, 1998). In addition, advanced students may extend learning and further explore rather than repeat already known information. Differentiated instruction encourages students to ask questions and use their experiences and interests to connect to the material. The curriculum provides the blueprints, and differentiation tells teachers how, explained Tomlinson (2000). Therefore, as teachers cover the curriculum, they may vary tasks and activities to attend to the readiness, interest, and learning styles of all students. Although the same material is taught, the teaching methods are differentiated so all students can learn (Tomlinson, 2006). Activities are structured in ways that will attend to

student's interests and enable students to work in different ways such as individually or in small groups.

As mentioned, Shulman (1987) explained that the material and activities are what need to be tailored to fit the students. Based on this view, Tomlinson (2001) stated that there are three key features of the curriculum which can be differentiated based on student readiness, interests, and learning styles: content, process, and product. Kelly M. Anderson (2007) summarized the work of Tomlinson by using classroom scenarios to look at differentiation to see how differentiation can be applied in different situations. Her work is used in this next section to complement Tomlinson's views. Tracey Hall is another author whose explanations of differentiation are examined as well as those of a few others. Hall (2002) summarized Tomlinson in a clear, concise manner and provided links for readers to learn more about differentiated instruction. She also provided an example of a non-differentiated classroom versus a differentiated classroom.

Content. The content is what is taught. It is what students must learn and how they access the necessary information. Teachers can differentiate the content by using reading material at different levels, present material visually and through auditory means, or small group meetings (Anderson, 2007: Tomlinson 2000).

Students are taught the same curriculum, however the degree of complexity of the content can be adapted to suit the readiness, interests, or learning styles of the students (Hall, 2002; Levy, 2008). This can be done by focusing on the "big ideas" or key concepts. Tomlinson (1995) explained that by focusing on big ideas, struggling students are given the chance to focus on understanding the key concepts while advanced learners can expand their understanding of the

principles and dive deeper into the topic. This type of learning focuses more on making sense and understanding principles rather than on memorizing or just simply repeating the information given. This way, students can explore the same big idea in multiple ways and take their learning to different levels depending on their strengths and weaknesses.

Process. The process is the type of activities students will work on to create an understanding and to master the content (Tomlinson, 2000). Teachers may choose to differentiate the process within a lesson, or how the students will develop the necessary skills or concepts (Anderson, 2007). Fundamentally, differentiating by process addresses students' interests, learning styles, and abilities (Levy, 2008). Tiered activities, centers, or using manipulatives are a few examples of how the process can be differentiated. This can be done by using strategies such as flexible grouping. This means placing students in groups based on their likes, readiness, or learning profiles. Despite whether students are in groups or working independently, all learners are working toward the same goal and curriculum objectives (Anderson, 2007). Grouping should not be fixed. It should change and shift depending on the task and the strengths of the students. For instance, the teacher could begin with a whole class discussion of the big ideas and students could then go off into their groups to complete the work (Hall, 2002). Next, the teacher could coach the different groups as needed.

Product. Product refers to how students will demonstrate their understanding of the material. Teachers can provide students with different options how they show what they have learnt. Choiceboards and lists of product options are examples of ways to differentiate by product (Anderson, 2007). For example, students can choose to write a text, create a video, or develop a concept map. Regardless of the format of the product, students can choose to

demonstrate what they have learnt in varying ways. Students can demonstrate learning by choosing product types based on their learning styles, strengths, and interests. Students are not evaluated differently because they have chosen different ways to represent their understanding. On the contrary, students are evaluated on the mastery of the acquired skills necessary for the unit or lesson (Anderson, 2007).

Getting Started

Get to know students. Many authors of publications about differentiation recommended that teachers slowly implement differentiated instruction into their classrooms in one content area at a time (Hall, 2002). Moreover, teachers should work together in the creation of menus, choiceboards, and other differentiation tools to share in the workload. One way of starting the process of differentiation is by creating learning profiles. Anderson (2007) described learning profiles as information gathered by the teacher on each student concerning their learning preferences or styles, family structure, interests both in and out of school, and other aspects one might find useful. These learning profiles may also include information gathered from previous years from other teachers and assessment scores. Differentiation is centered on the students, their abilities, and their interests, therefore, getting to know the students is an important part of the process. As previously discussed, teachers should be aware of how their students learn, what their likes and dislikes are, as well as where their strengths and weaknesses lie. Differentiating instruction will be a difficult task if teachers know nothing about their students. Differentiation is all about adapting teaching to the students, therefore, understanding the differences between them is important.

Startup guidelines. Tomlinson (2000) explained that there is no clear recipe on how to differentiate and it is important to find a balance between the teachers' needs and those of the students. Tomlinson (2000) suggested the following guidelines to help get started with differentiation:

- Reflect on your teaching philosophy and how you want to practice it.
- Think about what you want your classroom to look like and the changes that could be made to match your vision.
- Prepare students and parents for a differentiated classroom. Explain the process and discuss different procedures in place to help student progress. Make students and parents your partners in the process.
- Start slowly, but give yourself a little push. Work at a pace that is a little beyond your comfort level.
- Having strong classroom management strategies in place will make a differentiated classroom more successful. Have measures in place to ensure a clear routine. Think about transitions and places for materials, resources, and completed work.
- Teach and practice the predetermined routines. Discuss with students what works and what does not. Fix what does not work by deciding on a solution as a class.
- Take time away from change. Regain your energy. Evaluate your progress
- Build a support system and work with your colleagues. Plan and share differentiated materials. Discuss different methods and strategies amongst each other and exchange ideas. Let administration know what they can do to help.
- Enjoy the process! Learning is empowering for students and teachers alike.

Lesson Planning

It is important for teachers to decide what they want their students to know and what they want their students to be able to do by the end of the lesson or unit before teaching it. This means developing clear big ideas or key concepts. Teachers must have a good understanding of where they are going before they take their students anywhere. Planning is an important ingredient to a successful lesson or unit.

Lawrence-Brown (2004) suggested that there are two main goals to keep in mind when planning to differentiate. The first goal is to have all students reach the standards of the curriculum. The second is adapting the curriculum to the students needs. This can be related to what had been previously mentioned concerning differentiating and the content. Of course teachers cannot change the curriculum, that much is clear. However, what is not always clear is how to get students to reach the curriculum standards when students' needs are so varied. This is the main purpose of differentiation. To create opportunities so that all students can reach curriculum standards by learning the essential key principles as efficiently and effectively as possible (Tomlinson & Imbeau, 2010). Once learning profiles have been created and the big ideas determined, teachers can then manipulate the material to match curriculum standards while adhering to students' needs. In this way, teachers are being responsive to students' needs and differences and are supporting academic success by creating a learning environment that is flexible. Now comes the fun part: determining how students will gain the skills necessary through lessons and learning activities.

Lawrence-Brown (2004) explained that a high-quality lesson is one that promotes active learning, connects the subject matter to the students' interest, and is sensitive to different learning

styles. This can be related to the importance of connecting what students learn to their lives, to make learning about sense-making and less about retention. Teachers should try to connect the curriculum in any way possible to the students' lives so that they are engaged and will want to learn the material. Researchers agree that when students are engaged, they become more motivated to learn and have a more positive attitude toward learning (Csikszentmihalyi et al., 1993; Hall, 2002; Subban, 2006).

Making learning meaningful. Lawrence-Brown (2004) explained the importance of connecting learning to students' prior knowledge and experiences as a strategy for helping students help make space for and retain new information. Connections could be made with students' communities, interests, culture, or experiences (Lawrence-Brown, 2004; Tomlinson, 2000). Instruction must be authentic and applicable to real-life situations for students as a whole to really benefit from learning (Hall, 2002; Lawrence-Brown, 2004). For example, students learning about the human body are not just students, they are nutritionists or biologists examining human movement or investigating a bodily function. Students must be able to see the purpose behind the learning, and for that to happen, to truly make learning significant, it must be applicable in real-life. Project-based learning, when students are asked to create and make connections, is an example of active learning that will motivate students and benefit the whole class.

Researchers such as John Dewey (1916) have advocated project-based learning for some time now. Making learning meaningful, through project-based learning for example, brings the real-world into the classroom, therefore helping students making interdisciplinary connections. Miller, Shambaugh, Robinson, and Wimberly (1995), examined a middle school classroom that

learnt the required science content while working with a local botanical garden. Students created their own self-sustaining ecosystems, cultivated plants, and created maps and brochures for their gardens. Researchers found that students were more engaged and had a positive attitude toward learning and the material being taught.

The New American Schools Development Corporation (1997) examined the benefits of project-based learning in ten schools in the United States between 1995 and 1997. Researchers reported that nine out of the ten school showed improvements on standardized tests (Thomas, 2000).

Bartscher (1995) conducted a program to increase motivation in third, sixth and tenth grade students in Illinois. With surveys, researchers found that student motivation was low and implemented cooperative work, personal choice, and project-based learning as intervention methods. Through project-based learning, the content was related to real-life, learning happened within the classroom but also within the community, and students worked in groups more frequently. Students responded well to project-based learning, homework completion increased, and students demonstrated a better attitude towards learning.

Instructional strategies. It is of high importance for teachers to design activities that fit the needs of each student. Teachers must find ways to challenge, stimulate, and intrigue students by using different instructional strategies, such as project-based learning (Chapman & King, 2008). In their book, *Differentiated Instructional Management: Work Smarter not Harder*, Carolyn Chapman and Rita King provided readers with strategies and tips for planning for differentiated instruction. In addition, they provided classroom-management techniques as well

as useful ideas for classroom strategies to meet the needs of all learners in the inclusive classroom, including gifted students.

Instructional strategies are used to help engage students right away in the lesson or activity and are used throughout learning tasks as well. Teachers may decide to show an interesting video or props to help engage students. Instructional strategies used to meet the needs of the students are chosen based on data previously collected. Based on the data collected by means of assessment, formal or informal, the teacher can evaluate which strategies were successful and which ones need to be enhanced or changed. When evaluating an instructional strategy, Chapman and King (2008) suggested reflecting on whether it is helping to teach the content and the material needed to the students while using materials and resources accessible to all. The authors also suggested evaluating whether the strategy is appropriate for the age level and if it is helping to develop successful self-directed learners. The students must understand the purpose of the strategy. If the strategy being used feels complicated or frustrating for the teacher, then the students will feel that way as well. If evaluating a given strategy is difficult for the teacher and its efficacy is unclear, the authors suggested that when the teacher is in doubt, it is a clue that the strategy should no longer be used.

The chosen instructional strategy must give students the desire to learn and wanting to find the answers to the questions. A student's desire to learn is what opens the processing center. If there is no desire to learn, then the gate to processing will be closed (Chapman & King, 2008). Providing students with choices and authentic tasks are ways of accomplishing this. It is important to use students' interests to guide instructional strategies and set expectations high by demonstrating passion and enthusiasm for the topic. Teachers must show they care and find

strategies to instill a love for learning within students. It is crucial to remember that a teacher's attitude toward learning will reflect in the students' attitude. Furthermore, it is important to have students reflect on why they are learning the material and why it is important to them.

Once the educator has collected a variety of strategies that accommodate different learning styles, the teacher must be sure to rotate the use of different strategies. They suggested to list the different learning styles and multiple intelligences and to place the learning strategies used within these columns. Once each strategy has been placed in the appropriate column, the teacher will be able to identify strategies being overused, or learning styles being omitted.

Additional support and resources. Additional support is most commonly necessary for many students in the inclusive classroom. Differentiation may provide the time and opportunities necessary to provide extra support if need be. Struggling students can be commonly found in classrooms and may be struggling for different reasons such as are suffering from a mild disability or at risk of disabilities, when the language of instruction is not the learners' first language, or when they have limited background knowledge of the subject matter (Lawrence-Brown, 2004). Frequently, these students often may have difficulties with reading or writing and therefore, additional support is crucial for success. Modifications to instruction is necessary for these students to access the important information and show their understanding. Additional support can therefore be very beneficial for all learners, not only those struggling.

The author explained that successful students are able to grasp the big ideas of a unit, which is why they are successful. However, students who are struggling may not be able to do this. Therefore, providing students with help prioritizing the important aspects of a unit is a helpful strategy for struggling students. Lawrence-Brown (2004) gave the example of providing

students with a summary page on the topic to help with problems prioritizing the important information necessary for success. This tool could be used as a study guide, for example. Having clear expectations when instructing students is another key strategy. She suggested being precise and explicit when detailing expectations. Checklists or audiotapes may be provided to serve as a memory aid of these expectations and other important information for students.

Examples of Differentiated Instruction

It was previously mentioned that Lewis and Batts (2005) studied the positive effects of differentiation after five years of practice at an elementary school. Students scored much higher on state exams and student achievement consistently rose. Considering Tomlinson's (1999, 2001) work, the researchers noted that the following strategies were used during the implementation of differentiation. Furthermore, the following examples have also been approved by EduGAINS. EduGAINS, shares ministry developed policies and programs for Ontario schools, which help improve educational practice from kindergarten to grade 12.

Flexible grouping. Grouping is based on interest, readiness, or learning styles. Flexible grouping provide students with an opportunity to work with other students that have similarities, or differences depending on the grouping and its purpose (Tomlinson, 2000). Groupings should never be stable. Students are always growing and evolving and should have many opportunities to work in different group settings. Lewis and Batts (2005) explained that, in some cases, students are grouped based on their abilities and stay in that placement for the year. During this time, however, it is possible and highly probably that students have evolved or mastered a required skill. Sometimes students may fall behind and need clarification. Teachers must always be evaluating students, formally and informally, throughout the year and manipulate different

groupings as much as possible (Lexis & Batts, 2005). Moreover, using only a few types of groups limits the potential for different and interesting exchanges between students, and the teacher is less likely to reevaluate students after potential growth or mastery.

Tieso (2005) evaluated the efficacy of flexible grouping on keeping high-ability students challenged in an inclusive classroom. She studied 31 math teachers and 645 students. The high-ability students were given material to supplement the textbook curriculum and placed in different groups based on their abilities. Those students who received the intervention achieved higher on the post-test then did the students who did not receive the strategies. Therefore, flexible grouping in conjunction with a differentiated curriculum significantly improved students' mathematics skills, especially high-ability students.

Learning centers. Centers are stations, or areas within the classroom, allocated to different topics or the development of certain skills. Teachers can choose to create a different center for each topic or subtopic and have students rotate around in small groups (Lewis & Batts, 2005; Tomlinson, 1995). This could also be areas that students can explore once they have finished their work. Centers may be created based on topic or even based on readiness, to give a few examples. If every student goes to the all the centers and everyone completes the same task, then it is not differentiated. For learning centers to be differentiated, students who either need to attend or are interested in that work should be going. Alternatively, the work at the center itself could be differentiated to suit readiness, or learning preference.

Learning contracts. A learning contract is a written agreement between student and teacher and serves as a guide to what the students must learn or do. Many times, a contract provides students with different learning tasks, developed by the students and teachers.

Together, they discuss details of the assignment, including deadlines, assessment, and the format. Learning contracts help students develop a sense of responsibility for their learning. Furthermore, learning contracts aid in the development of research and critical thinking skills (Lewis & Batts, 2005).

Adjusting questions or tiering. Questions or tasks may be adjusted based on student readiness, interest, or learning styles. Questions are adjusted from developing a basic understanding to a more advanced and complex understanding. Multiple versions of the same task are created to respond to the different readiness levels of students. Once the initial activity or task is determined, teachers develop other versions at varying levels of complexity. These tasks should all be respectful, engaging, and challenging for all learners.

Lewis & Batts (2005) stated that Bloom's Taxonomy is an excellent tool for teachers to use to help in the development of different leveled questions. This schema is ordered by levels of cognitive development beginning with simple and moving to complex. This tool was developed to help educators understand aspects of learning related to students and how they think and can help teachers design activities better suited for students at varying levels (Lewis & Batts, 2005). In a study conducted by Noble (2004), teachers who used the revised version of Bloom's taxonomy had an easier time differentiating and had more confidence in their abilities in meeting students' needs.

Thematic units. Thematic units use information learnt from different disciplines and integrate them into one theme. This is a strategy to help students make connections from the material to real-life. It helps students use what they are taught in school and apply it to different situations.

Compacting. Continuous evaluation, both informally and formally, is key to assess students understanding or mastery level of a particular subject or skill. Students who have already mastered the given material should not have to repeat this material. Therefore, teachers should plan lessons with this mind and provide these students with alternate, more challenging activities. Teachers are therefore providing students, not with more work, but with tasks which are more challenging and will allow students to go more in depth into the topic while making different connections. Lewis and Batts (2005) suggested that this can be done through centers, learning contracts, or adjusting questions, to name a few.

Independent study. Students who have reached mastery level of a subject matter may work with the teacher to develop a learning contracting for a self-directed assignment (Lewis & Batts, 2005). Independent study can be designed for small groups or independent work. It is a project-based extension of the material that is directed by the students interest or teacher directed based on readiness, for example.

Choiceboards. Essentially, a choiceboard is separated by rows and columns. Every box on the board is a different task for students to complete. Sometimes, students may have multiple tasks to complete in a given time, other times, they may be asked to choose only one task from the board. Choiceboards are sometimes also called a Tic-Tac-Toe board. For example, students may have to choose three tasks from a three-by-three board (nine squares total) that make a straight line, either diagonally, or straight up or down. Choiceboards can be used for students to demonstrate their learning or as a way to practice a skill. They provide students with options and show flexibility on how students choose to demonstrate learning. When using this strategy, students are taking responsibility for their learning and can make decisions. All the choices must

address the same learning goal and is assessed based on the same criteria. Students can experiment with their learning and get to know themselves better as learners. Creating a choiceboard as a class could be a great activity as well.

Cubing. Cubing was not used by Lewis and Batts in their study, however, it is an example of differentiation acknowledged by EduGains and is worth mentioning. Every side of the cube has an activity and students must complete the activity they rolled. For the cube to be truly differentiated, EduGains suggested providing a few options on each face, or providing the choice group or partner consultation. Different groups of students could also have different cubes and the activities varied. Teachers can make the cube and write on the sides, or can choose to use a die, each number referring to an activity listed on the board or index cards.

Evaluation

Teachers must have data representative of student learning (Lawrence-Brown, 2004). Evaluation is key in determining students' readiness and mastery of a subject. Assessment is important for teacher development as well. Teachers should assess students to see if their own teaching methods are successful and students are making gains. Assessment helps teachers to be more accountable and aware of what they do and is another important reason why frequent evaluation is important, not only for student growth, but for teachers as well. Teachers are responsible for tracking student progress throughout the year by using a variety of assessment tools and is an important feature of differentiated instruction (Lewis & Batts, 2005; McTighe & Brown, 2005). Using the data collected, teachers can quickly target potential at-risk students and develop intervention strategies for those falling behind to improve achievement. Furthermore, the teacher can spot students who are above grade level and have exceeded subject matter

requirements and understandings. Teachers can therefore provide more challenging tasks, such as options for individual projects or activities that explore the subject matter beyond requirements. The teacher may plan activities which are tiered and based on student readiness.

Having clear criteria is another key component of evaluation. Students should be aware of what is expected of them for different assignments. Teachers can use rubrics, checklists or written guidelines to outline expectations. Teachers may also have students sign contracts acknowledging the outlined expectations (Lewis & Batts, 2005).

Pre-assessment. Pre-assessment is important to understand what students already know about a topic and to find any possible misconceptions. This should be done before starting a new topic and every student should be pre-assessed. Providing students with a short question sheet about the topic is one way of getting the data needed. This could be given the day before the topic is being introduced and the teacher may review responses. It is commonly seen that teachers tend to have a whole classroom discussions to find out what students may already know about a new topic. However, this might not be the most efficient way of pre-assessing students and may cause more harm than good. Students may reply with wrong answers, which may then lead others to develop misconceptions. Furthermore not all students have the opportunity to answer and give their thoughts. In sum, it is important to find a pre-assessment tool that provides the teacher with a clear idea of what each student knows about the given topic and any possible misconceptions (Levy, 2008).

Self-assessment. Students must self-assess regularly. Self-assessment will help students take charge of their learning and raise awareness to their own levels of understanding. Self-assessment could be done as a journal or reflection question sheet. Students are given time to

think about what they have learnt and how it affects them. Students may also want to think of how they can apply this new information and what they liked or disliked about the activity or task. They must think of their preferences and learning styles to develop a better understanding of themselves as learners and to be aware of what may work and what would not work for them. Self-assessment can be done formally, or informally.

Ongoing assessment. Ongoing assessment is a crucial part of learning for several reasons. For one, it is essential for the teacher to see if the students have understood a subject or have developed any misconceptions about that subject. Ongoing assessment can be done every time new information has been presented to the student. There are multiple ways of completing ongoing assessment. For example, the teacher may provide students with a few questions on a slip of paper and they must respond to these questions before they leave the room. This is called an Exit slip and can be done in several ways. The teacher may choose to use dry erase boards as a tool to attain the needed data. The teacher asks a question concerning the new material, has students respond on their whiteboard, and lift their board once everyone has an answered. This way, all students get to respond to the question and give it a try, and the teacher can quickly look at the whiteboards and see who understands and who may still be confused and need further instruction. These examples of ongoing assessments are quick for the teacher to prepare and get the information needed in an efficient manner. When the teacher asks questions to the class as a whole, only a few students respond and only a few will get the chance to answer. Because only a small portion of students will answer, teachers will not be able to assess everyone's understanding. This is not an ideal form of assessment. Other informal assessment tools are surveys, interactions, and observation (Lewis & Batts, 2005).

Formative assessment. Teachers must check for student understanding and gather the necessary data regularly (Levy, 2008). Many times, teachers will ask if there are any questions at the end of a lesson. Not surprisingly, there rarely are. When it comes to the work that follows, teachers then realize some students did not understand. This is why formative forms of assessment are necessary. Formative assessment will provide the teacher with direction for further instruction.

Summative assessment. Summative assessments looks at what students have learned about the given topic. This type of assessment includes quizzes, tests, and other tools which objectively measure student mastery of a given skill. Levy (2008) stated that because all students are different, summative assessment may differ as well. Students may choose to demonstrate their understanding in varying ways depending on learning styles.

Conclusion

The differentiated classroom. In a differentiated classroom, students are engaged and participate in their learning (Anderson, 2007). Students are taught that learning is a process and that they will have differing strengths and weaknesses. Students are provided with opportunities to become aware of their own strengths and weaknesses and develop a better understanding of themselves as learners. In a differentiated classroom, students are responsible for their learning by making decisions about activities, products, and to self-assess themselves and their work. Teachers must in turn be flexible and respond to the differing needs of each student and to their uniqueness. Teachers are also responsible for providing students with tasks and options that are interesting and engaging for all (Hall, 2002). Product options should have different levels of difficulty and give students the opportunity to demonstrate their knowledge and skills in a variety

of ways (Hall, 2002). Assessment must be ongoing and always different. Students should be able to connect and make sense of the material. For this to happen, they must use their prior knowledge and make their own meaning of the tasks. Project-based learning is one way of helping students achieve this. To bring the outside in and help students connect with the real-world, each task must be in line with the big ideas and essential understanding, and all children should be challenged adequately. It is the teachers responsibility to get to know their students and to use knowledge of their students, their backgrounds, learning profiles, and interests when planning tasks. This way, students will be engaged and want to learn the material provided. Teachers should take the information about brain-based learning, multiple intelligences, and learning styles, and use it to their advantage. Whether the research is lacking or not, these are important concepts to take into account when planning to differentiate.

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Differentiated Instruction Teachers' Guide

Includes:

RECAP

Differentiated Instruction Defined

DI Is…

- A **set of beliefs** about teaching and learning.
- The belief that the purpose of education and of the schools is to **maximize learning for all students** based on their differences, preferences, interests, and how they learn.
- Recognizes that **every child is unique** and will learn in different ways.
- Provides students with **many options** for learning new information.
- **Adjusting** teaching methods and the curriculum to suit the needs of their students.
- To **react** to the backgrounds, readiness, learning preferences, and interests of the students.
- Beneficial for all learners and provides learners with **appropriately challenging material** that keeps students engaged.
- Adapting **content**, **process**, or **product** based on student **interest**, **readiness**, or **learning preference**.

(Anderson, 2007; Hall, 2002; Lawrence-Brown, 2004; Tomlinson, 2000)

Differentiating with the Student in Mind

Readiness

- The level of understanding a student has on the topic.
- Matching the level of difficulty of a task to students' readiness level.
- Assessment is used to determine readiness level.
- Differentiate by readiness by changing the:
  - ✓ pace
  - ✓complexity level
  - ✓amount of structure
  - ✓support given

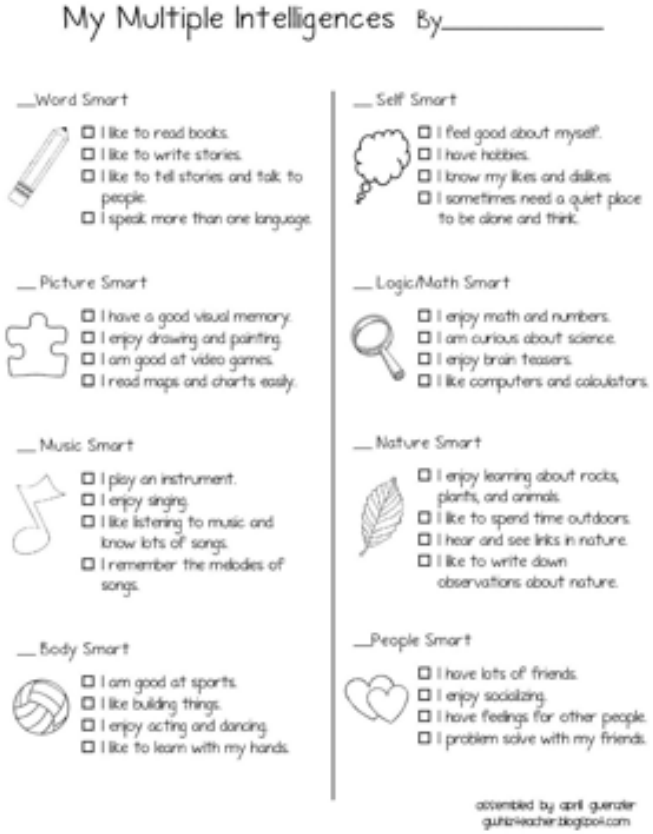
Interest

- What engages the students.
- That which engages their curiosity and attention.
- Directly tied to students motivation to learn.

Learning Profile

- The students' preferred way to absorb, explore, and express content.
- Conditions that the student learns best under.

- Intelligence preference-> multiple intelligences
  - Logical
  - Linguistic
  - Musical
  - Spatial
  - Bodily-kinesthetic
  - Interpersonal
  - Intrapersonal
  - Naturalistic



QUICK TIP

There are multiple intelligence tests available for free online. Students can do them over the internet or you can print out a sheet for them to complete. There are different ones available for different grade levels and purposes, some more in-depth then others. For more information and examples on multiple intelligence tests, visit http://daretodifferentiate.wikispaces.com/Knowing+the+Learner.

(Tomlinson, 2000; www.edugains.ca)

Differentiating Curricular Elements

Content

- What is being taught.
- Focus on "big ideas".
- Focus on making sense and understanding, avoid repetition/memorization.

Process

- Tasks necessary to develop understanding, what students will work on.

Product

- How students demonstrate understanding.
- Evaluation is based on mastery of skill, not chosen product format.

(www.edugains.ca; Tomlinson, 2000)

GUIDELINES

MAKE DIFFERENTIATION POSSIBLE

★ Focus on big ideas and understanding, the big picture.

★ Make sure all students master a skill before moving on.

★ Students are working on the same curriculum expectations in different ways, with similar standards for success.

★ Become an assessment junkie! Assessment is not merely a measuring tool. Collect data as much as possible: before, during, and after.

★ All students should feel engaged and motivated during classroom instruction.

★ All students deserve an opportunity to demonstrate a skill learnt.

★ Balance tasks chosen by you and those chosen by students.

IMPORTANT:

Differentiation is not about adding more activities or having some students do more worksheets or activities then others. We don't want to send out the message that achieving mastery or being gifted means more work.

(Hall, 2002)

Getting Started

A few Quick Tips

✱ Add differentiated activities slowly and gradually.

✱ Start by subject, or by student.

✱ Find out what your students are passionate about-> Connect learning to their world and what they like.

✱ Raise the bar high for all students. You believe in your students and their capabilities, so make sure they are aware of that too.

✱ Encourage students to go above and beyond what they think they are capable of. Get them out of their comfort zone. It's okay to be challenged.

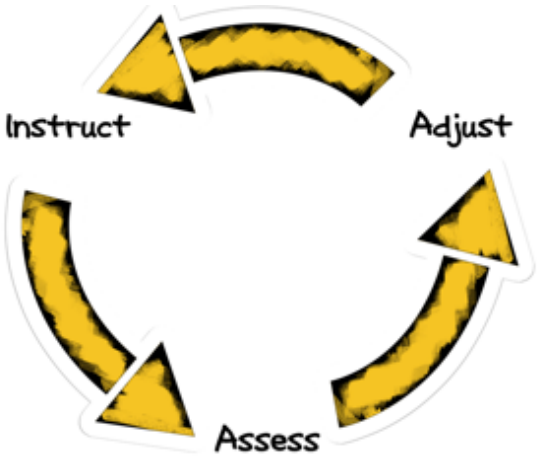
✱Prepare a tool box with different instructional strategies. Always be prepared.

✱Think of classroom management: teach your students what to do when you are giving direction, how to move around the room, where to put their things, etc.

✱Monitor your routines and their effectiveness. Are they working well? If not, change them! Discuss these routines with the class. Why aren't they working? What routines would work better? Come up with a plan TOGETHER.

Tomlinson's Tips

1. Always have a good curriculum that is coherent, thoughtful, and inviting.
2. Every lesson or task should be focused on big ideas, skills, and understandings. These tasks should be geared toward students' interests.
3. Teach up. Students should be working right above a comfortable level. Students must be stretched to complete work that is a little difficult for them to do alone. Support systems must therefore always be in place so students can succeed and have that "AHA!" moment, when they completed a task they didn't think they could.
4. Group students in different ways. Schedule time for whole classroom learning, individual work, and place students in different groups, with different peers often.
5. Assess, assess, assess. "Everything that a student says and does is a potential source of assessment data" (Tomlinson, p. 9, 2003). Assessment should be ongoing and varied.
6. A teacher's job is to guide students to become their best. The purpose of grading in to reflect this growth.



Acceptance

Accept your students for who they are

As teachers, we tend to look at how we can teach the curriculum the best we can and hope that we can get it through to as many students as possible.

Differentiation is not an easy task. We must accept our students and where they come from. From the moment they step into our classroom, we accept them for who they are as individuals.

Forget about the labels and look at what they are interested in and how we can make learning easier and fun for them. We should be guided by their needs, not labels. We must ask ourselves what their strengths are and look at what students **CAN** do, not what they can't.

We need to look at what we can do as teachers to help every student work at their highest level to ensure productivity.

Thinking to ourselves, we hope that students will "get" the lesson, but wonder "what if one doesn't?" Instead, lets look at what we can do to adapt our lesson to make sure that doesn't happen.

All too frequently, we have that one student we don't know where to "put". Instead, we should ask ourselves not where to put that student, but what circumstances can we provide this student for them to develop to their full potential.

Finding Success

Making Resources Available to All

Struggling students or students in general may not have had the support needed to experience success. Many times we have students that are so accustomed to failure and are discouraged because of their past experiences. It is important for students to have a healthy balance of success and challenge.

Strategy:

- Provide students with many resources that will help them find the information needed for success.
- Make sure students know were to find these resources and tools when the work might be challenging for them.
- Teach students what to do when they need help, but you aren't available.

When students can access the information for themselves, they become independent learners and they begin to feel more empowered and confident in their learning.

Some Ideas

Here is a list of resources that you could use to help students access information on their own:

✓**Manipulative**: e.g. math manipulatives which can be easily accessed by students.

✓**Visual aids**: e.g. diagrams, models, story maps.

✓**Memorization aids**: e.g. charts or outlines. When memorization is needed, have students create their own charts they can use when they need to access the information or facts. For example, these charts can have all the facts needed to complete a project or write a paper. The creation of the chart itself will help with memorization and students can use this as opposed to guessing or looking it up every time. This way, all the information is in one area and is easily accessible. Outlines can also be created by the students. Outlines highlight the important information of the text when it is too difficult or too long for students to go through.

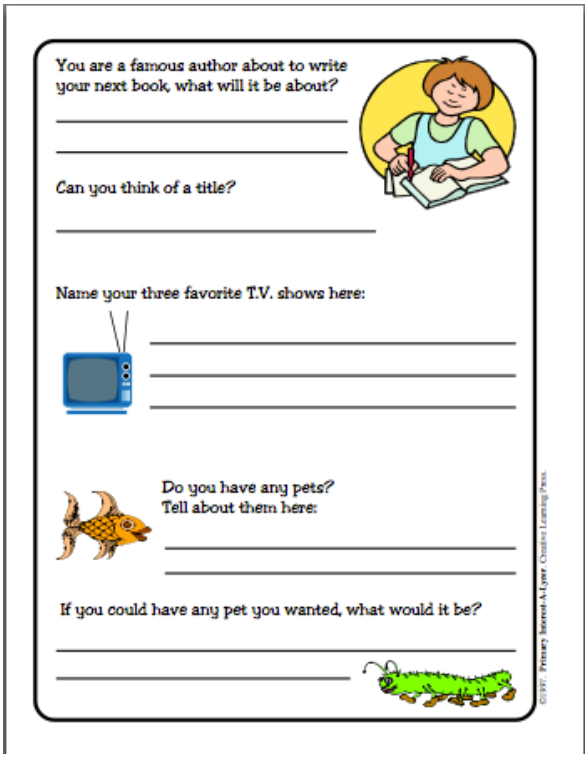
✓**Picture cues**: having a visual and written representation of the information.

✓**Audio tapes**

(Lawrence-Brown, 2004)

Get to Know Your Students

This is a CRUCIAL part of DI. To differentiate instruction, you need to get to know your students. Their likes, dislikes, strengths, and weaknesses. Gather as much information as you can!

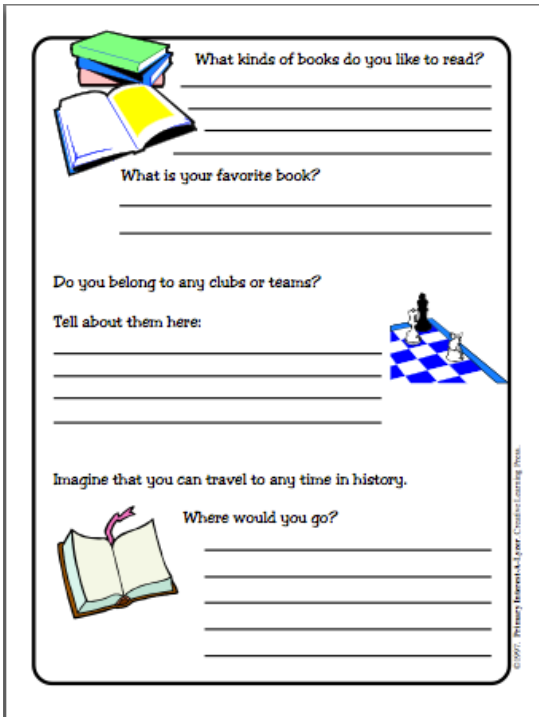


Look at:

- learning preferences
- family structure
- cultural background
- interest in and out of school
- strengths/weaknesses
- how they learn best
- did they have a learning profile the previous year?

Interest-a-lyzer

Using an Interest-a-lyzer can be a very useful tool to get to know your students, www.pedagonet.com has some interesting examples you could use for upper and lower grades.



Other "Getting to Know Your Student Ideas"

★ Poem: Have students write a poem about themselves. Each line can be for a different piece of information.

★ Profile cards: Fill cards with data you have collected about each student so you can easily refer to it when needed. The Profile Card can include information such as:

-noisy/silent worker

-visual/auditory/kinesthetic

-peers/independent worker


NEWS

I Bet You Didn't Know

Alex Rodriquez, 13, spends most of his time on the weekend helping his uncle at his auto shop. According to his uncle, Alex can detect car problems as well as some of his more experienced employees. Alex's favorite thing to do in the garage is rebuild an old sports car that his uncle bought at a car auction. One day, Alex hopes to race cars. Watch out, NASCAR!

★ Newletters: "I Bet you Didn't Know". Prepare a chart. Have a space in the columns for every students with their name written. Students take the newsletter home and write something about themselves: their interest, hobbies, experiences, etc. Students get to know one another and you get to know your students! You should also fill in the newsletter too!

(Tomlinson & Imbeau, 2010)

Teaching a Lesson
Find an Entry point

It is important to grasp students' attention before getting into anything to complicated about a topic. This is why an entry point is crucial. It must be done within the first 10 to 15 minutes of the introduction of something new. After a good entry point, students must be able to leave with a feeling of "**I get this**."

Give students the big picture, something simple to understand and easy to relate to.

DOS	**DON'TS**
Use content not directly related to the new material.	Do not use new vocabulary.
Present ideas students already understand and can connect to.	Do not explain new content.

Tips for a Good Entry Point:

1. Have something visual

2. Connect to the students' life

3. Trigger students' emotions

4. Get students actively involved (moving around)

5. Assess their understanding

Entry point ideas:

★ **Tell or read an interesting story before getting into the lesson**

★ **Show them a fun video**

★ **Observe a strange photo**

★ **Bring some props**

★ **Dress up**

Examples: Health and Nutrition Unit

Example 1: The teacher asks each student to walk up the school stairs with weights in their hands. This is to show how difficult movement is when someone is carrying extra weight.

Example 2: The teacher brings in a model of the digestive system, or different photos of the digestive system, or could introduce a documentary on how kids are staying active in another schools.

Example 3: The teacher brings in different drinks that students are familiar with and that they drink often or have tasted. For example: oasis juice box, sprite can, coke can (diet options as well), iced tea bottle, etc. As a class, they work together to put the drinks in order from healthiest (lower sugar and artificial flavors) to least healthy (high sugar and many artificial flavors). The teacher then presents a zip-lock bag with sugar that is representative of the actual amount in sugar in each of the drink options shown.

Prime Time for Learning – Karen Gazith's Tips for a good lesson

Whats the best time to learn new information? The first 10 minutes!

- ☐ Give students the "gist" of it, then give some details.
- ☐ Connect to yesterday's learning if possible.
- ☐ Stop! Have students recode the new information (put it in their own words).

For example, they can repeat it to a partner or write it in their notebook.

- ☐ Apply the new information learnt. Then, summarize.

Making Learning Meaningful

GET YOUR STUDENTS MOTIVATED! Students need to know **WHY** so that they can find purpose in what they are learning. If they created meaning to the material, they will feel more engaged and interested in the topic.

How?

★ Connect with prior knowledge and experiences

★ Must be applicable to **real-life**

★ Students should be able to answer the question "Why am I learning this?"

★Project-based learning

Example:

The restaurant owner of _____ would like to make changes to the restaurant's menu. The owner needs your help to make changes to come of the meals available to provide more health conscious options in line with healthy eating. Choose 3-4 meals offered on the menu and provide suggestions that would make these meals healthier options for the consumers. Explain why these changes have been made and why they are healthier

Flexible Grouping

Grouping is **never stagnant** and always changing based on differing factors including student needs and goals of the task. Plan so that your students would work with a variety of their peers during the week. Sometimes, the teacher will want to assign groups, other times the students could select their group, or it might be at random.

Groups can be determined by:

- Readiness
- Interest
- Reading level
- Skill level
- Background knowledge
- Social skills

Grouping Based on Student Needs

This type of grouping is useful for those times when some students need further instruction. It is also useful when some students have already mastered the material or came into the lesson knowing all about it already. This type of grouping is based on ongoing, formative assessment. The teacher can group the students that need support together so the teacher can provide the necessary instruction

to this smaller group. Furthermore, the teacher can provide the mastery students with more challenging activities.

Grouping Based on Learning Styles

Children learn in different ways and have preferences for how they like to learn. Some students prefer to listen to instruction (auditory learners) and others don't listen but watch the teacher and read everything on the board (visual learners).

Some need to do it themselves to understand (kinesthetic learners) and others need to talk about it first (verbal learners). Once you gets to know your students, you can easily spot those that need to show you their work, those who need to tell you about it, and those that need to write about it. Sometimes, it might be best to put one of each learner in every group. This way, students can show each other new ways of solving problems and completing tasks. Other times, it might be best to put all the writers in one group and the builders in another to reach a common goal all together. It is important to always have a clear idea of the end goal. This will help you make the best groupings depending on the task.

Grouping Based on Student Interests

For example, when teaching a unit on insects, students of all levels that are interrested in ladybugs can go in one group. While students who are interested in learning more about the bumble bee can go into another. Also, those that really aren't interested in insects at all or already have a solid understanding could make another group and explore a different topic.

Whole-Class Grouping

Think of it This Way…

Teaching to the whole class is like painting with a big paint brush. You are passing the necessary information to all students at once. Once this is done, you may need a smaller paintbrush to fill in the gaps. This could be done by addressing the needs of students with IEPs or those that need additional support. Smaller groups can be created based on learning styles or needs. This is another reason why assessment is key in differentiation and is an ongoing process.

(Levy, 2008)

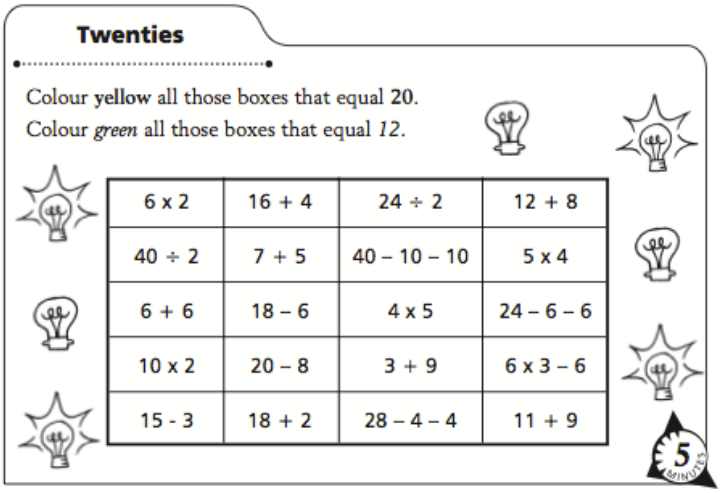
Task Cards

Task cards could be used to facilitate group work and make it easier for the teacher to provide support to more groups during a given time frame.

Give each group a Task Card which specifies the steps of a given task or process. These must include clear directions so the groups can work without support (Task Cards may be used for individual work as well). Perhaps tasks will vary between groups depending on the grouping method chosen (interest, readiness, etc). You may want to also include a rubric or clearly laid out performance expectations.

(Brimijoin et al., 2003)

➡ Visit http://daretodifferentiate.wikispaces.com/Flexible+Grouping for ideas and templates. Here are some examples that can be found on the website:

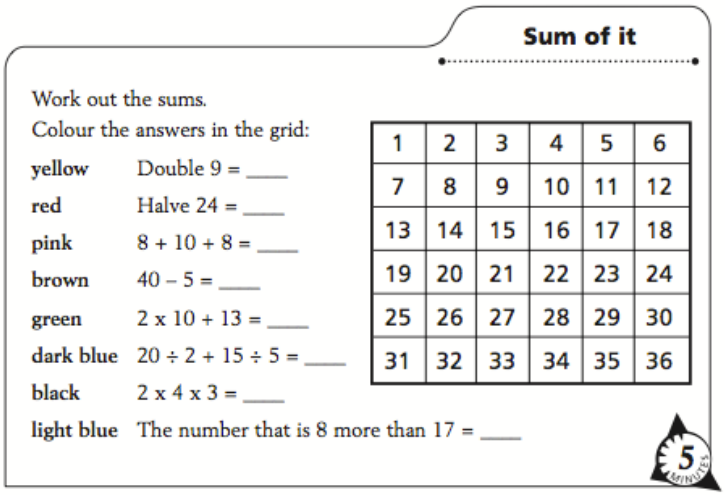


Twenties

Colour **yellow** all those boxes that equal **20**.
Colour *green* all those boxes that equal *12*.

6 x 2	16 + 4	24 ÷ 2	12 + 8
40 ÷ 2	7 + 5	40 – 10 – 10	5 x 4
6 + 6	18 – 6	4 x 5	24 – 6 – 6
10 x 2	20 – 8	3 + 9	6 x 3 – 6
15 - 3	18 + 2	28 – 4 – 4	11 + 9

5 MINUTES



Sum of it

Work out the sums.
Colour the answers in the grid:

yellow Double 9 = ____
red Halve 24 = ____
pink 8 + 10 + 8 = ____
brown 40 – 5 = ____
green 2 x 10 + 13 = ____
dark blue 20 ÷ 2 + 15 ÷ 5 = ____
black 2 x 4 x 3 = ____
light blue The number that is 8 more than 17 = ____

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

5 MINUTES

Strategies for Differentiating Instruction

Focus Activities

Purpose: For students to learn to stay focused.

- ☐ How can students stay focused in class? What disrupts their focus?
- ☐ Find ways to help students focus during tasks, ex: music, low lights, nature sounds.

Sponge Activities

Purpose: For students to relax, recharge.

- ☐ Activities pre-prepared that fill in gaps during instruction.
- ☐ Students can choose an activity, perhaps related to the topic being studied.

Anchor Activities

Purpose: For students who finish work in advance.

- ☐ Related to topic, or an extension.
- ☐ Must be meaningful and engaging is meant to reinforce and practice.

Cubing Activities

Purpose: To give choice

☐ 6 options that address different interests, readiness levels, or learning styles.

☐ Role the dice to choose an activity.

☐ Options all related to the topic of study.

Menus/Agendas

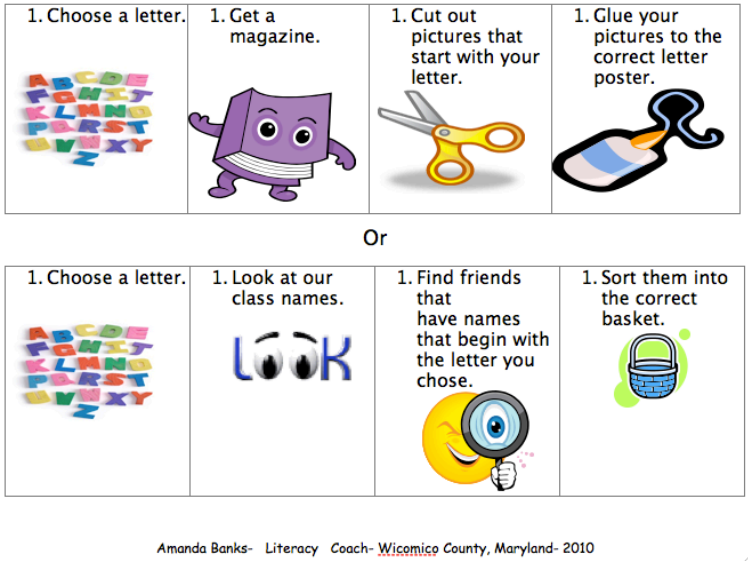
Purpose: Student independence, practice.

☐ Personalized plan or package of ongoing activities tailored to the needs of the students.

☐ Presented as a list, students can select order.

☐ List has to be completed by a given timeframe.

☐ Identify students' needs and build plan accordingly.



Choice Boards or Tic-Tac-Toe

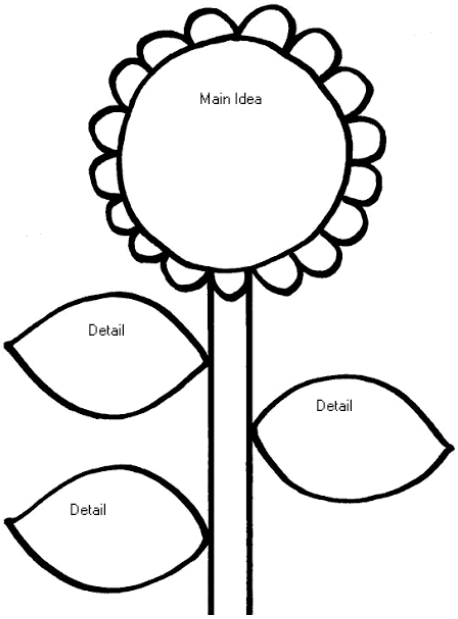
Purpose: Provide selectiveness of activities.

☐ Tasks are individual.

☐ Can be represented on a board or in other formats (octopus, tree, rocket…)

☐ Tasks are varied and are at different levels or learning styles.

Graphic Organizers



Purpose: to organize information.

- ☐ Method used to arrange thoughts and key information, to connect different ideas.
- ☐ Any design can be used.

Centers/Stations/Learning Zones

Purpose: to practice and explore with purpose.

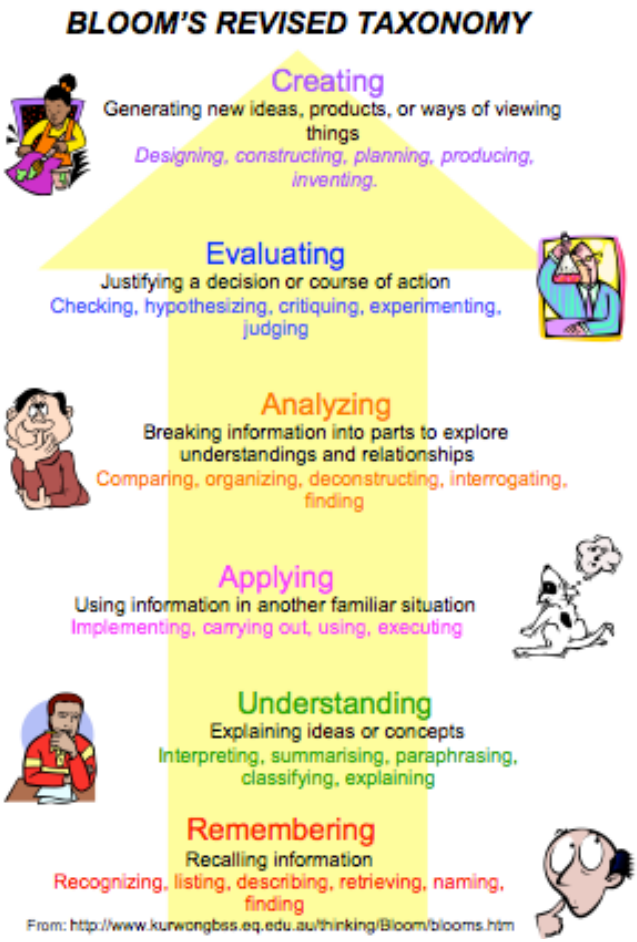
- ☐ Centers can be structured and differentiated (i.e. different centers for different learning styles).
- ☐ Centers can be exploratory.

Tiered Assignments
Adjusting Questions

Tiered lesson planning is a way to address the standards of the curriculum while also being flexible and addressing the specific needs of the students. Tiering can be done by readiness, interest, or learning styles. Tiering can also be done based on product, content, or process.

How to Tier:

1. X is the task you would like students to complete. Based on their readiness level, you must determine tasks that are challenging enough for students who have already mastered the initial task (X).
2. Students who have mastered X are your X+s. If those students are past X+1, they may be X+2, or X+3.
3. Some students may have to be taken back a few steps because they are not yet ready to complete task X. These are your X- students. They may be at X-1, X-2, or X-3. Evaluation before the task is essential to determine students readiness levels and provide them with the right activity at the right level.



QUICK TIP:

Bloom's Taxonomy is a great tool to use when tiering.

Example of a Tiered Activity

X+2

Create a one day eating plan for a member of your family. Take into account portion sizes.

X+1

Discuss the food groups and the importance of healthy living for the body.

X

Discuss each food group and its portion size representative of you. Give examples.

X-1

List all food groups and give examples of each.

X-2

Match the different foods to its appropriate food group.

ASSESSMENT

Assessment...

★ Helps modify instruction and tasks to help students succeed and ensures that each student is being adequately challenged.

★ Shouldn't be viewed as the end of a lesson, but rather as a guide to direct future lessons.

★ Can be used as a tool to help students create goals for their progress.

★ Should be kept and filed as data.

★ Spreadsheets could be useful for keeping track of all this important information for each student.

★ Results should also be used to help teachers better themselves professionally.

★ Through evaluation scores, the teacher can see what works and what doesn't.

Remember the teacher isn't the only one keeping score. Students are also data collectors and need to be taught how to monitor their own progress as well.

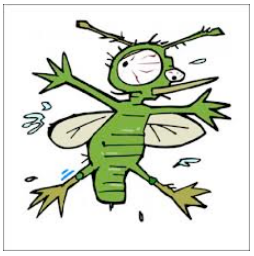
QUICK TIP

Evaluation methods will vary depending on the task and the content being taught.

Examples of Assessment

Self-Assessment

✱ Car windshield metaphor



1. Clear as glass: I understand everything
2. Bugs on your windshield: I understand but still have a few questions.
3. Windshields covered in mud: I don't get it.

This is a great way for students to self-assess that is quick and easy once practiced a few times. It's important to still use your own type of assessment to make sure students are assessing themselves accurately until they get the hang of it.

QUICK TIP

Students that have clear windshields can move on to more challenging work. Students who are buggy, who understand the basics but perhaps need to build their confidence through application, can practice the skills in another area. Those students who's windshields are muddy could be placed in a group and go through the material with the teacher.

(Brimijoin et al., 2003)

✱ Red-Yellow-Green Cup System

1. A student places a red cup on the desk to say "I can't move on without help."
2. A student places a yellow cup to say "I have some questions, but am not completely blocked."
3. A student places a green cup to say "I understand and know what I'm doing."

QUICK TIP

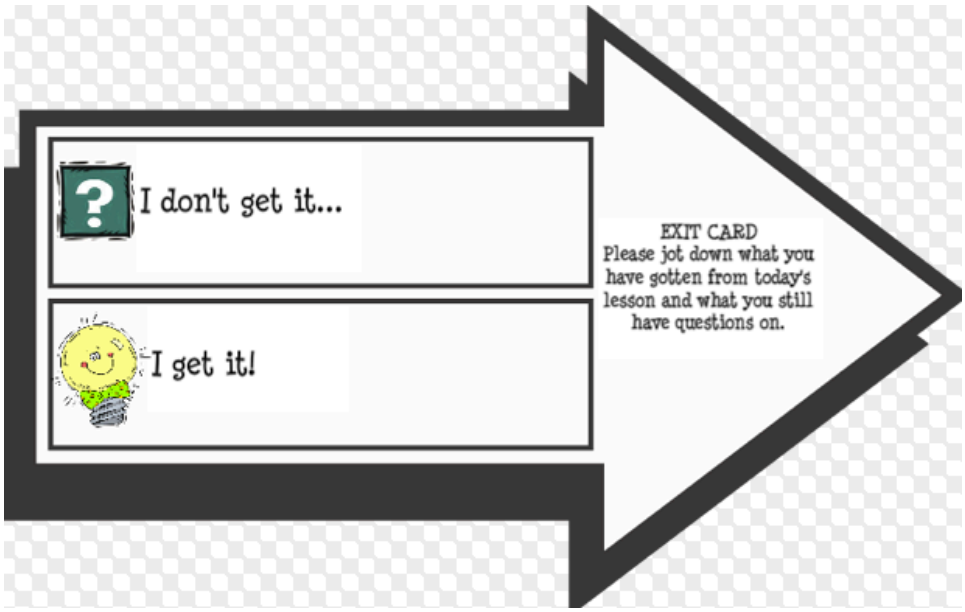
This is an excellent idea that could be used during small group work or individual work. The teacher can see who needs help urgently, and who can hold off a bit. Modeling this strategy is key. For example, you could first practice it a few times as a class. Make a game out of it! This strategy can be done with tools other then cups, for example, post-its, or highlighters.

(Brimijoin et al., 2003)

✱ Exit Card

Students fill this out at the end of a lesson and give it to you as they leave the room. An Exit Card can take many shapes (i.e. a rocket, an animal...)

EXIT CARD Name:
3 things I learnt: 1. 2. 3.
2 things that are unclear 1. 2.
One way I will apply what I learnt



✱ Journal Questions

Ask students about what they have learnt. Students can respond in their journals. You can pick them up later and check for understanding. Journal writing can also be done as a form of pre-assessment. Teachers can ask about what students already know about a topic (be specific).

Here's an example:

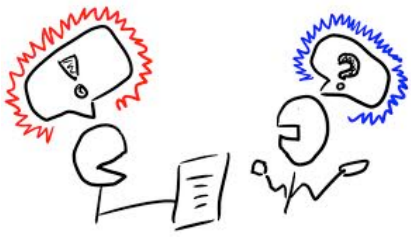
What did I hear the teacher say?

This is what I understood:

✱ Give one Get one

Have students discuss: Think-Pair-Share

GIVE ONE GET ONE Name:	
One thing I learnt today:	One thing my partner learnt today:



✱ Formal Assessment Example

SELF EVALUATION Name:
What did I learn today?
Proof (2 interesting things):
Questions I still have:

Pre-Assessment

Heres an idea of a table you could give to students to see what they already know about a topic.

1. Define

2. Give examples

3. List

4. Not so right

Example for start of unit on nutrition:

NAME:	
WHAT DOES NUTRITION AND HEALTHY LIVING MEAN TO YOU?	GIVE EXAMPLES OF HEALTHY MEALS:
LIST DIFFERENT FOOD GROUPS AND EXAMPLES OF FOODS IN THOSE FOOD GROUPS:	NAME SOME UNHEALTHY FOOD CHOICES:

(Karen Gazith, McGill Professor)

✱ Entrance Pass

Before teaching about a new topic, have students fill out this quick questionnaire to see what they are ready know or what they might be confused about.

This is what I already know about today's topic:

This is what I want to learn about the topic:

This is how I like to learn:

What about Standards Testing?

As teachers, we feel that sense of urgency to cover all the material necessary for the standardized testing. This seems to conflict with the idea of differentiation.

Here's an idea!

A few weeks before exam period, have students go through the covered material, for example, their math books. Have students select topics using sticky notes of color. Pink sticky notes are for the work that is still unclear or they are not comfortable with yet. Green is for those that they have mastered. You could also have students make a chart and write down the topics in two different columns also. Once the teacher has gone through the students notes, set up centers around the room representing the areas of common need. The teacher can also have an "expert" student in each center to provided support for their peers. This could also be used at the start of a unit as well to see what students may already know or may have misunderstandings about.

(Brimijoin et al., 2003)

TEMPLATES

Choice Board Activity

Unit/Theme: _____

Menu Planner

You may use this template to help you plan a menu for your classroom.

Menu:
_____

Due: All items in the main dish and the specified number of side dishes must be completed by the due date - _____. You may select among the side dishes, and you may decide to do some of the dessert items, as well.

Main Dish *(Complete all)*
1.

2.

3.

Side Dish *(select _____)*
1.

2.

3.

Dessert *(Optional)*
1.

2.

3.

http://daretodifferentiate.wikispaces.com/Choice+Boards

Tic-Tac-Toe

1	2	3
4	5	6
7	8	9

Choose 3 activities that a make a tic-tac-toe design.

I choose: #_____ #_____ #_____

Do you have any activities you would like to do instead? Talk to me about it!

Here's my idea:

_____

_____

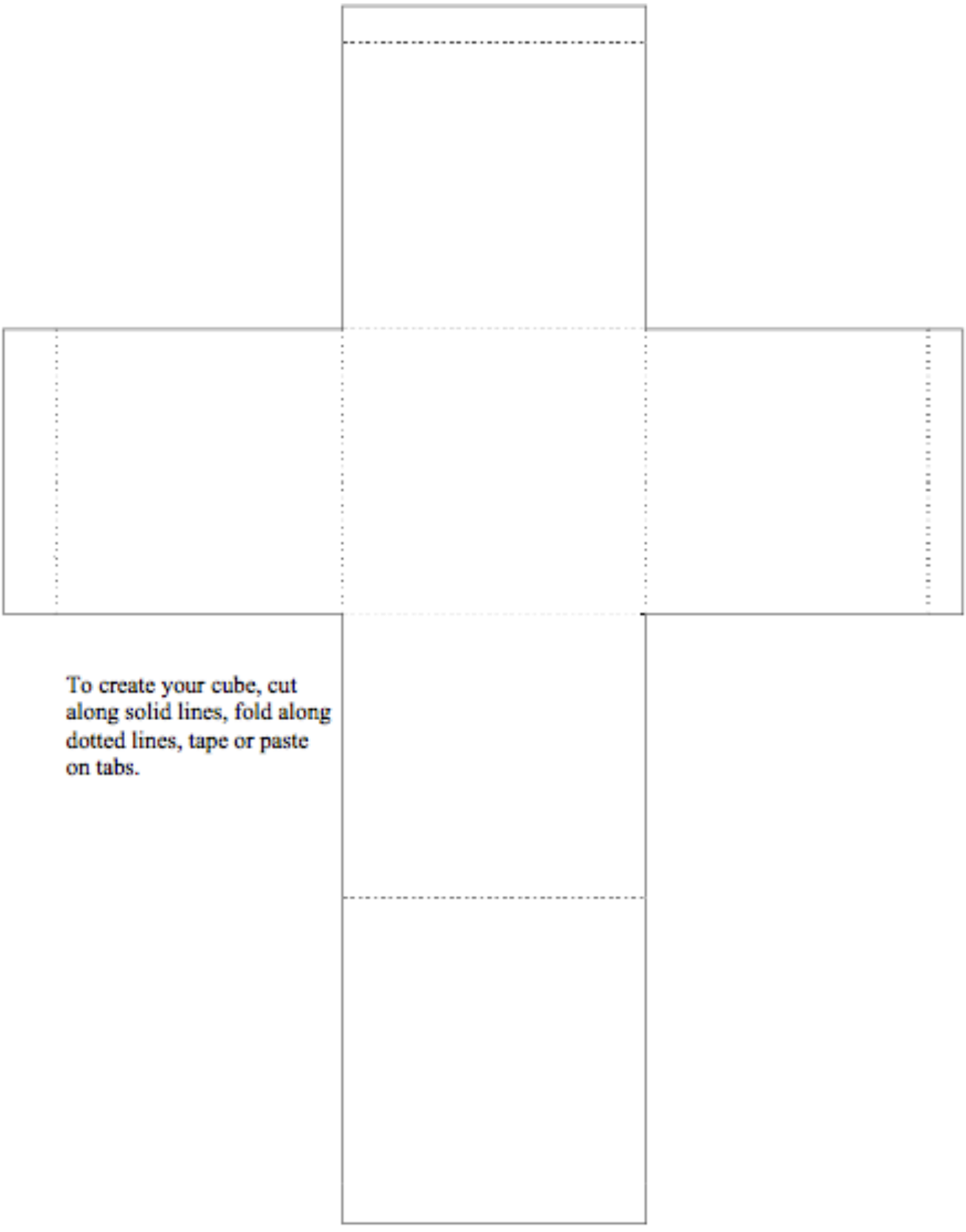
http://daretodifferentiate.wikispaces.com/Choice+Boards

Tic-Tac-Toe

Ideas to Get You Started:

Make a puppet.	**Draw & color a picture.**	**Create a mobile.**
Make a diorama.	**Keep a scrapbook.**	**Write a report.**
Make a collage.	**Sing a song. .**	**Design a poster.**

Cubing



To create your cube, cut along solid lines, fold along dotted lines, tape or paste on tabs.

Getting to Know You . . .

To do my work, I like to. . .	When working, I like . . .	When working, I like the room to be. . .	To share information with others, I like to . . .	At school, I like. . .	In my spare time at home, I like to . . .	In my spare time at home, I like to . . .
Sit	Quiet	Cool	Tell what I know	Music and/or Art	Work/play outdoors	Make music or play an instrument
Stand	Music	Warm	Show what I know	Reading	Watch or play sports	Create art (sculpt, draw, make crafts)
Lie on the floor	Noise	Light	Write about what I know	Writing	Play games (board or computer)	Collect things
Work Alone	Activity	Dim	Other (?)	Math	Create make-believe stories	Act out stories
Work with a partner	No movement	Lights off		Social Studies	Build or create things	Help others
Other (?)	Other (?)	Other (?)		Science	Read	Other (?)

I know a lot about:

I want to learn about:

http://daretodifferentiate.wikispaces.com/Knowing+the+Learner