



**Curriculum and Instructional Differentiation for Meaningful Learning :
Meeting Learners' Needs and those of the Society**

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ABSTRACT

Curriculum and instructional differentiation are unavoidable issues in education. It responds to students' needs and interests by organizing learning activities based on students' strengths and ability. The purpose of teaching and learning is to enable the learners to understand the concepts and subject matter as well as develop specifically required skills based on learners' needs. Effective analysis and understanding of learners' needs, learning styles, backgrounds, interests, cultures and experiences will help instructors in planning and differentiating curriculum and instruction taking into consideration learners' needs, interests, and abilities. Differentiating content, learning process, product or learning outcomes, learning environments and assessments will respond to both learners' and societal needs. Differentiating instruction and based on learners' needs, interest and ability and style enhances effective participation of learners.

Keywords : Curriculum / Differentiation / Differentiated Instruction

Introduction

The greatest problem faced by educators and instructors is not the fact that students do not pay attention or concentrate during the learning process but the differences that exist among learners (Tomlinson, et al., 2003). In any classroom setting, learners exhibit a range of abilities and learning needs. It is the responsibility of the instructor to be prepared for these differences and tailor their curriculum and instruction to meet each learner's needs in order to ensure academic success for all learners as differentiated instruction offers instructors a means to meet learners' varying needs, as by recognizing the spectrum of differences among learners, and enables instructors to attend to the specific learning styles of each learner, by adjusting what they teach and how teaching is done (Tomlinson, 2003). Some learners are gifted and talented while others are slow learners and weak, but all must exist in a single classroom and are handled by a single instructor. Through differentiation, instructors are able to identify learners' starting points, rather than simply starting at the front of a curriculum guide (Tomlinson, 1999). According to Vygotsky (1978), learning is optimized when teachers pitch the content and the instruction "at or just above" each student's developmental level, considered to be their zone of proximal development. Determining the best course of action for handling a group of learners with different needs, interest, abilities, background, experiences, learning styles, strengths and weaknesses of the learners, the availability of resources is a challenge to all educators, curriculum developers and instructors.

Curriculum developer and instructors face many problems at the developmental stage and implementation stage. Some problems faced at curriculum development stage are lack of authentic and correct information about a particular context while instructors during implementation face problems such as lack of resources, inadequate training and heavy workloads. These problems have made it hard for educators and instructors to address these diversities. Instead, they treat all learners as if they were variants of the same individual as the curriculum and instruction does not address the diversities that exist in classroom settings. Educators, curriculum developers and instructors are challenged by these diversities but have always failed to adequately respond to learners' varied needs. Instead, we tend to rely on the one-size-fits-all approach, expecting students with different needs, interests and styles to use the same curriculum, instruction, work at the same pace, do the same activities, and take the same test.

Curriculum and instructional development are complex tasks due to the differences that exist among learners and the number of people who play a role in decision-making process. Analyzing learners' needs involves doing some kind of activity with learners such as in order to find out what their learning needs are. Examples of needs analysis activities can be through a questionnaire, critical observation of learners, giving them the course syllabus aims and giving the opportunity to prioritize them in relation to the contexts that they will need and asking learners what they feel they need to practice is a good initial step and providing data that encourage them to start thinking about their learning and taking responsibility for it. A good understanding of learner needs can contribute to successful curriculum and instructional planning implementation.

The concept of differentiation

According to Tomlinson (2005), differentiation is responsive for teaching rather than one size fits all teaching. This means that for teaching and learning to be effective, educators must respond to students' varying abilities, by teaching students at their particular readiness levels. According to Lawrence-Brown (2004), in differentiated classrooms, all learners have the opportunity to be successful, from students who struggle to gifted learners, since all students are supported and challenged in their tasks. Differentiated instruction allows learners the opportunity to fully engage in the process of accessing the curriculum in the same classroom by providing entry points, learning tasks, and outcomes taking into consideration students' learning needs, interests and levels (Hall, Strangman, & Meyer, 2003). According to Heacox (2002), differentiation is changing the pace, level, or kind of instruction to respond to individual learners' needs, styles or interests. Differentiation enables instructors to address the needs of learners with mixed-ability in classrooms based on learners' efforts. Willis and Mann (2000) equally define differentiation as a teaching philosophy based on the premise that instructors should adapt instruction to student differences. In other words, differentiation seeks to address the variation of learners in the classroom through the use of varied approaches that modify instruction and curriculum to match the individual interests and their needs (Renzulli, 1977; Tomlinson, 2000). Differentiation refers to adjusting or changing the pace, level, content, process, curriculum, instructional approaches, methods, strategies and learning environment to respond to learners' needs, learning styles and interests (Tomlinson, 2003). Differentiation serves to respond to the differences that exist among learners by matching the content, instruction, learning outcomes or product, learning environment and

assessment to students' needs and interests. According to Tomlinson (1995), when teachers differentiate curriculum and instruction, they stop acting as knowledge distributors and serve as organizers of learning opportunities that will facilitate the learning process. Theories on curriculum and instructional differentiation suggest that learners can be provided with instructional materials and tasks of varying levels of difficulty, different levels of assistance, different grouping types, and different learning environments in the classroom taking into consideration the needs, interest and level of readiness of the learners. Differentiation involves identifying existing differences among learners and modifying content, instructional plans and approaches, learning strategies, the learning environment as well as the method of assessment based on their differences and providing a variety of challenges for learners during the learning process. For education to function towards achieving the needs of the society, the classroom should reflect the kind of society in which we want our learners to live, lead and function. The curriculum and instructional approaches, including teaching methods should be geared towards responding to learners' needs, interests and backgrounds. Instructors should work relentlessly to ensure that learners' needs and interests are respected by organizing learning activities where students have multiple options for taking in information, making sense of ideas, and expressing what they have learned. Differentiation is a way of thinking about the classroom with the goals of responding to each learner's needs and maximizing each learner's capacity while developing a solid community of learners.

Qualities of Effective Curriculum and Instructional Differentiation

Curriculum and instructional differentiation will vary depending on the classroom setting, learners' needs, societal needs, cultural background and a variety of other factors. Differentiated curriculum and instruction have specific characteristics such as:

1. Instructors analyze learners to know the abilities in order to plan and design different activities based on learners' strengths and weaknesses to address a variety of learners' needs.
2. Instructors use a variety of instructional strategies, approaches and methods to meet learners' needs.

Differentiated instruction involves adjusting the quality of an assignment to match student needs not varying the quantity of work. For example, a struggling learner may need additional support for a particular task while an advanced learner who has mastered the same

content should be given new materials to master instead of doing more assignments that are too easy for him.

Differentiated instruction takes into consideration elements such as what learners have to learn (content), how learning takes place (process), how to assess or the way that students demonstrate their understanding (product), where learning takes place (the learning environment and learning atmosphere) and what is needed during the learning process (instructional materials).

In the differentiated learning process, all learners actively engage in doing appropriate, interesting, challenging and meaningful tasks which are based on learners' needs and interest.

Differentiated instruction varies instructional materials and a learning pace as a means of addressing learner needs.

Since differentiation aims to address learners' individual needs based on their abilities and interests, educators, curriculum developers and instructors must therefore look for every possible opportunity to get to know learners' abilities, interests and needs through classroom activities, observation and interaction with learners, and assessment. By doing so, instructors can design, plan and develop learning experiences based on learners' diversities.

Differentiation involves a flexible collaboration of students in small teaching-learning groups in the classroom.

The teaching and learning process evolves collaboration between learners and instructors, which involves setting learning goals. Teachers monitor how learning fits each learner and makes adjustments, whenever and wherever necessary

Instructors closely monitor learners' progress to select and modify instructional strategies that will facilitate the learners' understanding and assimilation of the subject matter.

How do we differentiate curriculum and instruction for effective and meaningful learning?

Differentiation involves considering and selecting from a variety of instructional approaches and making frequent use of flexible, short-term groups to address a variety of learners' needs and preferences based on the strengths and weaknesses. Differentiation can be accomplished in terms of curriculum and instruction, content, product or learning outcomes, learning environment and assessment.

Curriculum and instructional differentiation

Curriculum differentiation refers to the modifications or adaptations of curriculum implementation to meet a variety of students' needs. The aim of curriculum and instructional differentiation is to ensure responsiveness to different needs, interests and levels at which learners operate and also to maximize the participation of learners in learning activities. The most critical aspect relates to the responsibility of an educational system to include a large diversity of learners and provide a differentiated and appropriate education for everyone (Flem et al., 2004). Curriculum differentiation has been identified as one of the key strategies to enable and support learners with barriers to learning with access to the curriculum (Theoharis, & Wehmeyer, 2006). Curriculum differentiation means modifying the regular curriculum by adding new content, deleting already mastered material from existing curriculum, writing new units or courses that meet the needs of different learner or even developing a new curriculum taking into consideration what learners at a particular level have to learn, how they will learn, where they will learn, how they will show what has been learned and how the learners will be assessed (Maker, 1996). It needs to include extension and enrichment programs to broaden curriculum to develop skills and abilities to a degree of complexity and learners' cognitive abilities (Braggett, 1997). Education should offer different curricula to different categories of students (Walker 1990). The different curricular should be based on cultural background, experience, available resources and a series of others. Addressing the needs of all learners in schools should be understood from the perspective that teachers must not only be positive about learners perceived as achieving lower outcomes than their classmates, but also be able to differentiate the curriculum to meet their learning needs. In order to provide learning support to a diverse group of learners, adequate differentiation of the curriculum is required for better support and integration of individuals regardless of any learning barriers they experience (Mooij & Smeets, 2006). According to Maker (1986), curriculum differentiation includes modifying, changing, adapting, extending and varying teaching methodologies, teaching strategies, assessment strategies, resources and the content of the curriculum. According to Tomlinson et al. (2003) the collective components of curriculum and instructional differentiation are: assessment, content, teaching methods, resources, learning activities, learning environment and learners' products in order to respond to the diverse needs of individual learners and to maximize learning opportunities in the classroom.

According to Rock et al. (2008) there are four guiding principles related to curriculum differentiation, namely a focus on essential ideas and skills in each content area, responsiveness to individual learners' differences, integration of assessment and instruction and ongoing adjustment of content, process and products. Additionally, it focuses on the task, seating arrangement, time allocated and outcomes presented to the learner who needs additional support to learn. The differentiation will be guided by variation in individuals' learning abilities, learning needs and learning style. In this instance, the teacher or the facilitator differentiates or alters his or her way of teaching, assessment of learners' activities, time allocation to complete an activity, environmental settings as well as teaching and learning resources for learning to take place.

Differentiating content

Learners have different academic abilities and interests. As such, it is of great importance for instructors to differentiate the curriculum and instructional content delivered to their students. The essence on content differentiation is to remove the ceiling on what is learned, and use students' abilities to build a richer, more diverse and efficiently organized knowledge base. This building can be facilitated by encouraging: Some students need content that matches their interests; others need more or less challenging and appropriate content at their various levels. As such, instructors will be hindering students' progress if all students should receive the same content in any given lesson. Content refers to knowledge, understanding, and skills that learners need to acquire (Tomlinson. & Imbeau, 2010). Content selected from the curriculum for instruction should be varied based on learners' abilities, interests and needs. What teachers can differentiate in terms of content is the methods that students use to access key content. According to (Tomlinson. & Imbeau, 2010). content differentiation is when instructors can present content in several ways in the classroom during the learning process, for example, by showing students images of concrete objects, providing content in the form of audio, videos, charts or in the form of books, communicating with experts, participating in group demonstrations, or engaging in small-group instruction. Differentiating content means that instructors can vary the level of complexity. This content should be related to learners' needs and interest. Due to the existence of content in the form of textbooks, the instructor is challenged to provide other forms of content to students such as tapes, videos, charts, etc. in order to facilitate students' learning, understanding and progress since not all students will learn by using textbooks. To address individual student

needs, teachers also provide appropriate scaffolding when working with content by teaching prerequisite content to some students, allowing advanced students to move ahead of the others, or even changing the content for some students based on their individualized education programs, ability, interests and needs (Tomlinson. & Imbeau, 2010).

Differentiating the learning process

The main reason for differentiating the learning process is to promote creativity and higher-level cognitive skills, and to encourage productive use and management of the knowledge mastered by learners. According to (Tomlinson. & Imbeau, 2010), the learning process refers to how learners come to understand and make sense of the content. Differentiating the process means that teachers can vary the learning activities based on the students' interests or learning styles. Students come with different learning styles. When instructors differentiate the product, they assess the same concept or skill for each student at the end of a unit of study. However, teachers offer their students a variety of ways to demonstrate their knowledge, e.g. video and written reports. When doing so, the teacher strives to make the product assignment challenging but not so difficult or complex that the students are unable to complete it on their own, provide clear directions and create a task that reflects real-world and authentic application. Some learn best through group work, while others learn well by working alone. Some learn best by manipulating authentic objects and experimentation, but some learn best by doing projects, and through discussions. Teachers should also include visual, auditory, and kinesthetic (i.e., involving movement or hands-on activities) options as well as analytic, creative, and practical ones. They might also allow the students to complete the product alone or as a group. It is of great importance for instructors to differentiate by using different instructional strategies that match the preferences of individual learners or groups in your classroom. Differentiating the learning process is all about practices based on the selected content. This involves students trying to figure out things, asking questions, and making mistakes. The differentiation of process incorporates the use of various instructional strategies, approaches and materials to enhance and motivate various students learning styles. (Tomlinson, 2010) says that it is very important for students to work at different pace, with different kinds of support, in different groupings, and different modes as real learning occurs at this stage.

Differentiating learning outcomes or products

Products are ways for learners to demonstrate what they have learned and what they have come to know, understand, and are still able to do after an extended period of learning (Tomlinson. & Imbeau, 2010). Learning objectives might be achieved to different degrees of success depending on students' prior knowledge and skill. Hence, the learning outcomes will be different. It is important to design challenging product assignments which are not so difficult or complex that the students are unable to complete it on their own to provide a sequence of increasingly challenging outcomes to ensure that students can aim for, and hopefully achieve, learning at the level suited to their ability. The task should reflect real-world application. Differentiating products means that learners have a choice on how to demonstrate what has been learned. Differentiating learning outcomes or products enhances learners' communicative skills as they are encouraged to express themselves in a variety of ways. Learners express what they've learned in different ways. Some of them prefer to express in a written form while others do better with technology, social action, or visually. Teachers can differentiate products by giving students options, when practical, to choose their own modes of expression to demonstrate what they have learned. During the learning process, while some learners may prefer to write on a paper, conduct a laboratory experiment and write a report, others will prefer to demonstrate their product through video, music or even a PowerPoint on a given topic. Any one of these choices can be used to differentiate target levels.

Differentiating the learning environment

The tone of any classroom greatly affects those who inhabit it and the learning that takes place there. Differentiating the learning environment provides different avenues to acquiring content, to processing or making sense of ideas, and to developing products so that each learner can learn effectively (Tomlinson, 2001). The aim of differentiating the learning environment is to provide a challenging and encouraging the learning environment for learners to engage their abilities to the greatest extent possible, including taking risks and constructing knowledge and skills in a safe, tension free and flexible learning atmosphere. The teachers should, therefore, organize the learning environment to ensure that it is as conducive and as stimulating as possible for all learners to actively participate and take control of their learning. In order to effectively differentiate the classroom learning atmosphere, teachers can change the physical environment and grouping patterns they use in class and vary the allocation of

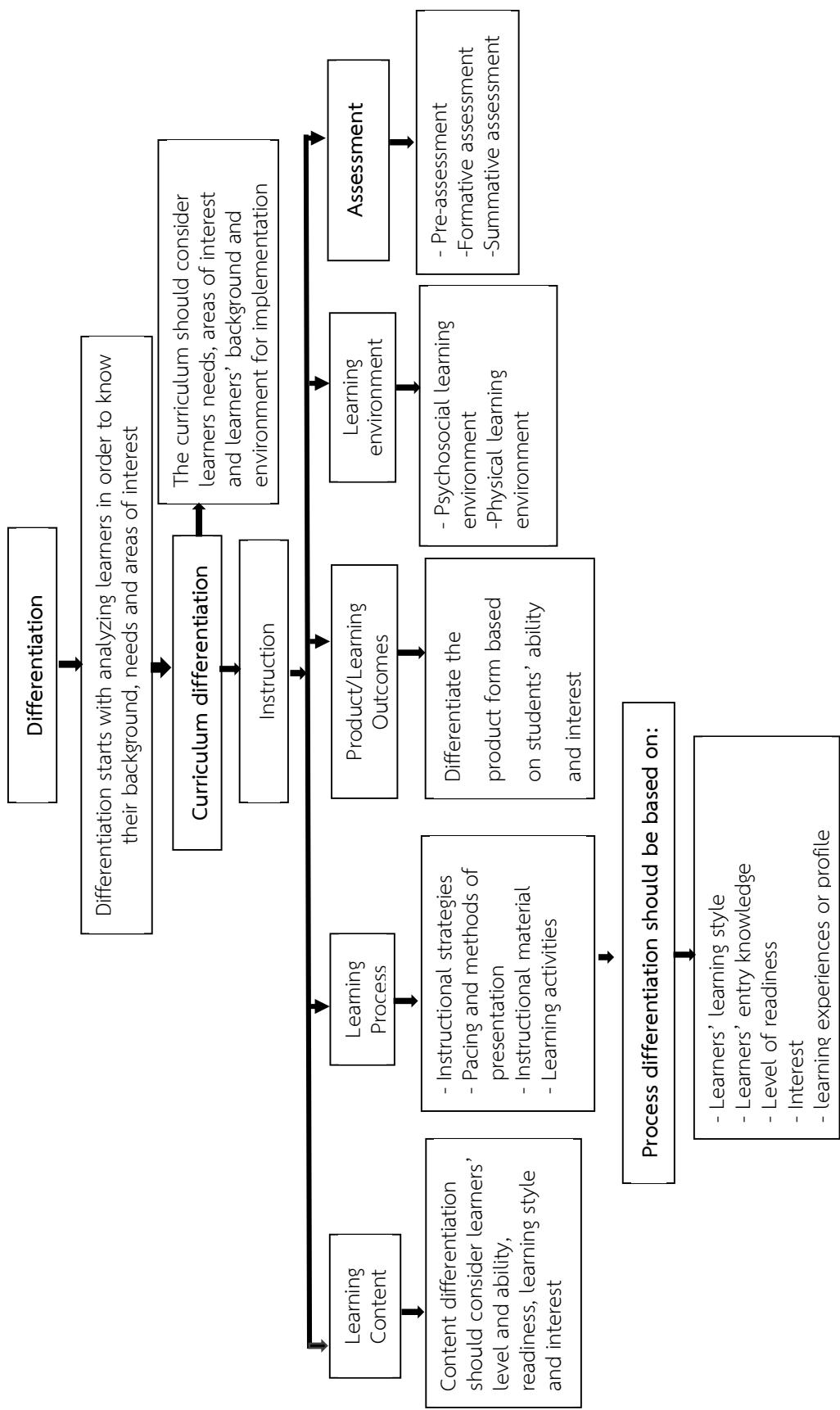
time and resources for both groups and individuals. The learning environment can be differentiated into 1) psychosocial learning environment with psychological and social factors with a bearing to satisfaction, wellbeing, and ability to perform effectively and 2) physical learning environment with classroom space, arrangement of furniture, noise level, class size, classroom displays, resources, movement, etc. Differentiating the learning environment means paying attention to psychological, social and physical factors. The internet can be used as a tool for extending and expanding the learning environment far beyond the walls of the classroom and offers particular promise for engaging and differentiating content for children. In differentiating the learning environment, learners can have the opportunity to work in groups with other students like themselves, or work in groups in which every student has a chance to demonstrate their different styles. In addition, instructors can introduce new guest speakers, technology and bring their class into new states like the computer lab, library, or a field trip. It should be noted that the learning environment plays an important role in learners' emotions and feelings towards their learning, which is another element of differentiated instruction. Our emotions and feelings, which are created by our past experiences and our reactions to current experiences, influence our self-concept, as well as motivation to learn and ability to collaborate as all these factors play a key role in the learning process.

Differentiating assessment

Differentiated instruction allows all students to access the same classroom curriculum by providing entry points, learning tasks, and outcomes tailored to students' learning needs (Hall, Strangman, & Meyer, 2003). Differentiated instruction is not a single strategy, but rather an approach to instruction that incorporates a variety of strategies.

Differentiated assessment is the way by which teachers modify and match assessment with the varied characteristics or profiles of learners to meet their needs, thereby enhancing their learning and boosting their ability to show what they have learned. Students differ in their previous learning experiences, readiness, needs, learning styles, preferences, academic standards, abilities, strengths and weaknesses, culture, race, and backgrounds. For this reason, instructors use differentiated assessments to match and respond to the varying learning needs of diverse learners in a classroom. By differentiating assessments, teachers help diverse learners to demonstrate their competencies in a variety of ways that are fitting and effective for them. By providing various assessment methods or activities appropriate for different learners, the instructor can respond to learners' needs, thereby helping them to be successful

in their learning. Designing different assessments for specific groups of learners provides more opportunities for the learner to effectively demonstrate what they have learned. Differentiated assessments also guide teachers on how they can differentiate, modify and improve their instruction.



Picture 1 A Framework for Curriculum and Instructional Differentiation

Conclusion

Differentiating instruction is strategic in addressing the teaching challenges of working with mixed-ability learners as maximizes the success of all learners as instructors design activities that scaffold the development of learners as they use best practices to scaffold their growth from varied points of readiness, interest, and approached to learning based on learners' needs abilities, interest and background. Differentiated instruction is a strategy to address the teaching challenges of working with mixed-ability classrooms of students. Curriculum differentiation is one useful strategy for serving the individual needs of gifted, talented and weak learners. The need for teacher, parent and student input is necessary to gauge the extent to which curriculum and instructional differentiation is needed for learners' development. For learning to be meaningful, curriculum developers and instructors should be able to develop curriculum and instructional methods, approaches and strategies that take into consideration different cultural backgrounds, learners' needs, interests and learning styles. Differentiating curriculum and instruction means developing a curriculum and instructional approaches, methods and strategies that recognize and support all the differences that exist in learning settings.

It should be born in mind that all learners are extremely intelligent and as such educators and instructors should be able to identify learners' characteristics in terms of cultural background, interest, learning style needs and abilities as this will guide them on how to differentiate the curriculum and instruction to bring out the best in learners by not using the one-size-fits-all approach. Creative and flexible teachers who think and design lessons based on learners' learning styles will help greatly in helping learners. Grouping learners based on shared interest, and the ability for task assignments, differentiating the classroom learning environment and assessing students' learning using formative assessment will go a long way to enhance effective and authentic learning as learners' needs are responded, too. A variation of content, learning processes, learning outcomes, learning environment and mode of assessment favors effective engagement of learners in the learning process as well as high academic achievement.

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