

CHAPTER TWENTY FIVE

ADAPTING CURRICULUM AND INSTRUCTION THROUGH DIFFERENTIATION FOR LEARNERS WITH SPECIAL NEEDS

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Introduction

Adaptive teaching is an educational approach that clearly recognizes differences among learners, especially cognitive differences or other specific characteristics. Teachers accept that their learners differ in capabilities and take these differences as the starting point for teaching and learning. The fundamental goal of teachers is to help learners develop their fullest potential by giving them the necessary skills to function in society. The goal is no different for learners with special needs (Van den Berg, Slegers and Geijsel, 2001; Yeseldyke and Algozzine, 2009).

The philosophy of education in Nigeria as contained in the National Policy on Education (NPE, 2014) is based on the development of the individual into a sound and effective citizen and the provision of equal opportunities for all citizens of the nation at the basic, secondary and tertiary levels both inside and outside the formal school system. Similarly in Britain, the statutory inclusion statement contained within the revised National Curriculum required teachers to provide all children, regardless of ability or disability, with effective learning opportunities (Qualifications and Curriculum Authority, QCA, 2005). All children must receive relevant and appropriate challenging school work, tailored as far as possible to their differing aptitudes and abilities.

Children with Special Education Needs (SEN) have learning difficulties or disabilities that make it harder for them to learn or access education than most children of the same age. These learners may need extra or different help from that given to other learners of the same age. Some learners with SEN have significant difficulty learning effectively within the mainstream curriculum, due to intellectual differences, an emotional or motivational problem, poor school attendance, or a behavior disorder. Others may have difficulty, not in learning, but in accessing resources within the school environment due to a physical or sensory disability (DFES, 2006a and 2006b in Westwood, 2007). In addition, special need learners may have additional educational needs arising from other factors such as additional language, family difficulties, health problems, or social disadvantage (Soan, 2004).

It is pertinent to note that one of the uniqueness of learners with special learning needs is that they require a modified curriculum. The curriculum content has to be adjusted to suit their peculiarities. Impliedly, the content has to be made

in such a way that the special learners can educationally benefit (Kirk, Gallagher, Anastasiow and Coleman 2006). The curriculum should be relevant and appropriately challenging including schoolwork that is tailored far as possible to their differing aptitudes and abilities.

Curriculum has broad definitions from different perspectives, as adopted by Ozoji, Unachukwu and Kolo, (2016). Kerr's definition of curriculum stated: "All the learning which is planned and guided by the school, whether it is carried out in groups or individually, inside or outside the school". Ozoji, Unachukwu and Kolo (2016) posited that curriculum adaptation indicates the effort that should be made to ensure that learners with special needs have access to the school curriculum, participate actively in it to the extent of their capacity. The four types of curriculum adaptation include: accommodation, adaptation/ modification, parallel curriculum and overlapping curriculum as contained in the conception of King-Siers' (2001). The present discussion focus on curriculum adaptation/modification.

The thesis statement of this discussion shall include a) Instructional differentiation: the CARPET PATCH example, b) curriculum adaptation and c) principles of effective instruction

Principles of Differentiation: Carpet

The principle of differentiation applies to teaching across the full spectrum of ability, including children with disabilities, learning difficulties, language differences and children with gifts and talents. It is intended that curriculum be differentiated in terms of its subject matter, teaching methods, activities, and assessment procedures to suit the diverse learning characteristics among the children. In the simplest of terms, differentiation refers to teaching things differently according to observed differences among learners. To achieve this goal, and reduce obstacles to learning, teachers are expected to use more multi-layered lessons and differentiated curriculum (Van Garderen and Whittaker 2006; Idol 2006). It must be acknowledged that differentiation is not a simple matter in practice. Teachers may believe in principle that their teaching should be adapted to address student's individual needs and differences but in reality they have great difficulty translating this belief into positive action. Effective differentiation invariably places heavy demands on teachers' time, knowledge, ingenuity and organisational skills (Westwood, 2001; Pettig, 2000; Raveaud, 2005). Below is the discussion of the three key issues:

The main objective of differentiation is personalizing instruction which takes account of learners' current levels of ability, prior knowledge, strengths, weaknesses, learning preferences and interests in order to maximize their opportunities to learn, To achieve a personalized approach, it is necessary to respond to individual difference among learners. Most advocates of an adaptive approach to teaching consider eight areas to be the major foci for differentiated practice (Dettmer, Thurston and Dyck, 2005; Ford, 2005; Hollas, 2005): these areas are as follows:

1. Setting individualized objectives for learning.
2. Modifying curriculum content to match more closely the cognitive level of learners.
3. Providing different paths of learning to suit differing learning preferences.
4. Varying time allocation for classroom tasks to take account of learners' differing rates of learning.
5. Adapting instructional resources materials
6. Encouraging learners to produce their work in different forms or through different media
7. Using flexible groupings of learners.
8. Varying the amount of guidance and assistance given to individual learners

Differentiating instruction is the process of ensuring that what students learn, how they learn it, and how the student demonstrates that they have learned it, is a match for that student's readiness level, interests, and preferred mode of learning. Differentiation can be in two different levels: (i.) The administration level which takes the socioeconomic status, and gender into consideration, and (ii). The classroom level which revolved around contents, processing, product and effects (Tomiliuson 2004; Boelens, Michael, De Wever (2018). Students vary in culture, social economic status, language gender, motivation, ability disability, learning styles, personal interest and more; teachers must be aware of these varieties as they plan in accordance with the curricula. By considering varied learning needs, teachers can develop personalised instruction so that all children in the classroom can learn effectively (Thames Valley District school Board, 2012).

The mnemonic 'CARPET PATCH' is an example of differentiation that indicates the ways which teachers should follow for establishing a more inclusive classroom practice to adequately and appropriately meet the demand of the learners' individual needs (Westwood, 2007):

C- Curriculum content: The curriculum to be studied may be increased or decreased in terms of depth and complexity. Aspects of the curriculum may be sequenced into smaller units and presented in smaller steps. Lesson content may draw more on learners' own interest.

A- Activities: Teachers can vary the difficult level of the tasks and activities the learners are required to undertake in the lesson. Activities may be undertaken via different pathways (e.g, textbooks, computer programmes, discussions/ analogies).

R- Resource materials: Teachers could select or create a variety of different texts and instructional materials for learners to use.

P- Products from the lessons: Teachers can plan for learner to produce different types of output from a lesson, according to their abilities, interests and aptitudes.

E- Environment: The classroom can be set up to support more individualised or group work.

T-Teaching strategies: Teachers can adopt particular ways of teaching designed to stimulate the poorly motivated learners; or they may use more explicit and direct instruction for certain groups in the classroom. Teachers may use tactics such as

questioning, frequent revision, practicing, prompting, cueing according to individual needs and responses from learners. They may also set individual learning contract for learners.

P- Pace: Teachers may vary the rate at which teaching takes place or the rate at which learners are required to complete tasks and produce outputs.

A-Amount of assistance: Teachers can vary the amount of help given to individuals during a lesson. They may encourage peer assistance and collaboration among learners.

T-Testing and grading: Teachers may vary the ways of assessing learners' learning and may modify grading or reflect effort and originality as well as the standard achieved.

C-Classroom grouping: Teachers can use various ways of grouping learners within the class to allow for different activities to take place under different amounts of teacher direction (eg. Peer tutoring, partner activities, team learning).

H-Homework assignment: Teachers may give some learners homework that involve additional skill practice at the same level of difficulty, while others have extension tasks involving application, critical thinking, and reflection.

The whole process of applying differentiation in the classroom can sound very daunting for teachers because the professional literature describes many different ways of adapting instruction and modifying curriculum. Several writers have described appropriate procedures for adapting curriculum and instruction (Deschenes, Ebeling, and Sprague 1999 Dettmer, Thurston, and Dyck, 2005, Hoover and Patton, 2005) The steps they identified) were

1. Selecting the subject or topic to be taught
2. Identifying the specific content to be included.
3. Prescribing the learning goals and objectives for the majority of learners in the class
4. Deciding on the way the lesson will be organized and conducted for most learners.
5. Identifying any learners who will need modifications to the general lesson format.
6. Modifying the objective for these learners if necessary.
7. Preparing any necessary adaptations (eg. Shorter assignments easier textbook, extra use of concrete materials)
8. Teaching the lesson, and making any necessary additional change while teaching.
9. Providing extra assistance to certain learners while the lesson is in progress
10. Planning appropriate methods for assessing learners' learning based on the goals and objectives of the lesson

Teachers use a number of instructional methods in class, including direct instruction, non-direct methods of instruction, scaffolding, independent student practice, and evaluation of student performance (Friend and Bursuck, 2002). Some

descriptions of differentiation in action refer to matching the demands of curriculum content and the learning activities themselves to the ability level of the learners. A different viewpoint argues that differentiation should be less about changing the content of activities but much more about providing alternative pathways and given extra individual assistance as and when necessary to enable all learners to study the same curriculum content and achieve satisfactory outcomes (Westwood, 2007)

Curriculum Adaptation/Modification

Several potential problems exist when modifying the curriculum. Reducing the complexity and demand of the curriculum and setting easier objectives may sound like very good advice; but watering down the curriculum in this way can have the long-term effect of increasing the achievement gap between learners with learning difficulties and other learners the demands placed on learners of lower ability, it may be exaggerating the effect of individual differences and perpetuate inequalities among learners (Raveaud, 2005). Silva and Morgado, 2004 indicated modifying curriculum content usually implies that:

1. Learners with learning difficulties are required to cover less material in the lesson; the tasks or activities they attempt are usually easier to accomplish.
2. In the case of gifted or more able learners, the reverse would be true; they might cover more content and in greater depth.
3. For certain learners in the class, the objective set for the lesson might involve mastery of fewer concepts and the application of easier skills
4. The nature of the learning tasks set for the learners will be matched to their learning rate and abilities; some tasks may take a longer time to complete than others
5. Differentiated content for homework, assignments could be used as one way of meeting the needs of gifted and able learners as well as those student with difficulties.

One of the main areas where modifications are recommended to improve access to the curriculum is that of instructional resources. The resource materials used within a lesson (texts) worksheets exercises, blackboard notes, computer software) may need to be modified) and apparatus or equipment may need to be provided for some learners (e.g. blocks for counting in mathematics; pages taped to the desktop for a student with gross motor difficulties; a talking calculator For a student with visual impairment; a pencil with a thick grip for a student with poor hand coordination (Janney and Snell, 2004). Evidence indicates, that in general teachers do not engage in much modification of resource materials, possibly through lack of time or lack of knowledge and skills (Chan, Chang, Westwood, and Yuen, 2002). Adapting instruction covers all the major and minor changes that may be made to the way teaching occurs in the classroom. It includes the method of instruction, how student are grouped, the nature of their participation in the lesson,

the interactions between teacher and learners, and interactions among the learners themselves (Westwcod, 2007).

Principles of Effective Instruction

Teaching is the systematic presentation of content assumed necessary for mastery within a general area of instruction. Based on what learners currently understand, the teacher decides what to teach, how to improve learners' performance using different instructional methods; the teacher might decide to use basal texts, manipulative, games, or work books as primary instructional materials. The teacher decides how and when to evaluate the efforts of instruction and when to modify it based on the results of evaluation. The teacher anticipates how to manage the instruction and any disruption that occur during presentations. The main principles of effective instruction are grouped into four broad areas: planning instruction, managing instruction, delivering instruction, and evaluating instruction (Algozzine and Ysseldyke, 2009):

1. Planning Instruction:

Instruction planning means making decision about what content to present, which materials or other activities to use, how to present information and how to determine if learners are learning. Planning instruction has three main principles: deciding what to teach, deciding how to teach it, and communicating realistic expectations. In deciding what to teach and how to teach it, teachers set goals and expectations for their learners. These goals and expectations help student learn. Teachers gather assessment information using tests, observations, and interviews. Teachers sample learners' performance by asking them to read aloud from their books, spell words on their spelling lists, or solve the kinds of math problems that are in their math texts.

x. The strategies involved in deciding what to teach are:

- Assess learners' skill level
- Analyse the educational task
- Establish a logical sequence of instruction
- Consider contextual variables
- Identify the gaps between learners' actual and expected levels of performance.

b. The process of deciding how to teach involves the following:

- i. Set instructional goals
- ii. Establish an instructional sequence
- iii. Select instructional methods and materials
- iv. Pace instruction appropriately
- v. Set a ratio of known to unknown materials
- vi. Monitor learners' performance
- vii. Use information on learners' performance to plan subsequent instruction

c. Communicating realistic expectations- An important component of instructional planning is setting realistic expectation for learners and communicating those

expectations to them. An example of an effective way to do this is to use a contingency contracting system. It is a system in which the teacher enter into a contract with each student. In the contract specify what the student will do, in response to what stimulus, under what conditions, and with what standards of performance (Algozzine & Ysseldyke, 2009)

2. Managing Instruction:

Learners need an orderly environment in which to learn, structure, rules to follow, an understanding of these rules, and the consequences of not following the rules. They also need to see that those rules are enforced. There are three principles of effective classroom management: preparing for instruction, using time productively and establishing a positive classroom environment

3. Delivering Instruction:

Good teaching requires some thought about how the instruction is delivered to the learners. Delivering instruction is a three-stage process in which teacher present, monitor, then adjust instruction: presenting instruction, monitoring instruction, and adjusting instruction all learners do not learn in the same way or at the same pace. Teachers have to adjust instruction for individual learners. Teachers should use varied methods and materials which increase the chances of meeting individual learners' needs. Teachers can make certain that the materials they use are culturally relevant—that they incorporate names, places, pictures, and stories that are pertinent to learners' cultural backgrounds.

4. Evaluating Instruction:

Evaluation is the process by which teachers decide whether or not the methods and materials they are using are effective, on the basis of individual learners' performance. There are two types of evaluation: formative and summative; both involve data collection. Formative evaluation occurs during the process of instruction; the teacher collects data during instruction and uses the data to make instruction and uses the data to make instructional decision. Summative evaluation occurs at the end of instruction; the teacher administers a test to determine whether or not a student has met instructional objectives. There are four principles in the evaluation process, monitoring student understanding, monitoring engaged time, maintaining records of learners, and informing learners of progress.

Summary

Learners with special needs have unique learning experiences and should be assisted to meet the expected educational goods. Differentiating technique is a match for the learner's readiness level, interests and preferred mode of learning. It covers levels of socioeconomic status, gender, content processing, product and effect. Curriculum adaptation procedure involves ten steps. Instructional adaptation involves: planning instruction, managing instruction, delivering instruction and evaluating instruction.

Conclusion

Differentiation is essential if learners with special educational needs are to be included fully in regular classroom. Given that differentiation as a strategy within classroom setting, has the potential to increase success rates for all learners and remove some of the barriers to learning for learners with special needs. It is hoped that teachers should to continue to become more adaptive in their approach. Despite the difficulties involved in adapting curriculum, many teachers do a great deal to respond to their learners' unique needs. If given appropriate guidance, teachers will continue to gain expertise. Continuous review of adaptation process should be ensured in order to offer special needs learners' more realistic challenges through regular activities, tasks and resource it is important to ensure that a different curriculum should not become an impoverished curriculum.

Suggestions

- Both regular teachers and special education teachers should plan for differentiated instruction by focusing in essential core concepts or skills they hope for all learners to learn from the lessons; this refers to identifying the 'big ideas'. Example, some learners may encounter new ideas through reading books, some may understand them best through direct experience, others may gain knowledge from interacting with peers about the issues or problems, and some learners understand new concepts easily through direct teaching or creating their own pictures or models.
- It is important for Curriculum Planners to avoid fragmentation of the total learning experience, teachers must not lose sight of big ideas for the topic regardless of the many and varied activities and tasks set for learners.
- It is expected for regular teachers and special education teachers to bear in mind the three sentence starters when planning the differentiated objectives for every lesson to identify the essential core of knowledge and skills that all learners are expected to master.

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