



# Teaching Material of B. Ed. in Special Needs Education

## Curriculum for Children with Special Needs

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# **Curriculum for Children with Special Needs**

## **Reference Material**

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# Unit 1: Curriculum Development for Children with Special Needs

## 1.1 Individual Differences of the Learners

All students are different from each other and they have their own unique learning needs, interests, aspirations, and potentialities. All of them have their own cultural, religious, socio-economic, and linguistic backgrounds. Such diversity is also found in almost all the classrooms of Nepalese society. Children enrolled at particular classroom have different intelligences, learning styles, learnability, and preferences. Due to these reasons, developed curricula do not address such classroom diversity without accommodating them as per the needs and abilities of the learners. For using differentiated curriculum properly, teachers and other concerned people must be clear about classroom diversity, students' unique learning needs, their diverse learning styles, their distinct intelligences, and the like. When teachers use differentiated instruction effectively then all children participating in a class can get benefits from the curricula and get chance to be efficient learners. Following points can be helpful for the teachers to make clear concept on classroom diversity prevailing in most of the schools:

### 1.1.1 Cognitive abilities of the learners

Students are different to each other in terms of their cognitive abilities. Most of the students possess average cognitive abilities; some of them hold high and remaining others possess low cognitive abilities. Cognitive ability of a child is diagnosed by using intelligence test and by measuring adaptive skills. In past, cognitive abilities of people were identified only by applying intelligence test but in these days adaptive skills of the children are also taken into account to identify their cognitive abilities.

Later, Gardner defines intelligence broadly, and he has classified intelligences into eight categories namely verbal/linguistic, mathematical/logical, physical/kinesthetic, musical, visual, naturalistic, interpersonal, and intrapersonal. Each student in the class may possess one or more out of these intelligences at a time. Teachers should identify such types of intelligence of the children to differentiate their instruction effectively for academic growth and development of the learners. When the students are taught by considering their cognitive abilities then they

learn delivered contents interestingly and remember such content for long time. Not only this, they can generalize learned content into another new situation to solve particular problems that may take place throughout their life. Differentiated instruction treats every student individually for making them to be efficient learners by following individualized education plans. Teachers therefore should differentiate her/his instruction by considered the cognitive abilities of the individual learner to attain the educational goals intended in advanced through official curricula.

### **1.1.2 Learning styles of the learners**

Many studies indicate that children come from similar or different backgrounds learn particular knowledge, values, and skills by using their own learning styles. It means; all students attending at the same classroom and studying the same curriculum learn the prescribed contents and skills differently. Some children may learn suggested content by reading and writing practices, some may learn same content by observing, and some children many learn the same content easily by listening the lecture given by teachers attentively. Furthermore, some children understand content clearly through interaction with others and some may conceptualize same content by studying independently. Therefore, teachers should differentiate their instruction and curriculum as well by considering different learning styles of their students to make regular instructional activities more effective.

Students involved in the classroom can take ample benefits when teachers use proper teaching techniques by considering their individual learning styles. Visual learners process information most effectively when they get opportunity to learn through reading, writing, and observing. On the other hand, auditory learners need to hear information attentively to learn the intended contents. Such learners can obtain knowledge easily through oral presentations and explanations by others. Kinesthetic or tactile learners learn best when they manipulate objects or materials in their active involvement. It indicates that these learners can learn content efficiently by doing, touching, and moving. Thus, learning styles of the learners should be used as a criterion for making decision about curriculum differentiation.

### **1.1.3 Multiple intelligences**

In 1983, Howard Gardner introduced the theory of multiple intelligences by challenging the conventional idea of intelligence, which was primarily identified by using IQ test. Gardner



contends that people generally have eight types of intelligences but school and contemporary society give priority on linguistic as well as logical-mathematical intelligences. It means; other types of intelligences are overlooked by formal educational institutions and the society. Children have their distinct learning styles as per their intelligences. When teachers treat their students as per their individual intelligence, then they can play an efficient role for the development of inner potentials of the children with various needs. In this condition, teachers should be well familiarized and trained on multiple intelligences and they can convey their lessons in wide variety of ways by providing opportunities for discussion, sports, educational tour, project work, research, observation, independent study, reflection, etc. Teachers should accommodate their instructional activities by considering these multiple intelligences to ensure learning of all children in effective way. Gardner argues that people generally possess eight types of intelligences namely verbal/linguistic, logical/mathematical, musical/rhythmic, bodily/kinesthetic, visual/spatial, interpersonal, intrapersonal, and naturalistic. Brief introduction of each of them is given below:

❖ ***Verbal/linguistic intelligence***

This intelligence refers to an ability of using words effectively either in written or oral form. The children who have the linguistic intelligence, they can use structure of language, sounds of language, meaning of language, and generalize learned languages into new situations. Children with this intelligence enjoy reading, writing, and listening. Such children can exhibit good performance in language subjects in the school as well as college.

❖ ***Logical/mathematical intelligence***

The people who have logical-mathematical intelligence can use numbers or mathematical contents in effective way and can reason well as a scientist, logician, etc. Such people show if-then or cause-effect relationship effectively. Furthermore, those who have this type of intelligence enjoy finding cause-effect relationship of particular phenomena, applying deductive thinking, or logical reasoning. Different processes such as categorization, classification, inference, generalization, calculation, and hypothesis testing are used in logical-mathematical intelligence. In formal schooling, students who have this intelligence can show good performance in mathematics and research fields.

❖ ***Musical/rhythmic intelligence***

The children who have musical intelligence enjoy listening and composing music, and sometimes critiquing the performance on music. In other words, these children have ability to understand and create music. These children can easily remember melodies, play musical instrument in easy way, compose original music, show strong interest in music, etc. In addition, they show attention towards the rhythm, melody, and tone of the music. As a whole, the children having this intelligence can learn easily through music.

❖ ***Bodily/kinesthetic intelligence***

People who have this intelligence prefer using one's whole body to express ideas and feelings. They can use their body in a skilled way, and have a potentiality to be an actor or actress, an athlete, a dancer, a surgeon, etc. Children with this intelligence possess certain physical skills such as coordination, flexibility, balance, dexterity, speed, etc. as compared to other types of children. They also enjoy more from physical activity, game, manipulative skills, moving around, doing physical activities, etc. Therefore, teachers should provide ample opportunities to such children to practice the behavior intended for their optimal academic growth.

❖ ***Visual/spatial intelligence***

The children who have this intelligence can perceive the visual-spatial world accurately as a hunter, guide, etc. and can work effectively as an interior decorator, architect, artist, and/or inventor. In addition, children with this intelligence show attention to color, shape, form, etc. of particular things. These children enjoy watching videos and movies, and observing pictures, maps, charts, etc. While teaching the children with visual or spatial intelligence; teachers should use videos, picture, and other concrete instructional materials to make their teaching and learning activities more effective.

❖ ***Interpersonal intelligence***

The children who have interpersonal intelligence can perceive and differentiate the moods of people, their intentions, motivations, and feelings easily by observing and

experiencing facial expressions, voice, and gestures. In addition, these children have leadership ability; they prefer working with others, interact confidently with others and keep mutual relationship with friends. These children prefer spending time with peers, engaging in interaction, and learning in groups; and enjoy socializing with others. Therefore, teachers should use discussion methods while teaching these children inside the classroom.

❖ ***Intrapersonal intelligence***

The children having intrapersonal intelligence enjoy learning independently, finding out solution by thinking analytically, prefer analyzing critically to the actions done by one-self. These children always analyze one's strengths and limitations by self-reflection; they have awareness of inner moods, intentions, motivations, desires, capacity, and self-understanding. Furthermore, these children have a strong interest in right and wrong, justice and injustice. In addition, they can also convey feelings accurately. Teachers therefore should provide such learning environment to the children having intrapersonal intelligence in which they can learn independently.

❖ ***Naturalistic intelligence***

The children who have this intelligence possess special qualities to recognize and classify both living (flora and fauna) and non-living species exist in the natural world. They also show sensitivity towards other natural phenomena, which are beyond human access such as cloud formations, mountains, etc. Similarly, they ask several questions about the nature; seem street smart since they understand how system works and may use them to personal advantage. The children who have naturalistic intelligence enjoy working outdoors activities in natural environment. Classroom teachers therefore should organize different project work, use observation method to teach natural resources, offer field trips to make their instruction more effective especially for the children having naturalistic intelligence.

### **1.1.4 Readiness**

Each learner should be ready physically, mentally, and emotionally to learn specific knowledge, values, and skills effectively. But sometimes a few numbers of children may not be matured to learn the suggested content of the curriculum. On the other hand, some children learn many curricular contents before entering to the schools, and some may not have prerequisite knowledge required to get clear concept on recommended subject matters. In this regard, our challenge as teachers is to find out the best ways to build on and extend the learning of students who are already on their way, and at the same time, providing basic instruction and practice for students who are at the beginning state. Therefore, schools teachers should use differentiated curriculum to manage such diverse levels of readiness of the children significantly.

### **1.1.5 Learning pace**

Each student has her/his own pace to learn something from the curriculum. Some children can learn curricular contents quickly compared to others. Some of them require sufficient learning materials and concrete examples to make clear concept on suggested content area. Generally, gifted and talented children learn any content more quickly compared to other children. Many gifted and talented students learn prescribed content within one-third of the time that average learners need. Gifted and talented children require fewer examples, less modeling, and shorter practice time. Other learners need more instruction, examples, practice time, and feedback to be successful. Sometimes; curriculum accommodation, modification, enrichment, or acceleration is required especially to the gifted and talented children. Differential curriculum helps teachers accommodate diverse needs and abilities of the learners inside the classroom without leaving them to be failed.

## **1.2 Individual Differences: Implications for Developing Curriculum in SNE**

All of the activities of any educational program are conducted as per the guidelines provided by curriculum. Therefore, effectiveness of any instructional program depends on the curriculum planned under the policy of particular education system. Curricularists should consider the needs, learning abilities,

academic background, and interests of all learners while developing the curriculum. Children with special needs have distinct needs and interests as compared to normal children. So, the curriculum developed for normal children may not be useful and relevant to the children with special needs. Separate curriculum may need especially to those children who have severe and profound types of intellectual disabilities. But most of the children with special needs can get benefit from general curriculum with its accommodation and modification in required intensity.

All individuals are different to each other in terms of their cognitive abilities, learning styles, readiness, learning pace, and interests. Children get success when they obtain chance to be educated as per their abilities, intelligence, and learning styles. But education system generally focuses on common cognitive abilities, learning styles, and preferences that represent most of the children under particular age group. Traditionally, it was argued that the brain of all individual was same, so similar content should be taught by introducing more or less similar curricula to get success in education. But nowadays this argument is not accepted since brain scientists have proved that the brains of the people are remarkably distinctive in their anatomy, chemistry, and physiology. Research findings have proven that human brains are quite different from one another as their thumb fingers. That's why same curriculum, instructional strategies, evaluation procedures, and available services at the schools may not work in the favor of all learners to a similar extent.

No two individuals are completely identical. It means; individuals are different from one another in terms of intellectual abilities, reasoning and thinking, power of imagination, creative expression, and personality dimensions. The curricula designed by considering the general needs and interests of the normal children may not applicable to the children with special needs. Some students; learners at risk and students with special needs for examples, cannot get proper benefits form general curricula, instructional activities, and assessment procedures without differentiating them. Due to the reasons, the curricula made for the children without disabilities must be accommodated and modified as per the needs and abilities of the students with special needs to meet their individual learning needs and expectations. Teachers should diagnose individual needs and problems at first to treat them effectively.

Responsible persons and institutions should collect sufficient information about all students to identify their academic background, interests, preferred ways of learning, and current level of knowledge and skills to develop a relevant and useful curriculum for them. Classroom teachers can use different tools (intelligence tests, cumulative record card, interest inventories, attitude scales, aptitude tests, assessment for personality traits, etc.) to gather data about the abilities, capacities, interests, aptitudes and other personality traits of individual learners enrolled at the particular class. After identifying special

characteristics of each student, teachers can develop and implement an effective curriculum for addressing their individual needs, abilities, and preferences.

As we discussed earlier, students are different from each other in terms of their intelligences, learning styles, abilities, and motivation. Therefore the curriculum designed to a group of students may not be relevant to another group of students having distinct learning style and intelligence. For example, a curriculum useful to the learners having verbal-linguistic intelligence may not be beneficial to the children who have bodily-kinesthetic intelligence. Similarly, those children who have musical-rhythmic intelligence can learn musical content quickly and easily as compared to other children, and the children who have interpersonal intelligence prefer to learn with peers through interactive process but the children with interpersonal intelligence want to learn particular content and skill independently. Due to these reasons, responsible persons or institutions should consider diversified needs, expectations, capabilities, preferences, and motivation of the learners while making decision about curriculum, instructional activities, assessment procedures, and educational settings.

Each student is unique, and the teacher needs to individualize curricular contents, teaching methods, instructional activities, and evaluation procedures to ensure learning of each learner effectively. The curricular contents and instructional strategies generally chosen for gifted children may not be useful to the children with disabilities, and both of these students cannot get sufficient benefits from general education curriculum without its effective differentiation. Special children may have problems or special talent in thinking, seeing, hearing, speaking, socializing or moving. Therefore, they cannot get sufficient benefits from the normal curriculum, general instructional activities, and common assessment procedures.

### **1.3 Curricular Contents Identification Approaches**

Students who have moderate to severe disabilities are diverse, challenging, and challenging group of individuals. Generally, the term moderate to severe disabilities applies to children, adolescents, and adults who have been labeled moderately mentally retarded, severely and profoundly handicapped, autistic, deaf, blind, or severely emotionally disturbed. Students who have been labeled with particular types of disabilities demonstrate a number of unique learning characteristics.

First, they learn suggested contents at significantly slower rate as compared to their age peers who do not have disabilities. Second, students with severe disabilities experience difficulty in maintaining the skills and knowledge they have acquired in their course of living. They require frequent opportunities to practice new academic and functional skills. Curriculum must focus on skills that they need to use

frequently in school, at home, and in the community. Third, students with severe disabilities often have great difficulty in generalizing skills learned in one setting to a different situation. For example, a student who learns to use money to make a small purchase in the school cafeteria cannot be expected to perform the same skills in the grocery store. To improve the difficulties in generalization experienced by students with moderate to severe disabilities, training should be provided in natural settings primarily in their daily life activities. Finally, students with moderate to severe disabilities find it extremely hard to combine skills that have been taught separately. For example, ordering a meal in a restaurant requires reading, math, social, and communication skills. Educators cannot teach these skills separately and in different contexts because they hope that the student will be able to synthesize them when confronted with a functional task. Thus, teaching functional skills in the natural contexts in which they are performed is necessary to them.

Generally, two types of approaches namely traditional approach and ecological inventory approach are used to make curricular content decision about the children with moderate to severe disabilities. The approaches discussed within the topic view curriculum as consisting of several distinct phases. Each of these phases requires instructional decisions by the educational team members. The curriculum developers generally make instructional decisions by considering the five questions while developing curriculum for the children with disabilities, which are given below:

- What outcomes are desired for the student?
- What skills must the student needs to learn in order to achieve those outcomes?
- How should those skills be taught and by whom?
- Where should instruction take place?
- How should the curriculum evaluated?

### **1.3.1 Traditional approaches**

Psychologists and educators first became aware of the learning capabilities of persons with moderate to severe disabilities in the 1960s. Before that time, persons with moderate to severe disabilities who were institutionalized for care but very little skills were thought to them which did not make them independent in their lives. Three traditional approaches to developing curriculum content for persons with moderate to severe disabilities in educational programs are: the developmental approach, basic academic skills approach, and the functional skills approach. Brief introduction of each approach is given below respectively.

### ❖ *Developmental approach*

The developmental approach to curriculum development was based on theories of normal trend of human development. Normal children tend to acquire gross-motor, fine-motor, perceptual, cognitive, social, and communication skills in a fairly predictable sequence (for example, most children babble before they use words and crawl before they tend to walk). The developmental approach is essentially a norm-referenced approach based on the normal development of young children who do not have disabilities. Specific skills and the order in which to teach them are specified for the teacher. It was originally assumed that teaching the same knowledge and skills to students with disabilities could help them overcome many of their delayed developmental disabilities. The developmental approach to curriculum development, while appropriate for many young children, has a number of disadvantages for students with moderate to severe disabilities. Some of them are given below:

- Strict adherence to a normal pattern of skill development can preclude an individual being taught more functional skills. It means, more useful and functional skills have not been taught because they are presumed to be too developmentally advanced.
- It encourages the use of activities and materials appropriate for infants and young children, which can be inappropriate for adolescents and adults. In other words, this approach focuses on the skills need to be learned by normal young children. Such condition can limit the opportunity to learn more age-appropriate functional skills required to adolescents and adults.
- Curricula based on normal sequences of development do not provide the alternatives for teaching functional skills to the children who cannot learn curricular content as normal peers due to their disabilities.

### ❖ *Basic academic skills approach*

Basic academic skills approach is also closely related to the developmental approach to curriculum development. The basic skills approach assumes that normal behavior and development are based on a group of core skills. These core skills (reading, writing, and arithmetic) are taught to the children without disabilities in the early elementary years. As per this approach, different types of basic skills such as using money, telling time, reading, and writing should be taught to the children to conduct their daily lives effectively. Though providing



basic academic skills to run daily life comfortably, this approach has few disadvantages as given below:

- The curriculum developed on the basis of this approach is primarily concentrated on the traditional academic "3Rs" (reading, writing, and arithmetic). But other nonacademic skills such as arranging bed, washing clothes, cooking, ordering food in a restaurant, maintaining relationship with peers, etc. that need to be learned by students with disabilities may be neglected.
- The academic skills are often taught in isolation especially in separate periods of the school day by following separate materials and tasks. But in real life situations, these skills are applied in integrative form. There is no guarantee that the student with moderate to severe disabilities will be able to generalize skills learned in isolation to the functional context in which they are actually performed in daily life.
- The basic academic skills taught at the classroom may be different from those needed by the student with disabilities to perform a functional task in a natural context. For example, students may learn to count money in the class but they may not be able to pay money in grocery store while buying something.

❖ ***Functional skills approach***

Many special educators have adopted a functional skills approach to developing curriculum for the learners with severe disabilities. The curriculum developed based on this approach emphasizes on functional skills that are performed in daily life of people make their family and social life more comfortable. The skills required performing daily activities such as washing dishes, cleaning the room, riding the bus, ordering a meal in a restaurant, and many other activities performed at home, at work, at school, and in other community settings are considered as a set of functional skills. These skills are considered as the core part of the curriculum as per functional skills approach. Learning to perform these skills enables the student to spend his/her life more independently in a variety of settings. Such skills are not only performed by disabled people but also performed by the people without disabilities. Thus, the curriculum designed based on functional skills approach teaches such skills which are performed by persons who do not have disabilities. Learning to perform day-to-day tasks executed by people without disabilities increases the opportunities of disabled students for being a part of social integration and interaction. Along these advantages, functional skills approach to developing curriculum has a disadvantage as given below:

- The functional skills approach lacks a clear organizational framework because there are no universal criteria for determining what skills are functional and relevant for a particular individual.

### 1.3.2 Ecological inventory approach

The ecological approach to identifying curricular content for students with disabilities was developed in response of two reasons. Firstly, the traditional models of curriculum development posed a number of disadvantages for teachers and students as discussed earlier. Secondly, several follow-up studies indicated that the students with disabilities were not making a successful transition from school to adult life in the community. But they experienced high rates of unemployment, segregation from their chronological age peers, and stayed at home with no meaningful activity for long periods of time. Due to these reasons, parents asked to the responsible agencies for curriculum revisions. Educators began to discuss what outcomes were desirable for children with moderate to severe disabilities after graduation and how curriculum might be designed to meet them. Consequently, they proposed three dimensions with which the adult lives of persons with moderate to severe disabilities might be used to evaluate the success of schooling as given below:

- Degree of participation in community activities and organizations.
- Degree of independence or extent of reliance upon others.
- Productivity or the extent to which one is involved in paid and unpaid work.

The ecological inventory approach came into practice by incorporating these three dimensions. Hence, ecology refers to the interrelationships between people and the environment. The ecological approach emphasizes the stimulus features of specific settings in which people are expected to function and gives importance of conducting training in those settings. The term "inventory" refers to the process of systematically analyzing natural settings in the community, school, and at work to identify the skills needed for children to function independently in those settings. This approach focuses on the five domains namely community, school, vocation, community access, and recreation-leisure. These domains represent basic areas of day-to-day life for all people. The ecological approach emphasizes access to normal settings and opportunities to interact with persons without disabilities.

## Let Us Sum Up

In chapter one, we discussed about individual differences of the students and how such differences are taken into account while developing and adapting curriculum in SNE. All individuals are dissimilar to each other in term of their ability, preferences, and personality traits. Therefore, their needs and expectations cannot be completely similar to one another. Students attend at a class may be different in terms of their cognitive abilities, learning styles, intelligences, readiness, and learning pace. So the curriculum designed in advanced may not be fruitful to all learners. The needs, abilities, and expectations of children with special needs are hugely diverse than the normal children. Due to the reason, special students do not have proper access to general education curriculum. Some children especially the children with severe intellectual disabilities may require different curriculum (functional curriculum) since they cannot learn academic content as intended manner. But most of the students with special needs can get benefit from general education curriculum after its accommodation and modification. Finally, we also discussed about different approaches need to be applied while identifying curricular contents for the children with special needs in inclusive settings.

## Unit-end Activities

- **Objective Questions**

Tick (✓) the best answer.

“Group-A”

1. Which of the following statements is correct?
  - a. **Most of the students possess average cognitive abilities**
  - b. Female students possess high cognitive abilities as compared to male students
  - c. Male students possess high cognitive abilities as compared to female students
  - d. Most of the students hold low cognitive abilities
2. Which of the intelligence is incorporated within Gardner’s classification?
  - a. Mathematical intelligence
  - b. Interpersonal intelligence
  - c. Spatial intelligence
  - d. **All of above**
3. Differentiated instruction is especially used
  - a. to provide support to disabled students
  - b. **to assist those students who have special learning needs**
  - c. to help gifted and talented students
  - d. to facilitate general students

4. Kinesthetic or tactile learners learn best when they
  - a. get opportunity to learn through reading, writing, and observing
  - b. obtain chance to learn through oral presentations and explanations
  - c. manipulate objects or materials in their active involvement**
  - d. study content through interaction
5. School and contemporary society give priority on
  - a. interpersonal and intrapersonal intelligences
  - b. spatial and musical intelligences
  - c. kinesthetic and linguistic intelligences
  - d. linguistic as well as logical-mathematical intelligences**
6. Children with verbal-linguistic intelligence enjoy
  - a. reading, writing, and listening**
  - b. singing and dancing
  - c. studying independently
  - d. learning through interaction
7. Which of the following approaches to curriculum development was based on theories of normal trend of human development?
  - a. Functional skills approach
  - b. Developmental approach**
  - c. Basic academic skills approach
  - d. Ecological inventory approach
8. The developmental approach for identifying content is also known as
  - a. most prevalent approach
  - b. formative approach
  - c. norm-referenced approach**
  - d. criterion-reference approach
9. 'Curriculum is primarily concentrated on the traditional academic 3Rs' is a disadvantages of
  - a. Functional skills approach
  - b. Developmental approach
  - c. Basic academic skills approach**
  - d. Ecological inventory approach

10. The developed curriculum emphasizes on daily life skills mainly in

- a. **functional skills approach**
- b. developmental approach
- c. basic academic skills approach
- d. ecological inventory approach

- **Short answer questions**                      **“Group-B”**

1. All individuals are different from one another. Clarify this statement in your own words.
2. How can we apply individual differences of the students while implementing curriculum in SNE? Discuss.
3. Explain how readiness affects learning of the students studying at particular class with examples.
4. The curriculum developed for the children without disabilities may not be useful to the children with disabilities. State your arguments.
5. Ecological inventory approach is more advanced approach to curriculum development. How? Describe in brief.

- **Long answer questions**                      **“Group-C”**

1. List out different types of intelligences and explain all of them in brief.
2. What are the traditional approaches to identifying curricular content in the field of special needs education? Describe each of them in brief.
3. What are the advantages and disadvantages of basic academic skills approach? Discuss in short.

### **Points for Discussion**

- Discuss the implications of individual differences in curriculum development process.
- Describe Gardner’s eight types of intelligences.
- Explain the traditional approaches to identifying curricular contents.
- Introduce ecological inventory approach of developing curriculum.

## Unit 2: Curriculum Differentiation

### 2.1 Concept of Curriculum Differentiation

Children come from diverse academic, social, and cultural backgrounds share similar learning environment especially in general school or classroom. Even sharing the common learning environment, they have distinct needs, interest, expectations, emotions, etc. Due to such variations, all the students enrolled at particular class cannot attain determined objectives to the similar extent, they cannot learn the suggested content in the same pace, and they cannot respond asked question to a similar degree. In this regard; it is our duty to be fair to our students, and to do so, we should adapt or modify the curriculum as per their learning needs. Therefore, curriculum differentiation is very useful to ensure effective learning by addressing such diversified needs and expectations of the students.

Curriculum differentiation is nothing more than good teaching. Effective teachers can differentiate instruction for all students by using some techniques that involve quickly identifying the issue, generating alternative solutions, and trying one or two to determine whether they work or not. Teachers make curriculum differentiation especially to adjust their teaching techniques to take account of children's diverse needs and abilities. Thus, curriculum differentiation refers to a technique that is particularly applied to accommodate individual student's learning styles and instructional preferences. In curriculum differentiation, teachers use same material to all learners by using a variety of instructional methods or teach same content at different difficulty levels by considering their needs, learnability, and interests of all students enrolled at a class to study common subjects. More importantly, curriculum can be differentiated in both macro and micro levels.

Curriculum differentiation is the process of modifying or adapting the curriculum according to the different ability levels of the students in one class. More or less similarly, Tomlinson (2004) defines differentiated instruction as a philosophy of teaching based on the premise that students learn best when teachers accommodate teaching techniques as per their readiness, interests, and learning profiles. In addition, Willis & Mann (2000) describe differentiated instruction as a teaching philosophy based on the premise that teacher should adapt instruction to student differences because "one size does not fill all". While differentiating curriculum of particular grade or level, teachers can change or modify the objectives

to be attained, contents to be learned, instructional techniques to be employed, and evaluation procedures to be carried out to address each student's needs, ability, learning styles, and interests.

Differentiation is a broad term generally applied to tailor the teaching environment, curricula, and instructional practices for the purpose of creating appropriately different learning experiences for students with different needs, interests, readiness, and learning profile. Differentiated instruction brings to center the professional paradox for meeting the unique needs of a diverse student population while employing an increasingly standards-based curriculum under regulated circumstances. Thus, curriculum differentiation is a process where classroom teachers accommodate objectives, content, learning activities, mode of assessment, and sometimes classroom setting to meet the unique needs and interests of her/his learners. In this process, teachers provide ample opportunities to the learners to practice the behavior intended by the curriculum and they can go forward for learning as per their own pace. Furthermore, s/he also employs varies learning experiences by taking into account the diverse needs and abilities of the learners to teach the content suggested in the planned curriculum. Curriculum differentiation enables teachers to plan instructional activities and develop educational setting for students of differing abilities within the same class. Let's see an example of curriculum differentiation.

There are 21 students at grade six who have been studying same curriculum within common learning environment. Among them one student is too fast and learns quickly as compared to others. He knows almost all the contents that teachers teach in different periods. Due to this reason, he does not pay proper attention towards the lesson taught inside his classroom and sometimes tries to make noise in the class by talking with nearby friends. In this condition, teachers can differentiate her/his curriculum by:

- setting higher level benchmarks
- removing already mastered contents from the curricula
- adding new contents useful the learner
- ensuring participation in advance level activities directly related to curricular content
- assigning advance level problems for practice
- extending existing curriculum to provide enrichment activities
- suggesting new lessons or courses that meet the needs of the student, and the like

## 2.2 Need of Curriculum Differentiation for the Children with Special Needs

Although the Nepal Government has made several provisions for ensuring different learning needs of the learners in national level policy documents, all of them are still expected to follow the same

curriculum disregarding their individual needs, abilities, and capabilities. The school curriculum in Nepal is not flexible and teachers have still adopted traditional pedagogies in the classroom teaching. As a result, children with disabilities suffer from the largest challenges in access, participation, and learning outcomes, and then repeatedly fail in mainstream schools. Educational wastage is evident especially in the early grades as well as in the transition from grade 5 to 6 and from grade 8 to 9 (Ministry of Education, 2016). In this regard, curriculum differentiation can work as an important technique to address such problems existing in both special and integrated schools in Nepal.

Curriculum differentiation is the process of modifying or adapting curriculum as per the needs, interests, abilities, and learning styles of the students studying at the same class. In the field of education, differentiation is generally applied to tailor curricula, instructional practices, and environment for the purpose of providing apposite learning experiences to the learners with diverse needs, readiness, and learning profile. Thus, in curriculum differentiation, teachers can adjust the objectives to be attained, contents to be learned, instructional techniques to be employed, and evaluation procedures to be carried out for addressing the special needs of the students.

All Nepalese children have equal right to get free education up to secondary level. Ensuring their right to education, Curriculum Development Centre has been designing and disseminating same curricula all over the country for ensuring equal learning opportunities of all children including the children with disabilities. But the needs and interests of the children with disabilities are hugely different than normal children. They have their own cognitive abilities, learning styles, perceptual abilities, readiness, learning pace, and interests. Disabled children therefore cannot get sufficient advantages from the curriculum primarily designed for the children without disabilities without accommodating it as per their individual needs and abilities. Otherwise, students with disabilities show poor academic performance in the school, repeat particular class frequently, and dropout from the school, which ultimately decrease both internal and external efficiency of whole education system.

Students with special needs cannot achieve higher level cognitive outcomes without differentiating the general curriculum, instructional activities, and assessment procedures. When subject teachers accommodate or modify curricular goals, contents, instructional activities, evaluation procedures, and learning environment as per the special needs of the students then they can get proper chance to develop their inner potentialities to a fuller extent. Therefore, general education curriculum must be differentiated as per the unique needs and interests of the children with special needs for their cognitive development to an optimal level.



## 2.3 Rationale for Curriculum Differentiation

The rationale of curriculum differentiation is to ensure all learners' participation in instruction through different learning modalities. It means; teacher should accommodate all learners' needs and abilities by using varied rates of instruction and providing varied degrees of complexity within and across challenging curriculum. Curriculum differentiation maximizes each student's growth and individual success by meeting each person's learning needs. There are a lot of rationales of using differential instruction from lower to higher level of education, among them; some are given below:

### 2.3.1 Meeting special needs of the children

Nowadays society is continuously being diversified with rapidly and constantly changing time. Demography, structure, culture, language, and dynamics of every society are changing tremendously due to the impact of science and technology, and sometimes due to rapid migration of the population. Such diversity is also seen within educational institutions of every country. It means; such diversity is also found in Nepalese schools. Nepalese classrooms are full up with students come from different social, cultural, linguistic, and religious backgrounds. Each classroom is also diversified as per the ability of the students. Most of the students can learn the prepared curriculum as it is but some children with special needs cannot learn planned curriculum as intended manner without its proper differentiation or accommodation. In this regard, differential curriculum is very useful to address classroom diversity for effective learning. Hence, teachers can adapt their instruction as per the needs of their children to be responsible while implementing curriculum.

In Nepal, school curriculum, which is monolithic in nature, is mainly designed by Curriculum Development Center and then the prepared curriculum is disseminated all over the country. Curriculum Development Center also prepares different curricular materials by considering the language diversity of Nepal. However, the curriculum made in central level is disseminated and implemented throughout all Nepalese schools without accommodating it as per the needs and context of particular community and school. Such curriculum cannot be effective without its proper differentiation. School teachers should therefore differentiate prepared curriculum by considering the individual needs, ability, interest, linguistic background, and the like of the learners for effective teaching and learning.

### 2.3.2 Achieving legal mandates

Curriculum differentiation is also helpful to meet legal mandates intended by Education for All (EFA), No Child Left Behind (NCLB), Individual with Disabilities Education Improvement Act (IDEIA). All these policy provisions promote the inclusion of increasing numbers of students with disabilities as full participants in general education curriculum and assessment. All these mandates have focused to improve the academic environment of the educational institutions by using better instruction and learning activities, to provide equal opportunities to all children irrespective of their gender, cast, ability, and socio-cultural backgrounds to practice the behavior intended for the purpose of enhancing their academic performance.

EFA offers easy access to education of all children including children from disadvantaged, marginalized, and endangered groups; and mastery of basic academic skills. Similarly, the NCLB Act requires teachers to meet the standards of high qualification in the every subject area they teach. They should give good result by increasing the academic achievement of all learners including the children with disabilities. On the other hand, another legal mandate IDEIA contends that learners with disabilities should be given proper opportunities to participate in the general classroom with their normal peers. To meet all these legal mandates, teachers and other responsible people should differentiate their curriculum in general and instruction in particular to enhance their academic growth by addressing diverse needs and interests of all children.

### 2.3.3 Implementing democratic values

In democratic society, all children including girls and children with disabilities have equal right to have access to quality education with proper respect of their individual differences. Differentiated instruction is taken as the best way to acknowledge educational needs and expectations of all children come from diversified backgrounds. When teachers differentiate instruction in their classrooms then they consciously make the content, processes, and outcomes of curriculum more accessible to all students regardless of their race, gender, ethnicity, language, or differing abilities. Teachers can use culturally responsive pedagogy and evaluation procedures to differentiate their instruction with an intention of addressing different learning needs of all children.

Differentiated instruction is very fruitful to develop cooperative learning, democratic values, we-feelings, and other important life skills inside the classroom. In this regard, some specialists state that democratic classrooms are composed with such students and teachers who conceive themselves as active participants in group learning. In such community learning, diversity is respected, acknowledged, honored, and accepted as an opportunity to learn something new from each other. Such communities are made up with a group of people representing differences in age, culture, ethnicity, gender, socioeconomic class, expectations, and abilities. In contrary, providing education in different groups based on age, ability, cultural background, gender, and socio-economic status may divide the unified society into different strata, which does not reflect the culture of democratic society. Therefore, diversity should be encouraged within educational institution to foster democratic culture in the family, society, nation, and ultimately in the whole world. To acknowledge such diversity inside each classroom, curriculum differentiation must be employed effectively by each teacher.

### **2.3.4 Dispel the myths rooted behind disabled children**

Many studies indicate that the children with disabilities, the children from marginalized, disadvantaged, and endangered communities, and the children from poor economic background show poor performance on achievement tests as compared to other normal children. Many educationists, teachers, parents, and other concerned people contend that the children with disabilities cannot learn curricular contents to a similar extent as normal and gifted children, and some of them believe that all the money, resources, and time invested on them go in vain because they cannot learn as intended manner. And then such children are labeled as under-achievers and disabled with low or no expectation from them. Teachers do not provide sufficient supports to the children with disabilities at schools in one hand and parents do not pay proper attention towards their education at home on the other, and ultimately they cannot show good performance in the field of education as intended by teachers and parents.

Nevertheless, such assumptions made by general people about the students especially learners with disabilities and their potential are often wrong. In the past, almost all the people thought that children with cerebral palsy, people with autism, and the persons with other types of disabilities could not learn curricular contents anymore. Likewise, people did not allow girls to attend at the school due to low expectation from them. Same condition was also found in the

case of those children who were directly affiliated to poor, disadvantaged, and marginalized families. Such assumptions about these children limit their opportunities to have access to and success in education. These children cannot get apposite supports from the side of responsible persons and agencies due to the negative thinking towards them. Some people only see their limitations rather using their strengths and potential for their optimal educational growth. Such negative assumptions and low expectations towards them limit their educational opportunities till the date especially in the context of Nepal.

Differentiated curriculum can play supportive role to dispel the myths rooted behind their potentialities and abilities. Teachers can assist to the children with disabilities and to the children who come from poor, marginalized, and disadvantaged groups by differentiating their instructional activities. Teachers can provide additional supports to those who have poor academic performance and provide advance level assignment to those children who are good in the class with the help of differentiated instruction. If every child gets enough supports and opportunity to learn the content as per her/his need, interest, and ability then s/he can develop her/his inner potential to a fuller extent.

### **2.3.5 Making instructional activities effective**

Nowadays different studies show that the differentiated curriculum is very effective to address the diverse needs and aspirations of the children with special needs. If teachers or para-teachers use the developed curriculum as it is (without accommodating it) then all children come from diverse backgrounds cannot take proper benefits from it. Teachers therefore should accommodate or modify the curriculum by considering the learners' individual background to be effective in teaching. When differentiated instruction and co-teaching are combined, results can be seen in increased performance of students on high stakes assessments. Combing differentiated instruction with co-teaching is particularly useful to meet the unique learning needs of the students.

Teachers can differentiate their instruction by using hands-on activities, cooperative learning groups, peer tutoring, and increased teaching materials in the classroom. Differentiated instruction allows both general and special education teachers to work together in inclusive classroom setting. When both general and special teachers handle particular classroom jointly then all students including learners with special needs can get high level of benefits as compared

to the involvement of single teachers. Classroom instruction becomes very interesting and teachers do not need to use external reinforce to motivate the students towards the lesson. Thus, all students including students with special needs can get ample academic gains through the application of differentiated instruction. Both general and special teachers therefore should use curriculum differentiation to make their instructional activities more effective and productive.

## 2.4 Teacher's Role in Differentiating Curriculum

Teachers play very crucial role in differentiating curriculum as per the diversified needs, interests, and abilities of the learners. Teachers or other responsible persons can differentiate the curriculum by changing the contents, methods of teaching and learning, and the assessment approaches. It means; teachers can modify different curricular components such as methods of presentation, methods of practice and performance, and method of assessment to make his/her teaching more effective and productive. Furthermore, teachers should use equity pedagogy to accommodate their instruction as per the learning styles and cognitive abilities of the students. In other words, curriculum must be differentiated to the diverse needs of the learners in order to making their academic career more successful. While differentiating curriculum, teachers mainly accommodate or modify the goals to be attained, contents to be taught, learning experiences to be executed, assignment to be given, time to be employed, instructional activities to be used, or/and supports to be provided to the students particularly to address the unique needs and interests of the students. By supporting this statement, Browning (2005) states that teachers can differentiate the quantity of content, time, level of support, degree of difficulty, output, participation, goals, and sometimes substitute the curriculum to address the diversity of the classroom. A teacher generally plays two roles namely a facilitator and a collaborator while differentiating curriculum, which are discussed below respectively:

### ❖ *Teacher's role as a facilitator*

Teachers primarily play three role or responsibilities – providing and prescribing differentiated learning opportunities, organizing students for learning, and using time flexibly – as a facilitator of curriculum or instruction differentiation. Teachers provide a wide range of learning experiences that provide ample opportunities to the learners to practice the behaviors intended for effective learning. Teachers should be conscious about students' individual differences at the time of selecting instructional activities and determining challenges for productive learning. Moreover, teachers offer students a range of opportunities to choose what they will do, how they

will do it, and what their ultimate product will be. Likewise, teachers prescribe valid and significant content, appropriate activities useful to practice the knowledge and behaviors intended, and multiple ways of expressing results or products. While doing so, teachers must consider students' personal needs, interests, learning styles, intelligence, and ability.

Proper grouping of students for effective learning is another part of differentiated instruction. Differential instruction uses flexible instructional grouping to provide opportunities for students to learn with others who have similar needs, styles, or preferences. As a facilitator, teacher should make different groups of students during instructional time by taking account their individual needs, preferences, abilities, and so forth. Depending on the nature of contents, students may work individually, or in pairs, or in group, or sometimes as a class. Teacher should identify apposite ways useful to organize students for particular activity, generally by following curriculum goals, nature of content, resources available at the classroom, teacher's competency on the strategy that is going to be used, and the individual background of the students. Students may also be grouped according to their learning styles – visual, auditory, and kinesthetic. The topics interested can be used as another criterion of grouping, and students can also be organized based on their learnability. Those children who are poor in academic activities may involve within basic groups and those who have mastery in suggested contents may participate within advanced groups. Thus, organizing students in logical way for fruitful learning is considered as a prominent task of teachers who paly vital role in differentiating instruction.

Flexible time schedule is another aspect of differentiated instruction. Hence, it indicates that teachers should use available time as per the needs of learners. More time should be provided to the learners who need more description, repetition, explanation, and practice. On the other hand, additional or more advanced level contents should be provided to those who show mastery in the prescribed curricular content. Curriculum accommodation, enrichment, and modification should be done to the gifted and talented students. Generally, more time should be allocated to the children who have disabilities, and short time should be given to learn particular content especially to the gifted and talented students and more advanced level of contents should be provided to them for further study. Thus, time is applied in flexible way in differentiated instruction to accommodate students' needs and preferences.

### ❖ *Teacher's role as a collaborator*

Differentiating curriculum or instruction is a work to be carried out in collaborative way. Teachers therefore should try their best to differentiate classroom instruction or the recommended curricula by keeping collaborative relation with other staffs working within a roof of the school. Any teacher must get help from other staffs make curriculum differentiation more effective and productive. While doing so, following points should be kept in mind:

- Different classes can be combined for particular activity supported by one teacher. At that time another teacher can work freely on planning differentiated activities useful for both of them.
- Any teacher can make teams for carrying out certain tasks for differentiated instruction and then share the results between one another.
- Teacher should share the available resources for differentiation in justifiable way to get good result through instructional activities.
- Teacher should work with the media specialist in the school. S/he can play the role of an assistant in finding out relevant books, articles, materials, and other resources.
- Teacher should communicate frequently with other specialists such as special educators, language therapist, child psychologist, vocational therapist, etc.

Thus, teachers can differentiate instruction to make their teaching and learning process more effective. For doing so, teachers should identify what types of differentiation are needed to the children with special needs by coordinating with special educators, therapists, psychologists, etc. They can also differentiate their instruction by getting detail information about the children from their parents and normal peers. Furthermore, teachers can directly contact to the students to gather their personal information to diagnose their needs, problems, and aspirations for the purpose of effective curriculum differentiation. Hence, we can conclude that teachers should play the role of collaborator to ensure involvement of different people in instructional planning for its proper differentiation.

## **2.5 Guidelines Need to be Considered while Differentiating Curriculum**

Anybody can easily see that every classroom is full up with students having great diversity of learning needs, styles, interests, abilities, motivation, and the like. Teachers should conduct instructional activities in the classroom as per such individual differences to be successful. But most of the teachers

especially from underdeveloped and developing world do not have proper knowledge about differential instruction. They neither get knowledge about differential instruction from their degree course nor from the training especially provided to them. They generally conduct instructional activities without differentiating them as per the needs, cognitive abilities, learning styles, motivations, etc. Due to the reasons, students cannot make clear concept on the contents delivered among them and consequently they show poor performance in the exam. School teachers therefore should use differentiated instruction effectively to make their students successful in academic field in particular and in their further life in general. For doing so, teachers should consider following points:

❖ ***Attend trainings, workshops or graduate classes***

Content related to differentiated instruction has not been incorporated sufficiently within teacher preparation programs with an intention of meeting the special needs of gifted children and children with disabilities. Furthermore, general knowledge and skills for teaching are provided to the teachers through training programs organized by governmental and non-governmental agencies. Due to these reasons, teachers do not have enough knowledge and skills on curriculum differentiation. Best ways to get knowledge on differentiated instruction are to attend in training, workshops, and/or graduate classes by following related specialization degree. Teachers can also make study teams or open resource materials clubs with colleagues to discuss and read resource materials about instructional or curriculum differentiation and then they should apply obtained knowledge and skills continuously in real classroom situation. It means, teachers should differentiate content, process, product, environment, time, and other resources based on the individual needs, reading styles, intelligences, pre-experiences, learning styles, and so forth after getting sufficient information on it.

❖ ***Use new instructional strategies for effective learning***

Teachers generally want to use those strategies and skills on which they are habituated. Most of the teachers generally do not want to take any risk and challenges while bearing any kind of responsibility in teaching profession. It means; teachers would not like to take risk by using new strategies (differential instruction, universal design for learning for examples) inside their schools or classrooms to teach something new to their learners. Consequently, some students do not get success as intended manner, some may feel frustration, and some may be bored and discouraged. In this situation, teachers should find out the alternate instructional strategies and



use them inside the classroom to improve students' learning by solving different types of problems. Teachers should use different alternative instructional strategies such as individualized instruction, individual study, peer teaching, team teaching, etc. to differentiate their instruction with the intention of accommodating individual needs and interests of the learners. Thus, teacher should differentiate instruction by considering the diverse needs, styles, abilities, cultural, and linguistic backgrounds of the learners, then the chosen instructional strategies work in the favor of all students rather than addressing the needs and problems of only few.

❖ ***Standards of the curriculum can be easily attained through differentiated instruction***

Some people argue that curricular standards cannot be attained by using differentiated instruction. But it is wrong concept because when the teachers use same strategy without accommodating it as per individual differences of the students then only a few numbers of students can get benefit from such instruction. It is not only difficult but impossible to attain intended objectives of the curriculum by employing particular strategy. In this regard, differentiated instruction is the best way useful to make all students able to attain determined objectives to what extent they can achieve.

Differentiation may be the key to ensure students' success in a standard-based education system. Some people contend that differentiated instruction takes more time to teach small portion of content. But it is wrong argument. Teachers can use their time more efficiently in differentiated instruction. They can adjust pace of teaching and depth of content as per the needs and the demands of the curriculum. Teachers can delete those contents which are already known by the students and add new and useful contents on required basis. They can give more time to the learners who need more practice by allocating different tasks to the children who are found more genius in the class. Thus, no child left behind if the teachers use differentiated instruction at their classroom appropriately.

❖ ***Start from the small and reach to the destination***

Some people argue that teachers have to bear a lot of responsibilities while using differential instruction within their classroom. Teacher's increasing responsibilities such as paperwork, conferences, faculty meetings, committee meetings, coaching, advising, replying email, etc. may limit the time for teaching. Certainly, with the advancement of knowledge, science, and technology; role and responsibilities of the teachers are not only limited within instructional

activities. They have to bear other responsibilities as well. Teachers can begin from small change and then should reach to the intended destination for quality education. At the beginning, they may differentiate specific topic, or a subject and then finally whole instructional process to offer change within whole education system.

Teachers need to review curriculum guide and should identify whose needs are addressed properly through the activities included within the guide, and plan new activities that are essential to address the special needs and demands of the children studying at the same class. Moreover, teacher should provide multiple learning activities useful to develop expected knowledge and skills by addressing diversified needs of the learners. Differentiation is not a task to be completed in one shot but it takes time to take place into practice. Teachers therefore should commence the differentiation from small task and extend it simultaneously for better learning of all learners including those with disabilities. Teachers should understand differentiated instruction as a cumulative process – a lesson, a unit, a subject, etc. at a time.

❖ ***Clarify the utility of differentiated instruction to the parents***

At the beginning of the differentiation, parents may ask questions about the results of new activities which are mainly organized for their children. Teachers therefore should clarify the goals and methods of differentiation to the parents for convincing them. They should justify how the differentiation is far better than previous instruction, benefits that will be gained from it, how it fulfills diverse learning needs of the children come from different backgrounds, etc. It should be reassured to the parents that groupings and tasks are always changing and teachers continually monitor and assess students' behaviors in differentiated instruction. Every student gets ample opportunities to foster her/his inner potentials to a greater extent, students are allowed to work with peers who have similar interests and demands, with the peers who have different preferences, and also individually. Finally, the main content need to be clarified to the parents is that differentiated instruction increase the chance to be successful for all children in different ways and at varying paces.

❖ ***Students should be grouped differently***

Teachers need to make differentiated instruction invisible to prevent the feeling of unfair, inequality, and prejudice. For this purpose, teachers should organize students by using different criteria – needs, interests, abilities, similar instructional needs, etc. for examples. If students are

grouped in same way then they may feel unfair by thinking that some peers always get simple tasks and some peers always learn advance level knowledge and skills. Hence, teachers must be clear about this negative consequence while grouping students for particular purpose. They should differentiate their instruction on regular basis, students would not know from past experience that certain stratum prevails inside the classroom. For doing so, teacher must group students differently; sometimes as per their interest, sometimes on the basis of similar instructional needs, and sometimes on the basis of ability for examples. However, it is crucial that all learners should find their work relevant, valuable, engaging, and interesting. More importantly, students should be given more challenging works rather than assigning more quantity of works.

❖ ***Differentiation seems more challenging at the beginning***

At the beginning of practicing differentiated instruction, teachers may feel difficulty creating differentiation by classifying students into different groups and assigning multiple tasks. While doing so; it can be challenging to figure out whom to group, when to group, what criterion need to be followed while grouping, and how to monitor students' activities. If teachers try their best to differentiate instruction on regular basis, then they feel this task be easy simultaneously, and all students can get change to learn prescribed content in their own pace, develop intended skills easily, and after few days practice, they can work assigned activities independently.

❖ ***Differentiated instruction does not offer more resources***

Generally school budget is invested in instructional materials, professional development, curriculum planning, implementation, and assessment. And people think that more time and money is required to differentiate instructional process for the purpose of accommodating diversified needs of the learners. Actually, differentiated instruction does not require additional supplies. It is a way of thinking about accommodation and modification of curriculum and diversity of the students. Differentiated instruction is a collection of strategies that enables teachers to better address and manages the variety of interests and abilities of the students with special needs.

## 2.6 Domains of Differentiating Curriculum

Domain of differentiation refers to the areas that generally used by teachers to differentiate their curriculum for addressing the diversified needs, interests, aspirations, and abilities of the learners. Generally, teachers differentiate their instruction in three areas namely content, process, and/or product. Furthermore, some studies (Thakur, 2014; Machu, 2015, for examples) have added learning environment as another area of differentiation useful to meet the diverse needs of all learners. Block (2007) suggests that three strategies such as curriculum accommodation, curriculum overlapping, and activity adaptation should be used for curriculum differentiation. When teachers differentiate instruction, they are consciously making the content, process, and outcomes of instruction more accessible to all students – regardless of their race, gender, ethnicity, language, or diverse abilities. Differentiated instruction therefore mainly involves adaptations or modifications in one or more of these areas. Brief description of these areas including the ways of differentiating them is given below:

### ❖ *Content*

Content is taken as a core component of curriculum, which is generally chosen in advance to develop significant and valid knowledge and skills of the learners. It is the special function of the curriculum developers to select and organize such content that is useful to attain the desired aims, goals, and objectives of curriculum effectively, and the most important and desirable knowledge, values, and skills of the race are effectively transmitted. The content organized within the curriculum cannot be learned by all learners to similar extent and in the same pace due to individual differences in terms of learnability, interests, motivation, and the like. Therefore, some students require more practice on the content to get mastery on optimal level but some need less practice or repetition to get same level of mastery. Likewise, some learners learn large amount of content within stipulated timeline but some only learn a small list of contents within that time.

Students no longer need to learn the same information at the same time. If the curricular content is too difficult as compared to student's learning ability level, then the child becomes frustrated and discontinues learning. This student often experiences the "I can't" feeling. In this situation, teachers can differentiate content by using various ways of presentation, engagement, and expression. It means; s/he can provide different study materials (books, references materials, for examples) written into different difficulty levels. In this condition, those children who are excellent in reading can get in-depth information from the alternative materials and who are poor

in reading can get basic or conceptual knowledge with the help of such materials. Similarly, teachers can teach new contents in progressing order to the children who are in good ranking in the class, and at the same time, they can also repeat the same content frequently to clarify the children who are in lower position in the class. In this regards, teachers can use Bloom's taxonomy or new taxonomy of educational objectives as the guideline to differentiate curricular contents for the purpose of acknowledging learners' individual needs and abilities. Teachers can select content from knowledge, and comprehension level for the students who are at beginning state, and they can choose contents from analysis, synthesis, and evaluation level for the students who possess good position in the class.

#### ❖ *Process*

Process is another domain of differentiation in which a teacher uses different teaching methods and various learning experiences to accommodate the diverse learning needs of the learners. As discussed earlier, all students have their own cognitive ability, learning style, and pace of learning. Therefore, teachers should select appropriate teaching methods, proper tasks, and essential learning experiences by taking account such individual uniqueness. While selecting proper instructional strategies, individual needs, learner's unique learning styles, modalities, and intelligences should be taken into account. Expectations are determined by standards and reached through strategies and interventions tailored for the learner. Generally, teachers can differentiate process by adding complex or abstract tasks, by ensuring their engagement in critical and creative thinking, and by offering various ways of learning that are suited to the students' needs, aspirations, and abilities.

While teaching the role and responsibilities of the family members to the learners, teacher can differentiate her/his teaching process to the learners who have different learning styles. Teacher can ask to draw the role and responsibilities of the family members in pictorial form to the visual learners, and s/he can ask to the auditory learners to conduct an interaction intensively on the roles and responsibilities of the family members and then reach to the conclusion. Similarly, s/he may ask to the kinesthetic learners to clarify the role and responsibilities of family in Nepalese society by playing different representative roles. And finally, all learners share their content among others by applying different ways.

### ❖ *Product*

Product refers to the result of whole teaching learning process, which mainly depends on input and process of the program. A product may be something tangible, like a report, brochure, or model; it may be verbal, like a dialogue, speech, or debate; or it may involve action, like a dance. In educational process, product refers to the knowledge, behaviors, values, and skills known from curriculum and instruction. Different type of products may be occurred from same educational process. Some students learn taught content as intended by the curriculum but some students do not learn the delivered content as per expectation. After participation in an educational program, students learn so many things such as how to be prepared on curricular content, how to ask questions to the teachers, how to answer to the asked questions in the examination, how to write answer on the answer-sheet, how to behave with others, how to communicate with others, how to get help from other, and so on. But all learners attending at the same class and studying the same curricula cannot learn the same content to similar extent. Such differences are especially visible in inclusive classroom where both general and special children study together. It means; general children normally learn more content, behaviors, values, and skills as compared to the children with disabilities within particular time bound.

Teachers can differentiate products by following Bloom's taxonomy and Gardner's multiple theory of intelligence. Teachers can create greater challenges and provide multiple ways of expression by using different levels of Bloom's taxonomy, by applying different types of intelligences, and learning styles of the learners. While differentiating products, teachers can ask several questions useful to measure the skills of presenting information, organizing content, analyzing particular phenomenon logically, etc. Teachers can also ask some problematic questions for finding out appropriate solutions. Moreover, they can ask one or more phenomena to analyze critically especially to those students who have verbal and linguistic intelligence.

On the other hand, teacher can ask to a group of students to carry out a study on particular educational or social issue with an intention of finding out useful solutions especially for those who have good interpersonal skills. Students can also express their knowledge and skills by composing music, by writing a new poem, by designing a dress, by designing a unique program to improve the problems of education, and so forth. Thus, teachers should identify student characteristics, intelligences and learning styles for examples, to differentiate various components of the curriculum. Assessing and knowing more about students and their individual characteristics

help know what part of the curriculum need to be differentiated in a given lesson. As whole, teachers should differentiate the product of educational program by encouraging students to participate in challenging work and to create something new by using the knowledge and skills what they have learned from the formal and informal contact with more knowledgeable others.

## Let Us Sum Up

In this chapter, we discussed different contents regarding curriculum differentiation. Generally, we studied concept of curriculum differentiation, need of curriculum differentiation for children with special needs, and rationales of curriculum differentiation. In addition, we also discussed different roles that both general and special teachers can play while differentiating general education curriculum, and the guidelines that need to be considered by teachers and other responsible people to differentiate curriculum in effective way. Finally, different domains of curriculum differentiation have also been discussed for further information to the students studying under the Department of SNE.

Curriculum differentiation is very popular technique to accommodate the diversified needs of the learners who come from various backgrounds. Curriculum differentiation is any adjustment or modification to the teaching and learning environment, teaching and learning techniques, instructional materials, and assessment procedures that enhances a learner's performance. Most educators agree that curriculum differentiation can dramatically help students get success in their school life. But good differentiation needs careful planning to make sure students with diverse needs are engaged in their learning activities. Teachers should play vital role for differentiating general education curriculum for its effective implementation.

## Unit-end Activities

- **Objective Questions**

Tick (✓) the best answer.

**"Group-A"**

1. Teachers make curriculum differentiation especially to
  - a. **to address unique learning needs of children**
  - b. to develop cognitive abilities of normal students
  - c. to ensure cognitive growth of gifted students only
  - d. to offer different curriculum for the children

2. Which In curriculum differentiation, classroom teachers
  - a. use same learning materials at similar difficulty levels
  - b. teach same contents by applying same instructional strategies
  - c. teach same content at different difficulty levels**
  - d. implement general curriculum as it is
3. Differentiated instruction is especially used
  - a. to provide support to disabled students
  - b. to cope special needs of the learners**
  - c. to help gifted and talented students
  - d. to facilitate general students
4. Curriculum differentiation is the process of modifying or adapting the curriculum as per
  - a. common needs of the learners
  - b. problematic behaviors of the students
  - c. emotional behaviors of the students
  - d. diverse learning abilities of the students**
5. Teachers can differentiate her/his curriculum by
  - a. setting higher level benchmarks
  - b. removing already mastered contents from the curricula
  - c. adding new contents useful the learner
  - d. All of them**
6. Which one is the main rationale of curriculum differentiation?
  - a. Implementing democratic values**
  - b. Addressing common needs of children
  - c. Provide opportunity to study independently
  - d. Provide chance to learn content through interaction
7. While differentiating the curriculum, a teacher can play the role of
  - a. administrator and policy maker
  - b. facilitator and collaborator**
  - c. administrator and facilitator
  - d. policy maker and collaborator
8. What roles a teacher should play as a facilitator while differentiating curriculum?
  - a. Providing differentiated learning opportunities
  - b. Organizing students for learning
  - c. Using time flexibly
  - d. All of above**



9. Differential instruction uses
    - a. traditional approach to grouping
    - b. developmental approach to grouping
    - c. **flexible instructional grouping**
    - d. norm-based approach to grouping
  10. Which of the following statement is incorrect
    - a. Any teacher can make teams for carrying out certain tasks for differentiated instruction
    - b. A teacher alone can do everything for the students
    - c. Teacher should share the available resources for differentiation in justifiable way
    - d. Teacher should communicate frequently with other specialists
- **Short answer questions**                      **“Group-B”**
    1. Explain the concept of curriculum differentiation for children with special needs.
    2. Why do we differentiate curriculum for addressing special needs of the students? Clarify with examples.
    3. Curriculum differentiation is very important part of teaching for meeting special needs of the students. How? Discuss with examples.
    4. We can implement democratic value inside the classroom through curriculum differentiation. Clarify this statement.
    5. What are the myths rooted behind disabled children in Nepal? How can we dispel these myths by curriculum differentiation? Discuss in brief.
  - **Long answer questions**                      **“Group-C”**
    1. What are the rationales of curriculum differentiation? Describe each of them in short.
    2. What are the major roles that Nepalese teachers can play while differentiating curriculum with the intention of meeting special needs of the students? Explain.
    3. State the guidelines for curriculum differentiation and explain them in brief.

## Points for Discussion

- Introduce the concept of curriculum differentiation.
- Discuss the needs of curriculum differentiation in Nepalese schools.
- Clarify the rationale of curriculum differentiation in Nepalese context.
- Introduce the roles of teacher in differentiating curriculum.
- Explain the major guidelines for differentiating curriculum.

## Unit 3: Curriculum Accommodation and Modification

### 3.1 Concept of Curriculum Accommodation and Modification

Curriculum is the general plan for instruction adopted by school systems to guide schools in instructional activities that will provide consistency of expectations, content, methods, and outcomes for all students. Special education is a primary service provided to all eligible children. In addition to providing specially designed instruction, special education services are those services necessary to allow the student to access the general curriculum and to address the unique needs that result from the child's disability. Children with special needs cannot get benefit to optimal level from general curriculum. Therefore, access to general curriculum for students with special needs should be ensured through its accommodation and modification.

#### ❖ *Curriculum accommodation*

Accommodation refers to adapting the delivery of instruction or method for developing performance of the students without changing the content or conceptual difficulty of the curriculum. Accommodation does not change the achievement expectations from grade-level expectations for same-age peers who are typical learners. Appropriate and adequate accommodations are those that allow students to interact physically with curricular materials and benefit from them as well as to engage in teaching/learning situations as needed throughout their education. Curriculum accommodation is beneficial for all students including the students with special needs and helpful maintain students interest and participation in learning.

The most obvious reason of curriculum accommodation is that a student receives special education services, but students may also require accommodation if their learning styles differ greatly from the majority of their peers. Curricular accommodations often take the form of changes in the way material is presented. If students have difficulty reading, they may be allowed to listen to an audio recording of the material. If they have trouble in writing but are good with computer, they may have the opportunity to type their assignments by using computer. Sometimes, assignments and projects can be completed in a different format or in an extended amount of time. For long assignments, teachers may chunk the work into smaller parts to reduce the immediate burden on

the student. The main idea behind curricular accommodation is that all students required completing same or comparable work as their peers. They are held to the same learning standards, but simply complete the work in ways that better suit their individual needs.

Teachers can accommodate curriculum to help students with special reach the same learning goals as their peers by changing the input, process, product, and classroom setting. In other words, the term 'accommodation' may be used to describe an alteration of environment, instructional, equipment, and evaluation procedures that allows an individual with special needs to gain access to general curriculum. Curriculum accommodation allows students with special needs to pursue a regular course of study. Some examples of accommodation are given below:

- Sign language interpreters for students who are deaf,
- Computer text-to-speech-based systems for students with visual impairments or dyslexia,
- Extended time for students with visual impairments or learning disabilities,
- Large-print books and worksheets for students with low vision, and
- Alternative keyboards for students who operate standard mice and keyboards.

#### ❖ *Curriculum modification*

The term 'modification' may be used to describe a change in the curriculum. Modification is made for students with special needs who are unable to get proper benefits from the curricula that have been implementing by teachers. Generally, modifications involve combinations of altered content, conceptual difficulty, educational goals, and instructional method. For example, assignments might be reduced in number and modified significantly for an elementary school student with intellectual disabilities to make the content understandable to them. Thus, modification is designed for students who are either far behind their peers or have significant learning difficulties by offering reduced learning goals with low amount of content. Some examples of curriculum modification are given below:

- **Quantity:** Modify the number of items that a child is expected to learn or complete.
- **Output:** Expectation from the students should be made considering how a student responds to instruction. It means, Instead of writing an essay, they may be given multiple choice questions instead of writing essay, and they may be given a yes/no questions instead of open-ended questions.
- **Alternate goals:** Teachers should adapt the goals or outcomes of general education curriculum as per the learning needs of the children with special needs. Some children

may attain these goals within very short period of time and other may take long time to achieve similar goals. Subject teachers therefore should modify intended outcomes by considering individual learning abilities of the students.

### 3.2 Determining the Needs for Curriculum Accommodation and Modification

Monolithic curriculum cannot reflect the diversified needs of the learners come at a classroom from different backgrounds. When students have special learning needs then teachers should identify the most appropriate option to study general education curriculum content with an intention of meeting intended outcomes. Some of the students studying at school level can get benefit from general curriculum to a fuller extent without its accommodation and modification. But some children with special needs cannot get advantages in sufficient degree from general education curriculum without accommodating and modifying it as per their needs, interests, and learn-abilities. When there is question about need for some kind of accommodation and modification to content of academic curriculum, teachers and others may explore the appropriateness of different approaches of accommodation and modification to general education curriculum. They may investigate appropriateness of adaptations of cognitive demand, prerequisite curriculum from lower grade levels, alternate curriculum required for needed basic life skill use, or other forms of accommodation and modification. Teachers should consider the types of disabilities, interests and abilities of students, learning expectations over time, resources available in the school, time scheduled for curriculum implementation, etc. while making accommodation and modification on particular subject curriculum. In this title, three approaches used to determine a need for general education curriculum accommodation and modification. These approaches are discussed below respectively:

#### ❖ *The problem solving approach*

The problem solving approach contends that several focused questions should be asked to general education teacher on what types of contents he/she wants to teach to his/her students. Different questions primarily concerned with outcomes, instruction, and assessment are asked to the general teacher and then he/she gives response on what types of objectives, contents, instructional activities, and evaluation procedures should be offered to his/her students by considering their actual backgrounds. The questions generally asked to the teacher can be as follows:

- What do you want you students to know, understand, or be able to do? (outcomes)

- What learning experiences will students have in class to prepare for a successful demonstration of learning? (Instruction)
- What will it look like if students are able to demonstrate achievement of the outcome? (Assessment)

After asking several questions to the teachers, a team composing of general and special education teachers, student, and other IEP team members make decision whether the student require curriculum adaptation or not. If they are reached on the consensus that curriculum accommodation or modification is required to address special needs of the learner then they do so based on the decision made by their joint efforts.

#### ❖ *The question and analysis approach*

This approach argues that several broad questions concerning the learning needs of the children with special needs should be asked at first to the related people then the responses given by them on the asked questions should be analyzed to make curricular and instructional decisions for the children at the school. Responses to these questions can assist teams in determining if the general education curriculum, modifications of it, or other curriculum such as intensive preparation for eminent post-school transition should be a priority. Some examples of the questions that need to be asked to the concerned people should be as follows:

- What is the age of the students and how much time does s/he have remaining in school?
- What amount of success has the student had in learning academic skills?
- What type of academic skills is needed for functioning in relevant environments and also for participating in leisure and recreational activities?
- What is the relative value or significance of academic skills when compared to other skills?
- Are there other skills that will reduce dependence or increase independence?
- What are the wishes of the student and the student's parents regarding instruction in academic skills?

#### ❖ *The objective evaluation approach*

This approach has proposed specific steps a team may move through to determine the main ideas or essence of particular standards, learning objectives, or benchmarks. Teachers will be able to determine if the curriculum needs to be modified to meet the needs of a struggling learner after identifying the big ideas or essence. As in the previous approach, prerequisite knowledge and level

of cognitive involvement play key roles in determining the critical competencies. Seven steps procedures need to be followed while using this approach for making decision about curriculum modification. These steps are given below:

- Identify important target objectives stated for peers in the general education curriculum for which individual students with disabilities may need modifications in complexity.
- Create a checklist of knowledge and skill competencies that lead to the accomplishment of each target objective.
- Use the knowledge and skill checklists to determine those competencies a student does and does not possess.
- Identify the one or more competencies on the knowledge and skills list that are critical to accomplishment of the target objective at even the most elemental level of complexity.
- Use information about student possession of those competencies considered critical to determine whether to keep, modify, or change the objective and related content.
- Develop appropriate objectives tailored to the needs of specific students, keeping the general education curriculum in mind as a point of reference.
- Plan curriculum to help students attain or advance toward meeting the stated objectives.

### 3.3 Curricular Options for Program Planning

Different types of curricular options for individual with special needs have been applied to guide the IEP team for making decision while planning curriculum for individual student. These options guide educational planning for those students with special needs who are diverse than normal students in terms of their characteristics and needs. They cannot take sufficient benefits from general education curriculum. So, they require curriculum accommodation, modification, and specialization in their education. Proper collaboration should be made among team members (general educators, special educators, and other service providers) while making decision about curriculum accommodation and modification. A curricular option can be used in combination with one or more other to determine a student's program of study. It means, one student may require accommodation for some literacy activities but not for math and science. Another student may need different level of modification in all core subjects. Major options for program planning are discussed below:

### 3.3.1 General curriculum without accommodation and modification

Individual with Disabilities Educational Act (2004) places the general education curriculum at the center of curricular planning for all students including the students with special needs. The recommended and planned general education curriculum is typically presented through goals, standards, and student learning outcomes or benchmarks. Using the general curriculum as a starting point ensures that students with disabilities are provided opportunities to progress in it. Focus on the general education curriculum also ensures that curricular goals for students with special needs will be consistent with what is expected of typical students. The general curriculum includes core academic subjects, elective courses, and basic skills. Brief introduction of them is given below respectively.

#### ❖ *Core academic subjects*

Core subjects refer to those subjects that need to be studied by all students. Core courses generally consist of a specified number of units or hours in key subject matter areas such as reading, mathematics, science, social studies, etc. However, all students especially those who have been affected from particular type of disabilities cannot perform as an intended manner on these subjects. Therefore, specific interventions and changes are needed to ensure these students' access to general education curriculum and also meet their unique learning needs through individualized curriculum provisions.

#### ❖ *Elective subjects*

Elective subjects are those courses in which different alternatives are offered for the students to choose the content area as per their individual needs and interests. Elective subjects may vary across educational schools. They may offer different elective subjects from the field of fine arts (drawing, pottery, photography for examples), vocation (welding, woodworking, auto shop for examples), and other areas (foreign language, computers, business for examples). The main goal of elective subjects is to broaden the curricular base of students by offering opportunities for exploration in areas of interest and possible future careers. Elective subjects may provide significant avenues to the students with disabilities for self-exploration and

expression and an arena in which they may excel. These subjects also provide ample opportunities for development of friendships and community-based skills.

#### ❖ *Basic skills*

Basic skills are skills in reading, writing, speaking, and listening; computer skills; interpersonal skills; and problem-solving skills. These types of skills are very essential to get mastery into different subject areas. These skills are designated as essential outcomes for all students including the students with disabilities because each must learn most of these skills as prerequisite skills to gain competency on the subjects implementing at upper levels.

### **3.3.2 General curriculum with accommodation**

As we discussed earlier, students cannot have proper access to general education curriculum without its accommodation. Classroom teachers can accommodate general curriculum in different ways. Some accommodations involve alternations in the mode of how curriculum is presented. Others allow students to show physically what they know, are learning, and can do in the general education curriculum. Both are needed if the student is to progress in learning and demonstrate skills. The challenge for IEP teams is to determine and identify under what conditions or with what accommodations some individuals need to learn from what they are being taught in the different academic content areas. There is no change in the content or performance expectations for students who are involved in the general education curriculum when accommodations are provided. Some examples of curriculum accommodations are given below for further clarification:

#### ❖ *Accommodations by altering modes of curriculum presentation*

Altering modes of curriculum presentation maintains curriculum content and students performance expectations but can function to reduce the complexities of instructional presentations and activities. In Nepalese classrooms, curriculum contents are presented and explored in specific forms including lecture or knowledge acquisition through textbook reading. During lecture, teachers can use clarification statements, rephrase, or simplify vocabulary to enhance students understanding. Lecture can be presented in shorter segments that correspond with students' ability to process information. Auditory input can be supplemented



with visual input. Teachers can supplement textbooks and other written materials with lists of key words to make them more accessible.

Most important strategies for altering lesson presentations are wait time and task analysis. Some students with disabilities may require substantial amounts of time to process sensory information or plan motor movements to develop a response. Telling a student in advance what s/he will be asked is a wait time strategy that allows the student to prepare a response without creating time gaps that disrupt learning for other students in the class.

❖ ***Accommodations that support student responses to curriculum***

One more important aspect of curriculum accommodation is facilitating students' ability to respond to the general education curriculum as intended manner. Paper-pencil tasks represent a typical mode of demonstrating student response to enacted at the classroom. However, this response mode may be frustrating and sometimes impossible for some students with severe disabilities. Some students with severe to profound disabilities cannot respond through paper and pencil mode. In this condition, software program can be applied to allow them to solve equations from algebra and sketch specific figure from biology subject. A student with mild cerebral palsy can get success in a math class with accommodations that include having someone read the problems to him/her and completing a representative sample of items on a math test. Thus, in the given examples, the general education curriculum has not been modified or changed substantially, but rather, the student has been provided accommodations for access to curriculum and for participation in instructional activities.

❖ ***Accommodations for student participation in assessments***

The main purpose of assessments is to assess the progress of each student on academic content standards. All of the students need to have an opportunity to take the tests and all of their scores need to count in order to give an accurate picture of the achievement of students in a school. Classroom teachers can accommodate test to provide opportunities to the students with disabilities to express their knowledge and skills on tests effectively. Valid testing accommodations must not change the content, format, constructs, or results of the tests. Accommodations are changes in the way a student takes a test, without changing the actual test itself. For example, allowing a student with special needs to mark answers to multiple choice items in the test booklet rather than on a separate answer sheet. Such opportunity may

make the test more accessible to the student but does not make the content easier. Accommodations are typically categorized according to whether they are changes in presentation, response, setting, or timing/scheduling. Brief introduction to each of them is given below:

- Presentation accommodations allow students to access test directions or content in ways that do not require them to visually decode standard print. For example, students with print disabilities may require alternate visual, tactile, or auditory formats.
- Response accommodations allow students to record responses to test questions in alternate ways or to solve or organize a response using some type of material or device.
- Timing/scheduling accommodations change the length of testing time and may also change the organization structure of time. For example, frequent breaks during test administration.
- Setting accommodations change the location in which an assessment is given or the conditions of the assessment setting, organize exam seating arrangements in carrel for example.

### **3.3.3 General curriculum with modification**

General curriculum is modified especially to change the performance level of students with special needs. In curriculum modification, different curricular contents or the same contents in different difficulty levels are taught to the students with special learning needs. All students attending at a school cannot learn similar content to a similar extent. Therefore, learning outcomes, contents, and instruction must be modified to achieve their diversified educational needs to an optimal level. For example, a general curriculum may expect all the students study at a class can analyze the major components of curriculum. But the students with limited learning abilities cannot attain this objective as normal children do. In this regard, these students may be expected to identify major elements of curriculum, to give brief description about them, and the like. Curriculum modification may take place into different situations as below:

- Grade-level expectations that are above students' abilities
- Students are not in the same time frame as same-age peers for learning the material
- Students have multiple disabilities in addition to physical impairments, and

- Students require intensive and specialized instruction for their learning to be aligned with content standards and to achieve major life outcomes.

Curriculum modification is not limited to instructional modification or content modification but includes a continuum of a wide range of modified educational components. Modifying existing general curriculum has been an effective way to create more accessible learning environments to support all students including the students with special needs in various educational contexts. Modifying curriculum enables a student to compensate for intellectual, physical, or behavioral challenges and creates learning environments that permit the student to use existing skill repertoires while learning new skills and knowledge. The main approaches to modifying general education curriculum are given below:

❖ ***Adjusted cognitive demand or conceptual difficulty***

Both special and general education teachers should determine the cognitive requirements of a certain standard and related curriculum alignments appropriate for most students. Teachers should determine expectations for students with special needs for whom the grade-level challenges are not appropriate at the present time. Intensive and specialized instruction should be used to make sure them to learn higher level of cognitive challenges. So they can access and progress across the general curriculum with proficiency levels more equal to their peers.

Some students exhibit a variety of learning needs, even though they are working toward specific expectations in standards and parallel school content. Strategies for meeting the differential needs of students include application of a variety of educational taxonomies. Both Bloom's and new taxonomies can be applied to assist teachers in targeting appropriate types of cognitive engagement for students who need some modification. Generally taxonomy of educational objectives assist teacher in three ways as below:

- To align students' cognitive demand with standards, instructional content, and assessments
- To adjust expectations for struggling students to similar cognitive challenges within the grade level, and
- To implement prerequisite cognitive or other expectations from earlier grade levels.

Bloom's levels of understanding suggest what is to be expected next compared to the previous levels of understanding. In Bloom's taxonomy, these levels of understanding such as knowledge, comprehension, application, analysis, synthesis, and evaluation are organized into simple to complex order. Lower levels are considered simpler than upper levels, and previous level works as prerequisite level to achieve more advanced levels. On the other hand, the first four levels (retrieval, comprehension, analysis, and knowledge utilization) of new taxonomy include the more traditional hierarchical levels similar to those of Bloom's taxonomy. The fifth level of new taxonomy is the metacognitive system and final level is self-system in which students would address their attitudes and other attributes that influence their motivation.

❖ ***Prerequisite content selected from lower grade levels***

Some students with disabilities may not have prerequisite knowledge on the content covered in specific topic. In other words, some disabled students may not have the abilities to meet cognitive demands in dealing with the content of their own grade level. In this condition, they can get a lot of benefits from content prescribed for lower grade level. More importantly, the lower grade level targets should be more appropriate to the student's abilities and must be helpful to get mastery on knowledge suggested in own grade level. The content covered in lower grades works as prerequisite knowledge for attaining the standards of the upper grades. A student must have proper knowledge on addition, subtraction, multiplication, and division to compute simplification problem accurately. Therefore, the teacher must teach his/her students fundamental mathematical knowledge before delivering simplification.

Teachers should be clear whether their students have prerequisite knowledge and skills while making them able to attain specific standard. Teachers must ask themselves whether the students have prerequisite content knowledge or not to attain the target objective. If students do not have sufficient background knowledge on a topic then they should teach basic knowledge to their students. In this situation, lower grade-level objective is a readily available tool for determining gaps between present levels of student's performance and expected grade-level performance. Teachers can plan where and how to meet the student's special needs. From there, teachers provide instruction and age-appropriate material specially designed for students to progress in curriculum aligned with their grade-level standards.

❖ ***Alternative academic curriculum provided for needed basic life skill use***

Functional content includes basic academic skill content that increases the opportunity of students with disabilities to participate meaningfully in different daily life activities and meet some very fundamental life skill demands. Therefore, functional skills should build on students' strengths and address students' needs. But in these days, the functional aspects of students' curriculum cannot be emphasized enough. If the students are being offered inappropriate subject matter; the quality of instruction, relevant equipment, and new physical facilities of school go in vain.

Basic skills can be taught across the curriculum as well as through direct and systematic instruction. Basic academic skills are directly related to daily life activities. Reading instruction, writing shopping lists, producing a signature, and using computer to write report are some examples of basic academic skills. The purpose of a functional academic curriculum is to address the skills students will need for life experiences and employment so they can live a successful adult life independently. Therefore, alternative academic curriculum should be taught to the children with special needs for providing basic life skills to them.

### **3.4 Essential Knowledge and Skill for Independent Living**

Education should help students spend their adult life independently. Hence, independent living means reliance on one's own abilities to perform daily life activities. It is essential for students to have intensive and specialized instruction to learn how to access, operate, and use different accommodations and tools functionally and efficiently. Independent living knowledge and skills should be taught especially to the children with disabilities to live as independently as possible in the community. Life skills denote household budgeting and financial management, utilizing public transportation, problem-solving techniques, personal safety, personal hygiene, etc. Independent living skills include the tasks and functions people perform in daily life to increase their independence and contribute to the family structure. These skills include personal hygiene, eating skills, food preparation, time and money management, clothing care, and household tasks. The knowledge and skills given below should be taught to the children with disabilities for their independent living.

❖ ***Functional living skills***

Functional living skills refer to those knowledge and skills that individuals need for maximum independence in school, home, community, and life experiences. In these days,

teachers give little attention for teaching fundamental living skills because most of the students learn them before entering into school. But some students with severe and profound disabilities cannot perform these skills in effective way and they face so many challenges in their daily lives as compared to their sage-age normal peers. It means, they may not be able to wear their clothes, take off them, take food independently, use toilet, and the like. Omitting opportunities for specialized instruction in these skills and in skills of self-reliance for seeking specific assistance from others can significantly restrict and marginalize the lives of persons with disabilities. Therefore, special education and related services should address such special needs of the students with disabilities through functional curriculum.

Functional skills are all those skills; a student needs in order to live independently. The final goal of special education should be for students to gain as much independence and autonomy as possible, whether their disability is emotional, intellectual, and physical or a combination of two or more (multiple) disabilities. "Self Determination" is the highest goal of special education for SNE students. Skills are defined as functional as long as the outcome supports the student's independence. For some students, those skills may be learning to feed themselves. For other students it may be learning to use a bus, including reading a bus schedule. We can separate the functional skills as:

- *Life skills:* The most basic of functional skills are walking, self-feeding, self-toileting, making simple requests as we are practicing for some years. Students with developmental disabilities (Autism Spectrum Disorders) and significant cognitive or multiple disabilities, often need to have these skills taught through breaking them down, modeling them and the use of applied behavior analysis. It also requires that the teacher/practitioner do appropriate task analyses in order to teach the specific skills.
- *Functional academic skills:* Living independently requires some skills which are considered academic, even if they do not lead to higher education, or even completion of a regular diploma. Those skills include a) Math Skills: The functional math skills include telling time, counting and using money, balancing a check book, measurement and understanding volume. For higher functioning students, they will expand to vocationally oriented skills, such as making change or following a schedule. b) Language Arts: Reading begins as simply as recognizing symbols, moving on to reading signs (stop, push) and moves on to reading directions. For many students with

disabilities, they may need to have reading texts supported with tapes or adults reading. Still, in order to read a bus schedule, a sign in the bathroom or directions a student with disabilities gains independence by learning to read.

- *Community based instruction:* The skills a student needs to succeed independently out in the community often have to be taught in the community. These skills include using public transportation, shopping, making choice in restaurants, crossing streets at crosswalks. Too often their parents, with the desire to protect their disabled children, over-function for their children and unknowingly stand in the way of giving their children the skills they need.
- *Social skills:* Social skills are usually modeled, but for many students with disabilities they need to be carefully and consistently taught. In order to function in the community, students need to understand how to interact appropriately with different members of the community, not only peers and teachers.

#### ❖ ***Physical task performance***

Physical task performance is very important to any person to spend independent life in the society. Task performance involves the processes students use to execute different tasks or activities that generally require physical skill, coordination or strength, and knowledge of a correct sequence. Some individuals know what to do to complete a task but are hampered by lack of physical skills. They may be able to acquire the physical skills through focused coordination or strength training exercises, or to be taught to compensate through the use of task accommodation. School curriculum therefore should teach physical skills to the learners with disabilities to make them independent in their lives. Assistive technologies are very useful, especially for the children with disabilities, to execute physical task performance successfully. The term assistive technology device means any item, piece of equipment, or product system that is used to increase, maintain, or improve functional capabilities of a child with a disability. As a whole, assistive technologies are generally used to:

- Augment a sense of movement
- Circumvent a sense of movement
- Provide alternatives or adaptation for means of communication and information expressed and received, and

- Provide means of performance in learning demonstrations and in a variety of educational life activities.

❖ *Fundamental and assisted communication*

Teachers and other responsible people should focus on four areas of communication to develop their communication skills. Communication is considered as an important tool for spending independent and successful life of an individual. Speech improvement and language development is the first areas of the domain of communication. Some students with disabilities cannot communicate their feelings and ideas properly due to problem of receiving and expressing language. Early interventions are very essential to develop language competency within the children. General education teacher, special education teacher, speech language pathologists, and parents can work in collaborative way to support in language development of a student. In addition, use of augmentative and alternative means of communication is the second area of the communication domain. Some children cannot use their written or oral means of expressions as their primary modes of communication as a result of severe disabilities. They need augmentative and alternative means of communication to get access to general education curriculum, interact with others, and meet their various life demands.

A set of basic social skills is the third area of communication domain. Social skills refer to knowledge, judgment, and skills in the social rules of interaction. Skills to initiate, maintain, and terminate interaction, develop positive relationships, and the skills to express a full range of communicative functions are some examples of basic social skills. Individualized information management is fourth area of the communication domain. Modes for acquiring and managing information include reading to get meaning from text, speaking, listening, touching, and observing. Some students with disabilities require different and adapted means for achieving the goal of acquiring and managing information. Individualized means of information management include information acquisition, information storage and retrieval, and communication of printed information to others. Assistive technologies can play vital role for student access and participation in school curriculum, and they contribute to greater self-reliance in all life activities.



### ❖ *Individualized preparation for transitions*

The transition from school to higher education and higher education to adult life is a critical stage for students with disabilities; this stage requires extra planning and goal setting. The first step in planning for a successful transition is developing the student's transition plan. A transition plan is required for students enrolled in special education who have an Individualized Education Program (IEP). Preparing students to meet daily and post-school life demands is a major reason for 'student goals for transition' skills and the need for transition services. Major life areas such as home and family, employment and education, community involvement, physical/emotional health, personal responsibility, and relationship guide transition education goals. Some examples of transition situations are given below:

- Moving between hospital schooling, home schooling, and formal school classroom.
- Moving between learning face-to-face with teachers to learning online through internet.
- Moving between special education and general education learning environment.
- Moving between special-based and community-based learning experiences.
- Moving between related service providers (physical therapists, speech therapists for examples) and their teachers.

## 3.5 Individualized Education Plan for Addressing Learners' Needs

It is difficult and sometimes impossible to ensure access of all disabled children to general education curriculum. But the curricula developed for normal children are hardly adjusted as per the needs and interests of the children with special needs. Some children with severe disabilities cannot learn all the contents encompassed within general education curriculum. Therefore, such curriculum must be adapted as per their personal needs of these children by introducing Individualized Education Plan (IEP). In other words, some students in the general classroom may have special needs that can only be fulfilled through special interventions and services. Individualized Educational Plan (IEP) is developed by an IEP team to accommodate such special needs of the learners with disabilities. The IEP team determines learning objectives, special services, teachers and other service providers, time for providing special services, etc., which are intended to be handy for the children with special needs. Students themselves and IEP team assessment are taken as the major sources of identification of the unique educational needs resulting from the student's disability.

An IEP is a plan that help students with severe disabilities get success in school as well as community. In other words, IEP is a legal document that defines a child's special education program. It includes the disability under which the child qualifies for special education services. IEPs are typically reviewed and updated at least once a year but may be revisited more frequently if the need arises due to an unforeseen circumstance or concerns from parents, teachers or other school personnel. Different types of tools such as tests, portfolios, observations, interview, etc. can be applied to assess the special needs of the student to determine IEP goals. To establish these goals and ensure that the student meets them, the IEP must first determine the student's present level of performance. The IEP must also include services that are required to function at school in optimum level. If a child has a language disorder, he may need nearly 20-minute sessions per week for speech therapy.

## Let Us Sum Up

In this chapter, we mainly discussed about the concept of curriculum accommodation and modification, need of curriculum accommodation and modification for the children with special needs, and different curricular options for program planning. Within curriculum options, different types of alternatives that can be applied while accommodating and modifying general curriculum have been discussed. Furthermore, different types of knowledge and skills that need to be taught to the children with special needs have also been discussed. Finally, we became clear on reason behind the need of Individualized Education Plan for the students with special needs.

All children are different from one another in terms of their cognitive abilities, learning styles, interest, and learning pace. Due to the reason, single curriculum cannot be benefited to all of them to a similar extent. Some children with severe disabilities therefore cannot get sufficient benefits from general education curriculum without its proper accommodation and modification. Teachers teaching to the children with special needs should have proper knowledge about the ways that need to be applied while accommodating and modifying general education as per their unique needs. In this regard, this unit has tried to convey a chunk of information about curriculum accommodation and modification to the students studying under the Department of SNE in Nepal.

## Unit-end Activities

- **Objective Questions**

Tick (✓) the best answer.

“Group-A”

- Which of the following statement is correct in terms of curriculum accommodation?
  - Adapting the delivery of instruction or method for developing intended behaviors of the learners.**
  - Changing the content or conceptual difficulty of the curriculum.
  - Changing the achievement expectations from grade-level expectations for same-age peers.
  - Introducing new curriculum for the children with special needs.
- Which of the following statements does refer curriculum accommodation?
  - It offers changes mainly in the ways of presenting materials.
  - All students required completing same work as their peers.
  - Students have to achieve same learning standards in their own ways
  - All of above**
- Which of the followings is NOT an example of accommodation?
  - Sign language interpreters for students who are deaf
  - Extended time for students with visual impairments or learning disabilities
  - Distinct curriculum for the children with severe disabilities**
  - Large-print books and worksheets for students with low vision
- The term ‘curriculum accommodation’ may be used to describe
  - an alteration of environment and equipment
  - alternation of instruction and evaluation procedures
  - both a and b**
  - alternation on the outcomes intended from the curriculum
- Modification is made for students
  - with special needs who are unable to get proper benefits from general curricula**
  - with special gift by removing already mastered contents from the curricula
  - without disabilities who have competency on general education curriculum
  - with disabilities who have access to general curriculum

6. Which of the following aspects should be considered by teachers for making accommodation and modification of curriculum?
  - a. Types of disabilities
  - b. Needs and interests of the students
  - c. Time schedule suggested for curriculum implementation
  - d. All of above**
7. Which of the following approaches is NOT used to determine a need for general education curriculum accommodation and modification?
  - a. Problem solving approach
  - b. Question and analysis approach
  - c. Content evaluation approach**
  - d. Objective evaluation approach
8. Which of the followings are NOT included with general education curriculum?
  - a. Core academic subjects
  - b. Disciplinary courses**
  - c. Elective courses
  - d. Basic skills
9. General education curriculum can be modified by
  - a. altering the goals of curriculum**
  - b. altering modes of content presentation
  - c. supporting students responses to curriculum
  - d. adjusting assessment procedures
10. Selection of prerequisite contents from lower level is an example of
  - a. curriculum accommodation
  - b. curriculum modification**
  - c. curriculum improvement
  - d. curriculum implementation
11. Which of the following is related to functional living skills?
  - a. Using transportation
  - b. Buying grocery items from store
  - c. Maintaining personal hygiene
  - d. All of above**

- **Short answer questions**                      **“Group-B”**
  1. What do you mean by curriculum accommodation? Explain with examples.
  2. Introduce curriculum modification with some examples.
  3. List out the different approaches to determining the needs for curriculum accommodation and modification with brief introduction.
  4. How can we determine the needs for curriculum accommodation and modification by using objective evaluation approach? Explain in short.
  5. How can we modify general curriculum as per the needs and interests of the students with special needs? Describe.
  
- **Long answer questions**                      **“Group-C”**
  1. State the different options of program planning for the children with special needs and introduce any one of them with examples.
  2. Explain the essential knowledge and skills required for the children with SNE for their independent living.
  3. Why should we develop Individualized Education Plan for addressing unique learning needs of the children with disabilities? Discuss.

### Points for Discussion

- Introduce the concept of curriculum accommodation.
- Differentiate between curriculum accommodation and curriculum modification.
- Clarify the major approaches to determining needs for curriculum accommodation and modification.
- Discuss different curricular options of program planning for the children with special needs.
- Prepare an outline of IEP for addressing special needs of a learner.

## Unit 4: Universal Design for Learning

### 4.1 Concept of Universal Design for Learning (UDL)

Universal Design for Learning (UDL) is a set of principles for designing curriculum as per the individual needs and abilities of learners. In other words, UDL is a set of principles that guide the design of inclusive classroom instruction and make course materials accessible to all learners. UDL attempts to solve the prevailing barriers to learning that many struggling learners encounter inside the general classroom by offering universally designed curriculum. UDL generally follows three principles namely multiple means of representation, multiple means of expression, and multiple means of engagement. Hence, multiple means of representation provide learners a variety of ways to acquire information and build knowledge; and multiple means expression provide various alternatives to the learners for demonstrating what they have learned; and finally, multiple modes of engagement focus on the different forms of content, process, and product to ensure students' active engagement and increase their motivation. UDL is primarily designed to help all learners regardless of their disability, age, gender, socio-economic background, or cultural and linguistic background. UDL provides a blueprint for designing goals, methods, materials, and assessments to reach all students including those with special needs at the proper destination following their potentials. A universal design approach to learning follows good practice in early education as below:

- It recognizes that one-size-fits-all approach to education does not work.
- It acknowledges the need to design curricula to meet the needs of all classroom learners.
- It believes in all children who attend early education programs will be successful in their development and learning.

The term universal design originally comes from the field of architectural studies and then spread into the field of education. Universal design seeks to encourage products that are more usable by everyone. The UDL was developed to ensure the access of disable people to environments and products to enhance their quality of life. Different endeavors are made to design buildings with adequate ramps, wide doors, and accessible restrooms. Research shows that if an accessible design is created and established, time and money would be saved in the long run, and people with disabilities would benefit.

After the establishment of the Americans with Disabilities Act (ADA) in 1990, existing structures were remodeled to meet the needs of people with physical and sensory disabilities. It means; physical infrastructures (water fountains were lowered, doorways were widened, ramps were added to entrances, street curbs were cut for wheel-chair use, etc.) were restructured to accommodate the individual needs of the children with disabilities. More importantly, universal design for learning is not only applicable for the children with special needs but the children without special needs can also get benefits from it.

The term universal design was coined by the architect Ronald Mace who challenged the conventional approach of designing for the average user and provided a design foundation for more accessible and usable products and environments. Mace and other define UDL as “the design of products and environments to be usable to the greatest extent possible to people of all ages and abilities”. Realizing context-dependent capabilities of the learners, flexible curriculum can have a profound positive impact on their learning. Universal design puts high value on both diversity and inclusiveness. Therefore, all of the teachers and other responsible persons who work at inclusive classroom should know the concept and the ways need to be followed to implement UDL inside the real classroom situation.

Universal Design for Learning is an approach to curriculum design that can help teachers customize curriculum to serve all learners regardless of their ability, disability, age, gender, or cultural and linguistic background. UDL provides a clear guideline for designing strategies, materials, assessments, and tools to reach and teach students with diverse needs in productive manner. UDL is an approach to learning that addresses and readdresses the primary barriers (inflexible, one size fits all concept, etc.) to learning that raise unintentional barriers. In fact, the UDL framework helps educators maximize desirable difficulties and minimize undesirable difficulties. Learners with disabilities are the most vulnerable to such barriers and difficulties, but many students without disabilities also find that curricula are poorly designed to meet their various learning needs.

Universal Design for Learning can help reshape the ways of teaching and learning by providing the design of an entirely new system with flexibility at its core. In other words, UDL helps meet the challenges of diversity by recommending the use of flexible instructional materials, techniques, and strategies that empower educators to meet students' diverse needs. A universally designed curriculum is prepared with an intention of achieving the needs of the greatest number of users. UDL suggests schools offer an array of flexible options to diverse groups of the learners so that each student has an equal opportunity to learn from the start and up to the end. Three essential qualities (representation, engagement, and expression) of universal design for learning must be considered when designing curriculum to meet the needs of all learners. Brief description of these qualities is given below simultaneously:

### ❖ *Multiple Means of Representation*

The first quality of Universal Design for Learning is multiple means of representation. When a teacher uses this principle then s/he provides content through multiple channels such as discussion, readings, digital texts, and multimedia presentations. The curriculum based on this principle allows the subject matter to be presented in alternative modes for the students with different learning needs. Multiple options should be provided to the learners to receive relevant information for effective learning. Each student has his/her own learning style and intelligence. In other words, all the students do not learn specific content in the same way and at the same pace. When student can get chance for studying contents based on their peculiar needs then they can develop their inner potential to a fuller extent. If we consider our classroom, many students benefit more from a lecture when it includes a visual presentation accompanied by a clear outline. Other students might simply record a lecture or get a copy of a classmate's notes so they can concentrate on the presentation. Some students benefit from having access to the text or lecture through tapes, e-books, or other recordings. Some instructors may use video clips to provide concrete examples on particular content, whereas others may provide demonstration to offer multiple means of representation. Teachers therefore should provide ample options of the contents by considering interest, learning styles, and multiple intelligences of the learners participated at their classroom.

Each subject teachers can reduce physical, sensory, perceptual, and other learning barriers at the same time by offering different methods of stating information to attain the goals of curriculum. Students can choose their own approach to learning to receive information in effective way because of their distinct learning styles and intelligences. Meyer and Rose (1998) state that some students can show good performance when they get chance to receive information through multiple modalities – visual and auditory, for example (as cited in Gargiulo & Metcalf, 2013). The learning activities that are fitted to the children with visual impairment cannot be suited to the children with other disabilities. Different types of supports should be provided to the learners by following their individual needs.

### ❖ *Multiple Means of Engagement*

Second quality of UDL is multiple means of engagement. This principle focuses on the application of different ways to motivate students, challenge them, and boost their interest in learning. In this regard, Alper (2003) also states that the curriculum based on this principle



provides multiple means of engagement that offers different modes of presentation based on student's personal needs and interest. When teachers or other responsible persons determine goals to be attained in the active involvement of the learners then needs, preferences, and abilities of the learners are represented by these goals and they eagerly participate into the activities carried out by teachers inside the schools. Continuous supports from the side of teachers should be provided to make them more confident, responsible, productive, and reflective.

Multiple means of engagement assists teachers ensure their students' active involvement in learning through activities such as collaborative learning, instructional games and simulations, and real as well as virtual tours. When teachers offer many alternatives for instructional activities by considering the diversity of the classroom then students with diverse needs participate in the instructional activities held inside the classroom. It is very critical for the teachers to identify each student's zone of proximal development (ZPD), and facilitate the engagement of learning at this level. However, when instructional activities and tools are matched to the needs, interest, preferences, and abilities of the learners, then independence and motivation of the students are increased. In real sense, some students may require frequent supports while engaging in learning but other students may require more challenging tasks for their optimal academic growth.

Different options should be provided to the learners with diverse needs within the instructional learning environment by considering multiple means of engagement. All students are different from each other. Due to the reason, some of them may prefer a stable routine with few or no changes in one hand, and some of them may enjoy novelty and spontaneity and rest of other may get benefit from both instructional settings on the other. Similarly, some students can learn better with continuous movement and other can only learn in a quiet area at the school as well as home.

Different sources of data collection should be applied to identify the various needs and preferences of the learners, and then identified needs should be fulfilled on the priority basis. Responsible persons can use achievement test, aptitude test, interest inventory, interview, observation, etc. to collate in-depth information about their students to investigate their individual needs. Some students can learn higher level learning outcomes while other may face difficulty to solve basic level skills. Some students will need more supported instruction while others may need more challenging activities. Most students want and need to work with others, particularly with their peers. Such strategy makes learning meaningful.

### ❖ *Multiple Means of Expression*

Multiple means of expression is known as the third quality of UDL. Multiple means of expression help teachers provide chance to the learners to express their understanding in multiple ways such as through traditional tests or papers as well as through art, play, multimedia presentations, and digital recordings (Israel et al., 2014). The curriculum based on this principle allows students to respond with their preferred means of control (Apler, 2003). However, some students may not have any idea of how to respond on given assignments without proper direction. In so many cases, some students can read or listen to a lecture attentively throughout the presentation but recall nothing about it. On the other hand, a number of students may require more extra wait time while responding particular question asked by a teacher and some may need sufficient rehearsal time before showing specific skill. Others few students can have motor impairments and may need electronic communication devices (Gargiulo & Metcalf, 2013). Some learners cannot convey their ideas, feelings, and emotions by words and may require visual communication system. Some students can learn through lectures, some may learn through play activities, some from interaction, and some learners may comprehend suggested content as intended manner from independent study (Armstrong, 2009). Classroom teachers therefore should use multiple means of expression by considering each student's individual background.

Students use their learning preferences and areas of strength to enhance their learning performance because such traits play a conducive and supportive role to make learned contents more interesting and meaningful. They may even gain enough confidence to take more risks in learning that takes place outside of their comfort zones (Gargiulo & Metcalf, 2013). Due to this reason, teachers should be familiar with each student's strengths to accommodate classroom instruction as per their individual needs and preferences. Students pay more motivation towards the lesson, engage eagerly in assigned activities and want to get mastery on delivered knowledge and skills, feel pride in the activities executed by them, etc. when they experience success.

## **4.2 Curricular Components from UDL Perspective**

The Universal Design for Learning (UDL) came into practice to challenge the rooted dogma of traditional education system in which the curriculum was considered as the center part of learning experience and must be implemented as it was rather accommodating it as per the needs and interest of the learners. Furthermore, most of the instructional materials (books, teacher's manual, assessment

guide, etc.) were fixed or inflexible and the students who could not learn the intended contents from planned curriculum were labeled as disabled. Most of the instructional activities conducted inside the classroom were textbook centered rather than student-centered because students seemed more adaptable, flexible, and malleable as compared to textbook and other instructional materials. But in UDL classroom setting, all of the instructional materials are accommodated as per the individual differences of the learners or classroom diversity.

The curriculum can be thought as a set of learning opportunities for students with varied destinations. Curriculum serves as an interface between the student and the learning objectives, and has been described as the overall experience provided to a student by the school. UDL is an advanced concept which has been applying into the field of education to respond the diversified needs of the learners by ensuring their access to general curriculum. UDL provides a way for educators to view diversity of the students as strength instead of a problem and such diversity is appreciated. When students encounter difficulty then the curriculum and instructional materials are assumed to be inadequate to meet the varied and diverse needs of learners. UDL allows all subject teachers to adapt curriculum, customize the delivery of instruction, and assess students in ways that permits them to demonstrate their mastery of knowledge and skills.

Thus, UDL is useful to address the diversity of classroom by accommodating physical infrastructure, classroom settings, teaching styles, evaluation techniques, etc. as per the necessity of the learners. UDL most clearly addresses barriers related to four components of the curriculum namely goals, methods, assessment, and materials. In other words, barriers related to different components namely goals, contents, methods, instructional materials, and assessment of the today's curriculum can be solved by UDL for the purpose of addressing classroom diversity effectively. Teachers should think different components of the curriculum consciously to ensure access of diverse learners to general curriculum. These components are based on the three essential qualities of universal design for learning. Brief description of different components of curriculum and UDL is given below respectively:

### **(1) Goals**

Goal is taken as the most important component of curriculum because decision about the content, method, teaching materials, and assessment is made by considering the objectives of the curriculum. Almost all the curricularists such as Tyler, Taba, Wheeler, Zais, etc. also contend that curricular goal is most foremost component of the curriculum. Conventionally determined

goals of the curriculum only reflect the knowledge and skills that are expected to be mastered by all learners but the goals formulated on the basis of UDL perspective focus on developing enthusiasm and strengthening the self-regulating ability of the learners for effective learning. Such objective are articulated clearly in standard and linked with assessment. Establishing clear goals based on the standards is a critical first step in planning evidence-based instruction. Thus, UDL goals are directly associated with learners' needs and preferences, and then the variability of all learners are reflected in these goals.

Teachers must formulate the educational goals by considering the individual backgrounds of the students. The purpose of UDL is to assist teachers, parents, service providers, and the like to develop and implement flexible curricula that are helpful to reduce barriers to learning and provide academic support to meet all learners' needs. Teachers can use curriculum in flexible way by writing objectives with verbs that offer the greatest amount of flexibility in terms of representation, engagement, and expression. Therefore, the goals stated from UDL perspective neither limit the terminal behavior of the learners nor offer exactly same nature of behavior and skills from all learners come from diverse backgrounds. High and challenging expectations are intended for every learner and differentiation is offered in curriculum implementation to meet these expectations.

The IEP is a useful tool in determining curriculum adaptations and modifications to meet all unique needs of the learners with disabilities. The goals on an IEP should be determined by considering each student's peculiar needs, interest, and capabilities. The goals should be formulated by following the standards or there should be consistency between standards and goals. Students should reach to the destination reflected by the standards and goals should help learner reach there by exceeding different steps. From UDL perspective, effective goals should separate the means form the ends, consider all three learning networks, challenge all learners, and actively involve them in learning process. Clear description of these points is given below respectively:

- ***Goals should separate the means from the ends:*** Effective goals should clearly state means required to attain the intended ends, and should offer appropriate level of challenge to all learners. For this purpose, teachers should state learning goals in flexible way, offer optional path to attain these goals, convey criteria for success, and allow students to determine goals. Teachers always need to think that there are multiple ways to attain particular goal and then they should allow their children to use

best way to develop the behavior intended. When each student gets chance to use best ways as per their individual needs and interest, then they can easily express their inner potential to get success by attaining the goals determined to them. In other words, multiple experiences should be provided to the children as per their personal background to get academic success by achieving the goals determined in advance.

- ***Goals should consider the learning networks:*** As we discussed before, there are three set of networks (affective, recognition, and strategic) in the brain that play vital role in learning. Teachers need to think these networks separately while determine goals in the curriculum. Depth understanding on these networks assists teachers to be clear on what type of objectives need to be continued in succeeding order and what type of objectives need to be altered with changing needs and preferences of the children. Teachers should considered following questions while making decision about the curricular goals:
  - Is the goal for students to build enthusiasm or learn to form appropriate goals (affective networks)?
  - Is the goal for students to understand specific content or to generalize knowledge (recognition networks)?
  - Is the goal for students to master a skill or learn to create effective plans and manage available resources (strategic networks)?

When teachers can understand goals properly then they can accommodate the educational setting as per the individual differences of the learners. In addition, they can also identify multiple ways need to be executed to make able all learners to achieve intended goals. Therefore, teachers should consider these three set of networks at the time of determining curricular goals to make each student successful at their academic life.

- ***Goals should challenge all learners:*** Goals determined at the curriculum should neither be too difficult nor be too simple. It means; goals should challenge to all learners but not create anxiety and overconfidence within them. When curricular goals are more difficult; then students feel frustrated, become anxious, show low or no motivation, and finally stop learning. Therefore, goals should be challenging to all

learners to foster their innate potentials. Teachers should identify needs, interest, abilities, and experiences of the learners before determining such curricular goals, and then they should formulate valid and significant goals based on students' diversified backgrounds.

- ***Goals should actively involve learners:*** Curricular goals should be determined by considering the needs, culture, norms and values of the community, social structure and dynamism, current trend of knowledge, etc. Furthermore; students' participation, while shaping the goals, should be ensured to make these goals more relevant, valid, and useable as per their needs and preferences. Explicit discussion on the connection between goals and other components of the curriculum (content, methods, materials, assessment) makes students more aware of the purpose of classroom and other learning activities. Thus, goals should be clear, attainable, specific, and measurable to transform them into the behaviors of the learners.

## **(2) Contents**

All students enrolled at a class cannot learn particular content to a similar extent in one hand and the same content may not be relevant and useful to them equally on the other. The students even having same type of disability does not mean that they will have the same needs for curriculum content. All of the students with same age cannot pay equal attention towards particular content. Therefore, the amount of content included within the curriculum must be appropriate to the skills and abilities of the students. The big ideas, which are the core concepts and principles in the content areas, help all learners acquire knowledge across a broad range of experience. From UDL perspective, same objective can be attained by studying different contents. It means; some contents taught to the children in rural area may not be suited to the children in urban area. Teachers therefore should select different types of content by considering the individual backgrounds of the learners to ensure their learning.

Generally, schools teachers are given hard copy of textbooks for their courses and teachers use it blindly without accommodating as per the needs and capabilities of the learners. Content is multidimensional because it involves not only what is to be taught and differentiated for students, but variations in learning objectives and levels of knowledge and proficiency should be

offered to make the behaviors intended by the curriculum. All students do not have equal capabilities to learn particular knowledge, values, or/and skills. Some students may learn suggested contents within short period of time but others may take long time to get mastery on same amount and nature of contents.

Furthermore, some students may pay more attention to study mathematical contents while other may be interested in studying historical contents. Moreover, the content relevant to a group of students may not be relevant to another group of students. However, contemporary schools' teachers must consider both content and achievement standards. Content standards help teachers define what knowledge and skills need to be taught in a subject. Due to these reasons, teachers should select and teach curricular contents by considering the diversity of the learners while using Universal Design for Learning inside the classroom. From UDL perspective, there should be consistency between content and objective, content should be limited within the learnability of the learners, and content should possess valid and significant knowledge, values, and skills, and the like.

### **(3) Methods**

Instructional methods include the decisions, approaches, procedures, and routines that teachers use to accelerate learning. Planning instruction is a complex and reflective process, and implementing instruction is an interactive and dynamic process that requires high levels of energy, continuous thinking, and quick decision making. Teaching requires a clear understanding about learners through accurate assessment, careful selection of curricular contents, and effective implementation of instruction. Responsible people therefore should make decision about instructional methods by analyzing the variable backgrounds of the learners enrolled at particular classroom to study a set of subjects. When teachers select proper teaching techniques by considering classroom diversity, then students are motivated towards suggested contents and participate actively at classroom activities. Each student may have distinct intelligence, learning styles, and capabilities. It means; all the learners cannot get benefit to a fuller extent through the application of particular teaching approach. Teachers thus should have a repertoire of knowledge about teaching methods to use proper one by keeping into mind the special needs of the learners. To activate the recognition networks of diverse learners, presentations of content material must be varied. Instructional methods must offer multiple ways to activate affective

networks of the learners through flexible and multiple ways to engage students in learning. From UDL perspective, those methods are taken as effective methods which can be continually adjusted to meet learner needs and provide them a supportive and collaborative environment, which are discussed below respectively:

- ***Effective methods can be continually adjusted to meet learner needs:*** UDL is a vehicle for diversifying instruction in order to deliver the general education curriculum to each pupil. All students engage in their work in different ways, they process delivered information by following different techniques, and express the learned contents and skills differently. Effectiveness of instruction is often measured by student performance on test. Teachers can collect information about the effectiveness of instruction by using different instruments, and then they can continue strong points of instructional process and minimize errors by taking account the feedback obtained by the assessment tools. In a class, some students may have prerequisite knowledge to learn particular content and other may not have enough prerequisite knowledge to learn the content. In this condition, two groups having distinct learning needs cannot take advantages to a similar extent from single instructional approach. Consequently, different instructional methods should be applied to accommodate such diversified needs of the learners.
- ***Methods should include all students within a collaborative environment:*** Teachers should involve students in different instructional activities to make their classroom instruction more effective. The UDL guideline emphasizes on the value of fostering collaboration and community in the classroom. Teachers can assign different roles (mentor, leader, supporter, reader, etc.) to the students ensure their involvement in learning. Such roles must be altered over time to make each student more responsible. Teachers can use different criteria such need, interest, ability, etc. while grouping. Flexible grouping is very useful to develop we-feeling, democratic feeling, and we-feeling including creativity and leadership skills.

#### **(4) Instructional Materials**

Once the instructional objectives have been prioritized, and then instruction, instructional materials, and/or the learning environment need to be adapted to accommodate needs and



capabilities of the students with disabilities. In other words, teachers need to consider instructional materials that are going to be used, technology supports that will be available, and the activities/groupings need to be conducted or made to clarify the lesson by offering flexibility in representation, engagement, and expression. If digital media and technology tools are accessible then there will be greater opportunities for flexibility in presentation, engagement, and learner expression. This indicates that the instructional materials useful to make instructional activities more effective need to be chosen on the basis of objective formulated before.

Some students may need more concrete instructional materials while other can easily understand abstract examples. Students who do not master the basic skills during elementary school will face difficulty in mastering the materials encompassed within general school curriculum. Some students can understand suggested contents only by consulting textbook, some may require audio materials, some may need video materials, and some may easily understand through action. Due to these reasons, different instructional materials should be offered to ensure access to and understanding of contents of the curriculum. An effective teacher translates IEP objectives into relevant methods and materials. From UDL perspective, those instructional materials are considered as effective which are directly aligned to the goals and help learners be proactive. Brief description of these points is given below:

- ***Effective materials align to goals:*** Instructional materials should be selected by considering formulated goals and the selected content. It means; instructional materials applied by any teacher should be useful to attain determined goals by reflecting needs and expectations of the learners. More importantly, all learners cannot get benefits from same types of teaching materials. It means; some may needs reading materials, some may require visual materials, and rest of others may demand graphic organizers, checklists, etc. Different instructional materials should be provided to the learners in one hand and consistency should be ensured between objectives and instructional materials on the other. Due to these reasons, teachers should select various instructional materials by considering the goals of curriculum.
- ***Effective materials help learners be proactive:*** Proactive learning environment should be created to the learners by arranging different instructional materials. Each child can only learn as per his/her potential when s/he feels safe, comfortable, and finds friendly environment. Instructional materials and resources should be accessible to all learners to make them proactive. Nowadays, new mass media provides ample opportunities for

peer-to-peer mentoring and feedback, and give greater responsibility to the learners. Many learners have been using blogs for sharing and reflecting their ideas. Thus, highly applicable technologies and resources should be made accessible to the learners to make them more proactive.

## (5) Assessment

Assessment refers to the process of gathering information about learners' performance to make educational decisions. Assessment provides student's current level of performance, prevailing position as compared to peers, and trend of learners' progress in the curriculum. Assessment has greater influence in learning environment as teachers move toward the accountability for all learners. Generally two types of assessments namely formative and summative have been used to evaluate students learning condition on particular subject. Research shows that the increased emphasis on summative assessments has had some positive effects by focusing attention on the need to raise achievement levels for all students. On the other hand, some argue that priority should be given on formative assessment rather summative one. Formative assessment tends to be more immediate and informative to instruction than summative assessment because it offers the opportunity to improve teaching and learning during the course of instruction. Effective assessment helps each teacher find out the appropriate instructional level for each student. Due to the reason, UDL also attaches priority to formative assessment. Both teachers and students can use the data obtained from formative assessment to evaluate positive and negative aspects of instruction including the strengths and weaknesses of the learners.

Assessment is taken as a significant component of education because it provides detail information about the learners, which is relevant to their placement, instruction, and future career decisions. Frequent monitoring of students' progress toward learning goals is also a key element of UDL. Assessment data about a student's cognitive, affective, communicative, and physical/health needs are also useful to determine the educational goals, content, and process in the IEP. Effective assessments are ongoing and focused on learner progress; measure both product and process; flexible in nature; and give for learners' active participation. Brief description of these points is given below:

- ***Effective assessments are ongoing and focused on learner progress:*** From UDL perspective, formative assessment has been used continuously to identify the learning

gaps of the learners and to diagnose the strengths and limitations of instructional procedures applied by teachers inside the classroom. When teachers understand actual effect of their instruction then they can accommodate instructional activities as per the learning needs and capabilities of the students. Teachers can ask different questions continuously related to the lesson to identify the effectiveness of their instruction.

- ***Effective assessments measure both process and product:*** Teachers need to be clear not only on the content learned by students but also the ways that learners employed to learn the content and the circumstances under which they learn best. Teachers can identify all these aspects by interacting with students and by self-reflecting on their own instruction. Furthermore, teachers should be clear about the best instructional techniques for the students, effective ways for motivating them, reliable and valid assessment procedures useful to assess their learning progress, and the like.
- ***Effective assessments are flexible:*** As we discussed before, learners are different in terms of affective, recognition, and strategic networks. Due to this reason, structured and fixed assessment procedures cannot be effective and useful to all of them. Therefore, flexible assessment procedures should be applied to accommodate diversified needs and preferences of these learners. It means; assessments should provide multiple ways to the learners for demonstrating knowledge and skills intended from the curriculum. Meyer et al. (2014) indicate that when assessments are ongoing, flexible, and address learner variability, then such assessment procedures can accurately represent what learners know and can do.
- ***Assessments should be based on the construct to be measured:*** Assessments must measure the construct (knowledge, values, or skills) which are intended to be measured by them. Truly speaking, assessments are prepared to evaluate the specific construct intended by the curriculum. When assessments procedures are useful to measure intended traits as expected by the program then they are taken as valid procedures to assess students' behaviors. A UDL assessment provides support where needed by giving all learners a fair chance to express what they feel, know, and can do. For example, if an assessment is going to be carried out to measure knowledge about political situation in Nepal then it must measure the knowledge concerning political

situation of Nepal, which is intended to be measured by the applied assessment procedures.

- ***Assessments actively inform and involve learners:*** Assessment should provide actual information about the academic progress of the learners by specifying the major strengths and weaknesses and relevant ways to let them take more proactive role in learning. Furthermore, assessment should provide feedback to both teachers and students by appraising their activities and then figure out the ways need to be applied to make teaching and learning activities more effective. More importantly, teachers should formulate a goal for each assessment measure by maintaining collaboration with students. Both teachers and students need to review assessment result in each occasion to determine whether a student is going to attain the expected objectives or not. And then result of the assessment must be used to improve instructional activities of the classroom with an intention of ensuring students' learning.

### 4.3 Process of Ensuring Access to Curriculum through UDL

Universal Design for Learning (UDL) is a framework for designing flexible instructional environments and proactively integrating supports that address learner variability. It is based on the premise that curriculum can be accessible to a wider range of learners when lessons are intentionally designed to include multiple means for accessing, processing, and internalizing information. By considering the UDL guidelines during the lesson planning phase, teachers can build in flexible pathways from the outset, integrating elements that address the range of backgrounds, preferences, abilities, and needs of their students and ensure that their lessons are comprehensible and engaging for all. Despite the fact that learner variability exists in all classrooms, UDL-based lesson development does not compel the teacher to develop unique paths for each student's needs. Because learner variability is both systematic and predictable, teachers can reasonably predict some of the ways in which their students will vary and include flexible options that will support a range of learners in any given class. Teachers can address variability by including flexible pathways within a lesson, which in turn proactively provide supports and scaffolds that take into consideration the diverse attributes of students. The process that needs to be followed for ensuring access to curriculum through UDL is given below:

### 4.3.1 Gathering Facts about the Learners

Learners are considered as the core part of any educational program because all of the human as well as physical resources are arranged to fulfill the individual and common needs of these learners. Needs and preferences of the learners should be identified at first to plan and implement an effective and relevant educational program to them. Teachers therefore must know their students intensively; they must understand not only the learning style and learning preferences of the learners but should also pay attention towards each student by tailoring instructional activities to meet their individual needs and interest. When each student's needs, capabilities, interest, pre-experiences, and other personal information are identified then school teachers can differentiate the content, instruction, and assessment procedures effectively to meet the personal needs and interest of each learner.

Universal design for learning (UDL) is an educational approach to formulating and designing instructional objectives, methods, materials, activities, and assessment procedures to assist individuals with diversity. Teachers or other responsible persons therefore should gather information from different sources to diagnose strengths, learning styles, intelligence, etc. of each individual learner. Concerned people can use different strategies such as record review, family-center fact gathering, interest inventories, data-based observations, functional behavioral assessment, and curriculum-based assessment to collate detail information about the learners. Likewise; observation, formal evaluation, and different type of tests can also be used to collate personal information of a learner. After identifying individual needs, interest, and capabilities of each learner; teachers should use universal design for learning (UDL) to ensure access of all children to general curriculum by differentiating instructional activities. Some important strategies generally used to gather in-depth information of each student are explained below respectively:

#### ❖ *Record review*

Record review is taken as an important source useful to find out the personal information about a student. It means; personal information of each student can be accumulated or recorded in different types of documents or records such as portfolio, cumulative records, anecdotal records, past report card, Individual Educational Plan (IEP), language proficiency certificate, hospital records, and the like. Paper and pencil tests are scary events for some students. Alternative assessment tools therefore should be used to

find out the reality of the learners. By reviewing previous documents, teachers as well as other concerned people can find detail information about the students who were not in their contact before, and then they can make a clear concept about their needs, abilities, and preferences to plan and implement an effective educational program for their better educational growth. Some students may have special needs and these unique needs need to be fulfilled by introducing special education and other related services. Thus, teachers can identify the actual educational level of particular learner, her/his strengths and weaknesses, areas of support need to be provided, and so forth.

Sometimes, it is critical to make specific concept towards learners by following the realities reflected in their personal documents. Documents do tell the whole story about an individual and about the different causal factors that might have influences on the student's past behavior and result. Teachers and other administrative staffs of a school should not be biased to the students as per the negative information that her/his documents speak. Each student should be treated respectfully and sufficient support should be provided to all the students considering their peculiar needs and expectations to uplift their learning.

#### ❖ *Interest inventories*

Interest inventory can be administered in a small group or individually to obtain personal information of students to make proper decision about educational program matched to their needs and interest. Teachers can collect detailed information related to cognitive abilities, interests, language used at home, and learning styles of the learners to increase their access to curriculum and other learning materials. Each subject teachers can effectively differentiate the content, methods, materials, and assessment after identifying interest of each student. They can also use appropriate method of motivation considering the interest area of the learner. Furthermore, teachers should also identify major learning styles and intelligences of the students to provide more significant and functional contents to them for making their academic career more successful.

### ❖ *Functional behavioral assessment*

Functional behavior assessment is a problem-solving process where the circumstances that occur around a particular behavior are examined to identify the purpose of the behavior that occurs. When the cause(s) of problematic behavior is/are identified then appropriate interventions, assistive techniques, and strategies are recommended to develop the positive behavior intended. Sometimes, learners show violent behaviors to communicate something else that are not met at their classroom. In this situation, functional behavioral assessment (FBA) is used to determine the communicative intent, function, or purpose that a behavior serves a student. However, it is difficult (sometimes impossible) to determine the purpose of particular behavior with the help of superficial observation. Therefore, information should be gathered by applying different methods such as interview, observation, discussion with parents, etc.

Teachers and other responsible persons should examine antecedent (the conditions under which behavior occurred); behavior, and consequence in reliable and valid way, and then positive behavior support plan should be developed to reduce unintended behaviors shown by the learner under particular condition. Teachers can also provide reinforcements to improve socially acceptable behaviors of the learners.

### ❖ *Curriculum-based assessments*

Curriculum-based assessments (CBAs) assess the progress made by a specific group of students on a prescribed curriculum. In other words, Curriculum-based assessment (CBA) is a set of specific assessment method for evaluating students' progress over time and for identifying additional instructional support need to be provided to them for their academic growth. CBAs are criterion-reference tests made by teacher to reflect curricular content. Such assessment systems have been employed widely in current educational system to assess whether a student achieved or not the intended behaviors under specified curriculum.

CBAs are used as screening tools with an intention of selecting students for particular program, to determine the functioning level of student in a curriculum, to find out specific strengths of a student, and to identify students who need academic interventions. In addition, they are also used as progress monitoring tools, to evaluate the

effectiveness of educational programs, and other targeted interventions. Thus, CBAs can be used for assessing individual learner, effectiveness of particular method or material, consequences of specific intervention, and sometimes whole educational program. Most of the schools, colleges and universities in the world have been using this method to assess the academic achievement of learners and effectiveness of instructional program.

### 4.3.2 Differentiating Access to the Content of Learning

Children enrolled at a classroom come from diverse social, cultural, economic, educational, and family backgrounds. Their needs, interest, and assumptions are not similar to each other, and they cannot get sufficient benefits from similar curricular content. The content therefore should be differentiated as per the needs and capabilities of learners for effective learning. Teachers should differentiate content as well as instruction through different learning modalities and they should use varied rates of instruction along with varied degrees of complexity. Differentiation in content is mainly required to the children with special needs including both disabled and gifted. Classroom teachers should differentiate the instruction and assessment procedures to ensure the access of such children to curricular content for making them able to attain the objectives determined in the curriculum.

#### ❖ *Concept of content*

Content is considered as an important component of instructional process. Content represents different knowledge, values, and skills that are to be taught to the children enrolled at particular grade. Content includes what is to be taught; what level of understanding, knowledge, and proficiency students are to demonstrate, and what content, materials, and differentiation are necessary to allow all students a point of entry to learning. Selecting valid and significant content is a daunting task to the curriculum developers because all contents accumulated within different disciplines are not useful to the learners in one hand, and on the other, nobody can learn all the content explored all over the world even spending complete life in learning. Therefore, relevant and useful content must be selected by considering the needs and expectations of the learners and contemporary society. Curricular goals provide clear guidelines to select valid and appropriate contents from different disciplines. These goals are also helpful in



determining scope and sequence of the content. However, capabilities and academic background of the learners should also be kept in mind while determining scope and sequence of the content.

The content included within a curriculum should be delivered effectively among the students for effective learning. Teachers can use multiple means of representation to determine students' access to content. Content can be differentiated through the application of taxonomy of objectives, graphic organizers and technology, layered curriculum, culturally responsive techniques, and students' interest in the curriculum. Classroom teachers and other responsible people should apply these entire concepts by acknowledging different learning needs of the learners.

#### ❖ *Taxonomy of objectives*

Taxonomy of objectives has also been taken as an effective tool for differentiating content as per the learner's needs and preferences. Bloom's taxonomy of objectives has been used for long time to arrange and deliver curricular contents in simple to complex order for productive learning. Taxonomy primarily guides in formulating instructional objectives, selecting valid contents, organizing appropriate instructional strategies, and devising reliable and valid assessment procedures. Taxonomy of objectives has encompassed three domains namely cognitive domain, affective domain, and psychomotor domain, and then each domain has been presented into different levels in hierarchical order. In these days, Bloom's taxonomy of educational objectives primarily cognitive domain has been using highly in most of the educational institutions. Later, new taxonomy of educational objectives also came into practice by highlighting some limitations existed in Bloom's taxonomy.

Both Bloom's and new taxonomies are useful for developing instructional objectives of particular lesson, devising objectives in Individualized Educational Programs (IEPs) of the students identified as eligible for special education. Students learn more and teachers teach effectively when teachers set clear objectives at proper difficulty level. However, teachers must consider two things while using taxonomies to differentiate student access to the content of learning as mentioned below:

- Emphasis must be given on developing a range of objectives rather formulating a single objective for the entire class.
- More than one objective must be presented to increase in intentional learning and decrease in incidental learning.

When teachers are able to use taxonomy of educational objectives then they can differentiate content, process, and product effectively. A universal design perspective to differentiate objectives encourages teachers to match the complexity and diversity of the ways in which students have proper access to content. Attainable and challenging instructional objectives must be formulated from different levels representing different domains and then content; instructional activities and assessment procedures should be differentiated as per the needs of the learners.

#### ❖ *Layered curriculum*

Layered curriculum can also be used to ensure the access of all children to curricular content. In layered curriculum, teachers structure the content so that students with diverse abilities can get chance to study different concepts and skills at different levels of complexity. Any teacher can layer the curriculum by offering multiple objectives, contents, methods, and assessment techniques that are matched to the diversified needs and abilities of the learners come from diverse backgrounds. Curriculum can also be layered by offering variety of text materials representing various readability levels. Furthermore, teachers can also differentiate curriculum by grouping students as per their ability, interest, and academic backgrounds and then they can provide opportunity to learn content with diverse difficulty levels. Three-tiered pyramid design can be used to layer a curriculum in which content is offered in following ways:

- A core set of understanding and knowledge for all students,
- Additional understanding and knowledge for most students, and
- Other understanding and knowledge for some students.

❖ *Differentiating content using graphic organizers and educational technology*

Graphic organizers are graphic displays in which the structure of the graphic emphasizes the content to be mastered. Graphic organizers are primarily used to meet the needs of those learners who have visual learning style. In addition, they are also useful to summarize the whole content covered by particular lecture. Research has shown that graphic organizers are powerful learning tools that enhance both memory and comprehension. Flow charts used to show procedures, Venn diagrams used to depict similarities and differences, and concept map used to show relationships among concepts are taken as some examples of graphic organizers. Nowadays, educational technology helps teachers have access to graphic organizers. Different technologies such as software package, laptops, calculator, desktops, printer, scanner, etc. can be very useful for different educational purposes. Those students who have reading difficulty gain access to reading material by using computer software that read textbooks loudly to them. On the other hand, those students who have trouble with writing are assigned a word prediction programs to assist them for making sentences and paragraphs. Thus, graphic organizers and educational technology can be used to differentiate content to ensure access of all children to general curriculum.

❖ *Differentiating content with culturally responsive techniques*

Culturally responsive instructional technique is another approach useful to differentiate content. Hence, culturally responsive technique is a student-centered instructional approach in which positive aspects of students' culture are identified and then applied to strengthen their academic achievement. Teachers, who practice culturally sensitive differentiation of the content and materials, make sure that students from various cultures, linguistic backgrounds, and students with disabilities can see themselves in the media used in all of the content areas. In other words, the teachers who apply culturally responsive teaching practices value students' cultural and linguistic resources and use them as a capital rather than as barriers to learning. In addition, teachers also utilize students' personal experiences and interests as a core part of instruction to facilitate their learning. Different methods such as role-play, discussion, simulation, etc. are used as culturally responsive methods to ensure access to the

content and other instructional materials of the learners come from diverse backgrounds.

Culturally responsive teacher has following qualities:

- Hold high expectations for all students and help all students learn.
- Contribute to positive academic, attitudinal, and social outcomes (regular attendance, on-time graduation, cooperative behavior, etc.) for students.
- Use diverse resources to plan students-oriented instruction, focus on formative assessment, adapt instructional activities as per the needs of learners, and evaluate learning using various sources of evidence.
- Contribute to value the diversity of learners at the classrooms and school.
- Collaborate with colleagues, administrators, parents, and education professionals to ensure student success in education.

### 4.3.3 Differentiating the instructional processes

Instructional differentiation is a strategy inclusive educators use to respond to various learning needs. Differentiated instruction is applied to provide alternative instructional activities by general education teachers to meet the needs of diverse learners at the general education class. While differentiating instructional processes, teachers should provide a range of activities that challenges students to facilitate their learning. Teachers always need to think that single intended outcome can be attained by different learning experiences, and then they should provide a range of learning experiences by taking account their language, culture, family background, social environment, and so forth. Single method cannot be effective to the learners having diverse needs, interest, and abilities. Teachers therefore must use a range of instructional methods while teaching particular content at the diversified classroom. It indicates that instructional differentiation is most for effective learning. The points given below clarify the ways that are used to differentiate instruction:

#### ❖ *Instructional formats*

The instructional format of a lesson can be defined as a way in which teachers impart information to students to facilitate their learning. Interactive and activity-based instructional formats are more effective and productive to offer active participation of the learners as compared to lecture as well as demonstration formats. The peer-assisted

computer instruction is another type of format that increases collaborative learning, fosters higher-order thinking skills, and students may take learning as an integral part of their life. Classroom teachers can also use other instructional formats – experimental, role-play, investigation, discovery learning, self-directed learning, service learning, etc. – to engage their students actively in the whole instructional process.

Teachers can use different formats while teaching particular lesson and specific format is readily useful to teach certain content effectively. Students' participation can also be enhanced in lecture format by integrating it with other techniques – summarizing, questioning for examples. Thus, appropriate instructional formats should be used to guarantee eager participation of the learners come from different cultural and linguistic backgrounds. Teachers must consider students' academic background, their culture, needs, and preferences, nature of content, resources available at the schools while making decision about instructional format. When teachers do so, then students learn intended knowledge, values, and skills as intended manner.

#### ❖ *Instructional arrangements*

Instructional arrangements (also known as instructional groupings) determine whether students interact with curricular content as a whole group, as pair, as individual, or as a member of a structured group of classmates. The differentiated class is characterized by small groups of students, either homogenous or heterogeneous, doing tasks that are tailored to their particular learning styles or multiple intelligence strengths. Cooperative learning methods are taken as most powerful methods to engage and boost the achievement of all students. Cooperative learning arrangements (jigsaw, student team learning, group investigation, Think-Pair-Share, Mix-Freeze-Pair, Walk-Talk, for examples) can be informal, quick, and easily sprinkled throughout the instructional day. Curricular content can be differentiated by involving students in delivery process through the application of different instructional arrangements such as peer tutoring, group learning, etc. Proper content and instructional materials should be selected by the teachers while using peer tutoring at a class by providing proper guidelines to the learners.

### ❖ *Instructional strategies*

Instructional strategies are teaching/learning techniques that help learners become clear on the knowledge and skills transfer from one person to another. Instruction requires not only systematic guidance for learning but also a purposeful organization of experiences to help students achieve the desired change in their performances. Summarizing and note taking, identifying similarities and differences, cooperative group learning, setting objectives and providing feedback, etc. are some examples of instructional strategies. Teachers should consider curricular goals, curricular content, students' individual background, instructional materials at the school, etc. while selecting and using instructional strategies to accommodate them as per the needs and preferences of the learners. Cooperative instructional techniques can also be used as effective instructional strategies.

### ❖ *Physical and social environment*

Both physical and social environment of the classroom plays crucial role in learning. Physical environment should be arranged in such a way where students from diverse backgrounds can get equal chance to practice the behavior intended. Simply speaking, learning environment is a place where learners are engaged in self-directed and cooperative learning activities. Generally; room arrangement, seating structure, accessibility to instructional materials, space in the classroom, etc. are included within environmental considerations. On the other hand, relationship between teacher and head teacher, teacher and students, senior teachers and junior teachers, ways used to respond students, etc. also have tremendous effect on learning. When teachers use interactive and cooperative instructional arrangements, then environmental considerations such as the regulation of noise level, rule of sharing instructional materials, ways of behaving to peers, and seating arrangement should be taken into account. Flexibility in social environment is primarily essential to ensure active and interactive involvement of the learners who are differences to each other in terms of age, ability, language, cultural background, and so forth.

#### ❖ *Co-teaching approaches*

Co-teaching is a strategy in which two or more people share responsibility for teaching some or all of the students assigned to a classroom in order to help them learn contents encompassed within a set of subjects. Co-teaching has been found to be effective in supporting students with a variety of needs in general education, and it allows instructional differentiation and ensures access of students to general curriculum. In contrary, classroom teachers can also assign the role of co-teachers for providing ample opportunities to the students to learn many things from study buddies. When students get chance to practice the content need to be learned through active participation; then their retention, communication skills, and academic achievement can be increased as an intended manner.

Finally, teachers can also apply students' learning styles (visual, auditory, and kinesthetic), and multiple intelligences to differentiate instructional processes. Furthermore, integration of the arts can be used as an effective instructional strategy of differentiating classroom instruction. When teachers integrate visual and performing arts (music, dance, and visual arts) into their curriculum as an instructional strategy then students expand their horizon of knowledge in specific domain of curriculum. Teachers should keep into mind all of the guidelines discussed above to make instructional differentiation at the classroom to meet the unique needs and preferences of all learners.

#### **4.3.4 Differentiating and assessing the product of learning**

Differentiated instruction is an effective way useful for teachers to proactively plan for and respond to individual differences by adapting and modifying materials, learning goals, instructional methods, and learning activities. Differentiated instruction requires teachers to provide students with multiple means of representation (content differentiation), multiple means of engagement (process differentiation), and multiple means of expression (product differentiation) to address their different learning needs. Teachers are responsible not only for administrating and interpreting high stake tests, but they are also responsible in ensuring that all students (disable, gifted, poor, culturally diverse, etc.) have access to the product of learning. When teachers differentiate assessments then students can show what they know in a number of ways. The

information gathered by teachers from differentiated assessment helps them design more productive lessons to address classroom diversity possessed by learners.

It is generally agreed that assessment in the context of education involves deciding, collecting, and making judgments about evidence relating to the goals of the learning being assessed. Students who have had frequent opportunities to speak, act out, demonstrate, and diagram their understanding of concepts may be less anxious while responding on another mode to express what they know. Therefore, teachers need to consider differentiated assessment strategies in order to accommodate the needs of students with learning disabilities. Thus, paper-pencil test is not useful to all learners, and differentiated assessments can be used as an effective alternative to accommodate the diverse needs and capabilities of the learners.

Formative assessment promotes learning by using evidence about where students have reached in relation to the goals of their learning, and then provides basis for planning the next steps in their learning to achieve the goals intended. Formative assessments are continuously used to shape programs and interventions properly to enhance the effectiveness of both teaching and learning. Scaffolding techniques need to be provided to the learner while solving problem and carrying out formative assessment activities. Both scaffolding and formative assessment are parts of differentiated instruction and universal design for learning. Scaffolded instruction may best be understood as a sequence of prompted content, materials, and teacher or peer support to facilitate learning. Both scaffolding and formative assessment are very beneficial to enhance learning with active involvement of the learners.

A few children are exempted from state and national tests. Usually this is because they have cognitive or other limitations that are so severe they cannot successfully take part in such assessment. The alternate assessment is essential to measure the performance of a student who is unable to participate in state assessments, especially students with the most significant disabilities. Teachers can use observation, portfolio, cumulative record, anecdotal record, formative test, etc. as the alternative assessment tools to measure the learned knowledge and skills of all learners including both disabled and gifted.

Assessments should be culturally sensitive. Such assessments allow all students to show what they know in the style that best represents their respective cultures and also to receive immediate feedback on their tasks to make corrective changes on required basis. Teachers should also be clear on the taxonomies of educational objectives to differentiate the products that



students learn to demonstrate. Bloom's taxonomy in the cognitive domain provides an excellent resource to determine the level of difficulty required and possible terms to articulate the skills or concepts that are included in objectives. In this regard, teachers should offer the entire range of opportunities to demonstrate the learned knowledge related to more simple to complex levels of taxonomy. Furthermore, awareness of multiple intelligences and student's learning styles also help teachers differentiate assessments. Different opportunities can be provided to the learners to show what they have learned from the areas of their learning styles and intelligences.

## Let Us Sum Up

In this chapter, we discussed concept of Universal Design for Learning and we also analyze the curricular components from UDL perspective. Hence, we discussed how we can make different curricular components namely goals, contents, methods, instructional materials, and evaluation procedures accessible to all learning come from diverse backgrounds. Finally, we studied about the process of ensuring access to curriculum through Universal Design for Learning, and then we concluded that students enrolled at a classroom have diverse needs, interests, abilities, and learning styles, therefore different options must be offered in instructional process for ensuring their success in their academic career.

The UDL framework is based on three main principles of providing multiple means of representation, expression, and engagement to the children with special needs, which are directly concerned with three networks (recognition, strategic, and affective) of the brain respectively. When children acquire new skills and knowledge, these three networks interact and allowing them to recognize, comprehend, internalize, express, and then relate to the information they are learning. The UDL framework presents a set of guidelines for integrating flexible options into curriculum and instruction under the three domains of representation, expression, and engagement. Therefore, the students studying under the Department of SNE should have proper knowledge on UDL for ensuring all students' access, including the students with unique needs, to general education curriculum.

## Unit-end Activities

- **Objective Questions**

Tick (✓) the best answer.

**“Group-A”**

1. Universal Design for Learning is a set of principles that guide classroom instruction to make course materials accessible to
  - a. the learners with disabilities
  - b. gifted and talented students
  - c. all learners in general classroom**
  - d. normal children
2. Which of the followings is NOT included within principles of UDL?
  - a. Multiple means of selection**
  - b. Multiple means of recognition
  - c. Multiple means of engagement
  - d. Multiple means of expression
3. Which of the following statements is correct?
  - a. UDL rejects one-size-fits-all approach
  - b. UDL offers diverse curricula for children**
  - c. UDL acknowledges universal curricula to meet diverse needs of the learners
  - d. UDL believes in early education programs for successful learning
4. The term universal design originally comes from the field of
  - a. architectural studies**
  - b. curriculum studies
  - c. sociology
  - d. philosophy
5. ‘Content should be provided through multiple channels such as discussion, readings, digital texts, and multimedia presentations.’ This statement is concerned with
  - a. multiple means of inclusion
  - b. multiple means of representation**
  - c. multiple means of engagement
  - d. multiple means of expression

6. Which of the following principles does focus on the application of different ways to motivate, challenge, and boost students' interest in learning?
  - a. Multiple means of representation
  - b. Multiple means of expression
  - c. Multiple means of inclusion
  - d. Multiple means of engagement**
7. Which of the following principles does assist teachers ensure their students' active involvement in learning through collaborative learning, instructional games, and virtual tours?
  - a. Multiple means of representation
  - b. Multiple means of expression
  - c. Multiple means of engagement**
  - d. All of them
8. Which of the followings principles does help teachers provide chance to the learners to express their understanding in multiple ways such as through traditional tests, art, play, multimedia presentations, etc.?
  - a. Multiple means of representation
  - b. Multiple means of expression**
  - c. Multiple means of inclusion
  - d. Multiple means of engagement
9. Teachers can use curriculum in flexible way by writing objectives with verbs that offer the greatest amount of flexibility in terms of
  - a. representation
  - b. engagement
  - c. expression
  - d. all of above**
10. Which of the following statements is incorrect?
  - a. Goals should separate the means from ends
  - b. Goals should challenge gifted learners**
  - c. Goals should consider the learning networks
  - d. Goals should challenge all learners

11. Which of the following statements is correct from UDL perspective?
- Effective methods can be continually adjusted to meet learner needs**
  - Single method can be applicable in all learning situations
  - All contents can be delivered through single methods
  - All students can get benefit from similar instructional techniques
12. How should be the instructional materials from UDL perspective?
- Materials should be large in size
  - Materials should be attractive to see
  - Effective materials align to goals**
  - Materials should be parsimonious
13. Which of the following statements is incorrect in terms of UDL assessment procedure?
- Effective assessments are ongoing and focused on learner progress
  - Effective assessments measure both process and product
  - Effective assessments are easy to conduct**
  - Effective assessments are flexible
14. Which of the following steps is NOT included within the process of ensuring access to curriculum through UDL?
- Gathering facts about the learners
  - Determining the philosophy of curriculum**
  - Differentiating access to the content of learning
  - Differentiating the instructional process
- **Short answer questions**                      **“Group-B”**
    1. What do you mean by Universal Design for Learning? Explain in brief.
    2. What are the methods useful to gather in-depth facts about the learners? Explain in brief.
    3. Curriculum-based assessment is a method of collecting fact about the learner. How? Justify this statement.
    4. How can we differentiate content by using taxonomy of objectives? Discuss with examples.
    5. Elaborate the concept of layered curriculum. Why should we use it in our classroom teaching? Describe.
    6. How can we differentiate and assess the product of learning? Explain in short.

- **Long answer questions** **“Group-C”**
  1. Explain the elements of curriculum from UDL perspective.
  2. Describe the process of ensuring access of the students with special needs to curriculum through UDL.
  3. What are the ways that need to be applied to differentiate content to ensure students' access to general education curriculum? Discuss.

### **Points for Discussion**

- Introduce the concept of Universal Design for Learning.
- Elaborate curricular component from UDL perspective.
- Describe different strategies useful to collect facts about the learners.
- Discuss the ways that need to be followed while differentiating access to the content of learning.
- Explain the ways of differentiating and assessing the product of learning.

## Unit 5: Curricular Activities for Children with Special Needs in Nepal

### 5.1 Existing Curriculum for Children with Special Needs in Nepal

Education is considered a foundation for the development of an ideal society. Only effective and successful education can guide the society and move whole nation towards the zenith of success. Considering the reality, various efforts have been made from the side of Nepal Government to make school education regular, systematic, qualitative and effective. Uniform school curricula introduced in 2028 B.S. at first by NESP were revised at different times. Major changes were seen in the school curricula of Nepal after the National Education Commission 2049 B.S. and High Level Education Commission 2055 B. S. Lately, school level curriculum has been changed completely after ending the course of 10 years civil war in Nepal. Education system of the country should prepare all students to face the emerging challenges in contemporary society by providing them quality education. The curriculum is seen as the foundation of school education and an effective tool to offer changes in other aspects of the country. Formal educational institutions play vital role for implementing curriculum designed for all school age children including the children with special needs. The government is responsible for providing educational opportunities for all students including those with unique learning needs.

All children have equal right to receive quality education as per their cultural, linguistic, socio-economic, and ethnic backgrounds. Nepal is a socially, economically, culturally, linguistically, and ethnically diversified country where 123 languages are spoken by 126 castes. Such diversity is also reflected within almost all the classrooms of Nepalese schools. Considering the reality, the Nepal Government has also been making several efforts for providing educational opportunities to all children for years by endorsing various acts, policies, and legislations. Nowadays, there is a legal provision of providing free and compulsory education up to basic level (grade 1 to 8) and free education up to university level especially to the children with disabilities. There is also provision of getting education in Braille and sign language for the children with visual and hearing impairment respectively. Thus, different types of attempts have been made from the side of Nepal Government to provide quality education to all children including the children with disabilities.

Although the Nepal Government has made several provisions for ensuring different learning needs of all learners in national level policy documents, all children are still expected to follow the same curriculum disregarding their individual needs, abilities, and capabilities. The school curriculum in Nepal is not flexible and teachers have still adopted traditional pedagogies in the classroom teaching. As a result, children with disabilities suffer from the largest challenges in access, participation, and learning outcomes, and then repeatedly fail in mainstream schools. Educational wastage is evident especially in the early grades as well as in the transition from grade 5 to 6 and from grade 8 to 9. Most of the children with disabilities in Nepal have been studying general curriculum with their normal peers.

In Nepal, 12 years school education has been providing for few years. School education in Nepal has been categorized into two tiers – basic and secondary. As per this structure, the basic level is from grade 1 to grade 8, and the secondary level is from grade 9 to grade 12. As a preparatory stage for primary education, there is available two years of pre-primary education. The level wise age group of school children has also been mentioned at policy level in Nepal, which is given below:

- Early childhood education 3-5 years
- Basic education 6-13 years
- Secondary education 14-18 years

The main aim of basic education is to develop the innate ability of each child including the children with special needs through child-centered education. Its main aim is to produce citizens who are loyal to the nation and democracy and aware of their responsibility towards the social and natural environment. Students are expected to be competent in communicating ideas, independent, hardworking, health conscious, and morally sound. On the other hand, the aim of secondary level education is to produce competent and healthy citizens who can contribute to economic development of the nation and are familiar with national traditions, cultural and social heritage, and democratic values. Its main aim is to produce skilled human resource capable to furnish solid contributions to the all-round development of the country and make them mindful citizen by imparting basic knowledge required for university education. Students with disabilities have been studying general and special education curriculum. Especially separate curriculum has been made for the children with severe and profound intellectual disabilities. But others children with special needs have been studying general education curriculum with required accommodation and modification. Three levels curricula have been offered for the children with intellectual disabilities and autism spectrum disorders. The main objectives of the curricula, offered to the children with intellectual disabilities and autism spectrum disorders are:

- To enable learners to adjust in the school.
- To make them independent to perform daily life activities.
- To prepare them for vocational skills training.

The structure of the curricula offered to the children with intellectual disabilities and autism spectrum disorders is given below:

Levels	Study time	Age groups
First level	5 years	6 to 10 years
Second level	3 years	11 to 13 years
Third level	2 years	14 to 15 years

Different types of curricula (level 1, 2, and 3) are suggested to the children with intellectual disabilities and autism spectrum disorders as per age level instead of considering the type of intellectual disabilities (mild, moderate, severe, and profound). Two modules are designed (10 days for each) for providing training to the teachers on the subject area of intellectual disabilities. However, these trainings may not be sufficient to deal with the disability especially to those teachers who have very limited knowledge on disability.

### ***(1) Basic level***

Basic level curriculum framework has been classified into three phases. Both general and special children have been studying this curricular structure in Nepalese schools. But some children with disabilities cannot study the suggested curricula as they are. Therefore, some accommodations and modification should be made for developing the intended behaviors of these children. Different phases including grades in each are given below:

Phases	Grades
First phase	1, 2, and 3
Second phase	4 and 5
Third phase	6, 7, and 8

The objectives of the first phase (Grade 1-3) are to provide opportunity to the children to be introduced with formal education and basic literacy, mathematical knowledge and life skills and the



habit of personal health and hygiene. They are also expected to be familiar with their own surroundings. The curriculum introduced in this level has been implemented in students' own mother tongue, and those students who are deaf and blind, they can also get chance to study the curriculum in sign language and brail script respectively. The curriculum structure of first phase is given below:

S.N.	Subjects	Weightage	Full marks
1.	Nepali	8	100
2.	English	5	100
3.	Mathematics	6	100
4.	Social studies and creative arts	6	100
5.	Mother tongues, health, science, and physical education	5	100
6.	Local subject (mother tongue)	4	100
<b>Total</b>		<b>34</b>	<b>600</b>

**Note:** *Mother tongue/Local subject*

- The language spoken by the majority of students should be chosen while selecting the mother tongue for teaching in schools.
- Local subjects such as locally useful vocation, occupation, religion, culture, tradition, local heritage, environmental conservation, locally available technologies, festivals, and social system can be offered if mother tongue is not taught.
- The curriculum and textbooks of mother tongue and local subjects should be developed by schools themselves with the help of the resource center and District Curriculum Coordination Committee. But, if the similar curriculum is applicable in a district, single local curriculum can be implemented in different schools of a district. Likewise, if the similar curriculum is applicable within one resource center, the curriculum can be developed as the resource center level.
- Schools themselves can develop the curriculum and textbooks giving 20% weightage to social studies, creative arts, and physical education.
- Sanskrit can be included in the curriculum within local subjects.

The objectives of the second phase (Grades 4-5) are to provide ample opportunities to develop knowledge, skill, and values through different areas of learning. There is no provision of subject-wise

structure in this phase. The learning areas generally cover mathematics, creative arts, science, health and physical education, language and social studies. Contents of science, health, and social studies have been integrated and focused on practical activities by linking them with local context. Similarly the knowledge of information and communication technology is also included within other subjects. As per the learning areas, the structure of the curriculum of this phase has been mentioned below:

S.N.	Subjects	Weightage	Full Marks
1.	Nepali	8	100
2.	English	5	100
3.	Mathematics	6	100
4.	Social Studies	5	75
5.	Creative Arts	3	25
6.	Science and Environment	4	50
7.	Health and Physical Education	4	50
8.	Local Subject/Mother Tongue	4	100
<b>Total</b>		<b>39</b>	<b>600</b>

The same learning areas as mentioned above are also provided in the third phase (grade 6 to 8). However, the local need based education subject has been mentioned in different way. An opportunity has been provided to choose subjects under the local need based study like mother tongue or information and communication technology or the subjects related to other practical aspects of life (animal husbandry, poultry farm, horticulture, agricultural science and computer). Curricula, in this phase, have been developed through the mixed and integrated approach including skills required for ordinary life (e.g. inter-personal skills, self-conscious skills, critical and creative thinking skill, decision making skills, and conflict and stress management skills). For this the subject wise structure of third phase will be as follows:

❖ *Compulsory subjects*

- Nepali
- English
- Mathematics
- Social Studies (including population, civics, and moral education)
- Science (including health and physical education, environment education)

❖ *Elective*

- Mother tongue/Sanskrit/ others
- Local subjects (occupation, trade, and others)

The curriculum structure given above indicates that two types of subjects (compulsory and elective) are offered at the third phase of basic education. Five subjects are recommended as compulsory subjects and remaining two are suggested as elective subjects (200 full marks). Subject areas proposed in this way to the primary level has also recommended to the organized institutions outside schools (Gurukul, Madarasa, Gumbas, etc.) to bring them into main stream education system.

**(2) Secondary level**

Four years (Grades 9-12) secondary level education has been implementing for both normal and special children in Nepal. Education of this level has been categorized into two streams: general and vocation/technical. The main learning areas of general education are as follows:

- Language
- Science
- Mathematics
- Social Sciences
- Occupation, trade, vocation

Under vocational/technical stream; different study areas such as agriculture, forestry, engineering, and medicine have been offered. In these days, both general and vocational education curriculum have been implementing in general, integrated, special, and vocational schools established all over the country.

## 5.2 Delivery of Curricular Content in Special and Integrated Schools

As per the policy provisions, the medium of education in schools can be the Nepali language, the English language, or both. Sign language has also been using to deliver curricular contents to the children with hearing impairment. All primary school age children can get opportunity to study in their own mother tongue up to the primary level. In addition, the medium may be the same for that language while teaching a particular language. It means; the medium of instruction for compulsory English shall be in English. The total teaching learning time for the grades 1 to 3 will be 816 hours; and for the grades 4 and 5 will be 936 hours. One period will be of 45 minutes, a period could be determined as the requirement of a lesson. Such policy provisions have been implemented not only for normal children but also enacted for the children with special needs.

Emphasis has been given on student centered teaching-learning activities to deliver curricular contents at the primary level. It is expected that the student centered teaching-learning activities help for making teaching learning effective by involving students actively in instructional process. In addition, there is also provision of using inclusive teaching procedures in a classroom to involve all students from diverse backgrounds. In school education, there is policy provision of giving emphasis on explorative, interactive, and innovative teaching learning activities to develop the behavior intended. Project-oriented and experimental teaching learning activities have also been suggested as an integral part of teaching in policy documents. Furthermore, there is provision of applying community work, case study, and observation as an integral part of teaching learning activities. Finally, blind and deaf students can also get chance to learn their curricular contents in Braille scripts and sign language.

Cooperative teaching methods are considered as effective instructional techniques for meeting the diverse learning needs of pupils with and without disabilities. These methods enrich learning opportunities for all learners including the learning with special needs by focusing on their unique needs and interests. The research findings reveal that most of the head-teachers and teachers working in both special and integrated schools do not have proper knowledge about cooperative teaching methods, and those who have; they do not apply them on regular basis at their classroom. Some teachers believe that it is too difficult and sometimes impossible to apply cooperative teaching approaches because of large class size, congested classroom, heavy furniture, and limited human resources in the schools. Some teachers teaching in integrated schools have been composing pair groups by joining both disabled and normal students especially to provide academic supports to the disabled one. However, most of the teachers teaching in these schools are using teacher-mediated teaching strategies instead of practicing cooperative instructional techniques.

Differential instruction is an effective strategy for acknowledging diversity of the classroom as we discussed before. The differentiated instruction not only accommodates the learning differences of students with the help of IEPs but also accommodates the learning differences experienced by all students through instructional delivery arrangements such as co-teaching rather than pullout services. But research findings show that teachers teaching to the children with disabilities, except very few examples, neither developed IEP nor used co-teaching instructional practices for conforming learners' academic growth. A few number of informants argued that it was not possible to use differential instruction in their schools due to large class size. In some cases, they have been practicing pullout services in which disabled children are taught separately in resource rooms (especially in integrated schools) to ensure

their access to general curriculum. Furthermore, it is difficult to compose small groups due to unmovable/heavy furniture and congested classroom for co-teaching and peer-assisted learning.

Policy provisions have not been enacted to a fuller extent in both integrated and special schools. Learning environment is a place where learners are engaged in self-directed and co-operative learning activities to develop the behaviors intended by formal curricula. When the environment is adjusted as per the needs and preferences of the learners then they can learn expected contents quickly and in effective way. But learning environment in integrated and special schools in Nepal has not been adjusted effectively as per the individual needs of the children with special needs. The research finding shows that the teachers teaching at special schools are little bit active to adjust the learning environment of the classroom as per the needs of students as compared to the teachers teaching in integrated schools. Manageable class size and some resource materials available at the schools have hampered for creating supportive and conducive learning environment to some extent. But the learning environment in integrated schools was not accommodated as per the needs and abilities of the students with disabilities except very few examples. Additional supports have also been provided on required basis in order to help students with special needs to achieve the objectives specified by the curriculum. This participating in extracurricular activities has also been ensured to some extent for their all-round development.

### **5.3 Use of Instructional Materials for Children with Special Needs**

There is policy provision of using instructional materials as per nature of course and needs of students to implement the official curriculum successfully. There is also provision of using local resources while preparing instructional materials and providing counseling service to the students at risk by developing a system of student counseling service in each school. In addition, educational policies also aim at producing and distributing student-friendly textbooks and other instructional materials. There is also policy provision of developing and using multiple textbooks by considering students' interests, ability, and pace of learning. Considering these policy provisions, different disable-friendly instructional materials (books in Braille script, audio materials for examples) have been developed by Curriculum Development Center.

Students enrolled at a class cannot learn suggested curricular contents to a similar extent. Therefore, contents should be taught through multiple channels such as discussion, readings, digital texts, and multimedia presentation for addressing special learning needs of the students. In this regard, the study result shows significant differences between special and integrated schools in terms of using

multiple options of contents and instructional materials to accommodate unique needs and preferences of the learners with special needs. The special schools have been providing more multiple options to the learners as compared to integrated schools. Most of the general teachers teaching in the integrated schools are implementing planned curriculum as it is without offering multiple options of contents and materials as per the needs of students with special needs.

All children, with and without disabilities, are studying together in all integrated schools. But these schools are not well resourceful as per the needs of children with disabilities. Some of these schools have using textbook as a core material for teaching. This situation reveals that the learners with disabilities have to fit to the contents delivered and materials applied in the general classroom instead of adjusting these resources as per their needs and interests. General teachers teaching at integrated classrooms usually convey contents in such a ways primarily suited to the students without disabilities. Students with special needs have very limited access to assistive technology in Nepal, which limits their access to general education curriculum.

## **5.4 Evaluation Procedures for the Children with Special Needs**

Both formative and summative evaluation procedures have been applying to assess all students' achievement, including the students with special needs. But priority is given on formative assessment procedures. The main aim of formative evaluation is to improve students' learning level. Students' portfolio is maintained from grades 1 to 3. The portfolio is updated according to students' class work, project work, behavioral change, attendance etc. Continuous Assessment System has been implementing by evaluating students through formative evaluation techniques in grades 1 to 3. The main objective of continuous assessment is to upgrade students who are involved in teaching learning activities in a school year by observing their behavioral change. For the students who remain absent in a class and whose learning achievements are low can be upgraded as per the decision of the teacher, parents, and head teacher for providing more learning opportunities.

Assessment tools such as, class work, project work, community work, unit test, achievement test, observation, formative and innovative work are applied to assess the students' performance. But Summative assessment has been used for certification of students' achievement and grade promotion. There is also provision of liberal promotion system for the students studying at grades 1 to 7 by maintaining quality of education. In addition, district level examination at the end of basic level (grade 8), regional level examination at the end of grade 10, and national level examination at the end of second

phase (grade 12) have been administered. The weightage of internal evaluation for grades 1 to 5, 6 to 8, 9 to 10, and 11 to 12 is 60%, 40%, 25%, and 20% respectively. The weightage of all external examinations of grades 5, 8, 10, and 12 is 40%, 60%, 75%, and 80% respectively. But regarding vocational subjects, extensive practical activities and a provision of additional practical tests are made 25% internal assessment.

But in the case of the children with disabilities, the evaluation procedures are accommodated as per their unique needs. Questions printed in large size, examination hall with extra light, and reasonably extra time have been provided to the students with low vision in the examinations. Similarly, question papers in Braille script, answer sheets comfortable to write in Braille, and extended exam time are provided to the blind children. There is also provision of recording question papers and answer in audio tape and sighted writer has been provided to the blind students to get support in pictorial problem especially in geometry, geography, and physics. On the other hand, students with hearing impairments can get chance to express their ideas in sign language with the help of interpreter.

Apart from the examination, the other alternative arrangements will be made for the students with special needs. Alternative assessment procedures are considered as effective techniques to evaluate the students with disabilities. Students, who get frequent opportunities to speak, act out, demonstrate, and diagram their knowledge and skills through alternative assessment procedures may be less anxious while expressing their ideas and concepts. Special and integrated schools are also using alternative assessment procedures to some extent to evaluate the progress of each learner by following guidelines determined by the curriculum. Most of the teachers have been using attendance, classroom participation, and the result of terminal exams as well as annual exam as the core criteria to assess the students with disabilities. But the evaluation procedures used for them are not significantly different than the assessment procedures applied for the students without disabilities except in the case of blind and deaf students. Only extended time has been provided to the students with disabilities to answer the questions asked at the exam. Blind and deaf students can also express their knowledge in Braille script and in sign language respectively in all special and integrated schools in Nepal.

## **5.5 Role of General and Special Teachers in Implementing Curriculum**

Both special and general teachers must work collaboratively to meet the distinct learning needs of the students with disabilities. In inclusive environment, two teachers both general and special bear equal responsibilities for educating all the students. These teachers work together in flexible and coordinate

ways. No group of students is the sole responsibility of one educator. Sometimes the general education teacher carries out modifications and adaptations that have been designed by special educators especially in integrated schools. Both teachers, in the case of integrated schools, work in collaborative way. In Nepal, both special and general teachers work together in integrated schools. General teachers teach general education curriculum to all students with and without disabilities at the general classroom. Special teachers support to the students with disabilities especially in resource rooms, therapy rooms, and special rooms. They generally teach Braille scripts and sign language to the children with visual and hearing impairments, and they also provide different special services (language therapy, physical therapy, etc.), and academic supports to the children with special needs on required basis.

But in Nepalese schools, collaboration between general and special teachers has not been made appropriately. Field data shows that very few teachers especially at integrated schools are working in a collaborative way while teaching curricular contents to their students. And the collaboration made by them is only limited in translating one language or script into another mainly in integrated schools. It means; special teachers only play the role of teaching Braille script and translating it into English and Nepali languages. General teachers cannot understand the assignments written Braille scripts by the students with visual impairments, and to support general teachers. The practice of collaborative teaching is little bit better in special schools as compared to integrated schools because some teachers teaching there have been adapting curriculum and evaluation procedures collaboratively by introducing IEPs.

General education curriculum may not be effective to a fuller extent to the children with special needs without its accommodation and modification. Teachers teaching in integrated and special schools should apply differentiated instruction to adapt curriculum as per the needs of the children with unique needs. This instruction addresses the learning differences of students with the help of IEPs. But study results show that most of the teachers teaching in both general and special schools neither develop IEP nor use co-teaching instructional practices for conforming learners' academic growth. Limited instructional materials, scarcity of competent human resources, large class size, and poor motivation of the teachers are main causal factors for using differentiated instruction at the classroom to implement the designed curriculum as per the needs and abilities of the students with special needs. Teachers teaching in integrated and special schools have been receiving different types of trainings but the trainings provided to them are too short, and cannot provide sufficient knowledge and skills for effective implementation of the curriculum suggested for the children with special needs. They also need to carry out different assessment procedures to evaluate the academic performance of the children with disabilities.



## Let Us Sum Up

In chapter five, we discussed different types of curricular activities conducted for the children with special needs in Nepal. Within this title we discussed existing structure of curriculum for the children with special needs and content delivery process in integrated and special schools in Nepal. Furthermore, we also became clear about the use of instructional materials and evaluation procedures for the children with special needs. Finally, roles of general and special teachers in implementing curriculum at special and integrated schools have also been clarified.

Many students with disabilities have been attending at general classroom with their same age normal peers to study general curriculum. General curriculum is generally prepared by considering the needs, learning styles, and cognitive abilities of the children without disabilities. Therefore, the general education curriculum may not be fruitful to the children with special needs without its proper accommodation and modification. However, general education curriculum is rarely differentiated as per the learning needs of these children. Consequently, they cannot get proper benefits from the curriculum especially in integrated schools. In almost all the special and integrated schools, these are not sufficient instructional materials, assistive technologies, and well-trained human resources. Due to the reasons, most of the general and special teachers cannot play effective roles for teaching to the children with special needs in both special and integrated schools.

## Unit-end Activities

- **Objective Questions**

Tick (✓) the best answer.

“Group-A”

1. Children with disabilities can get free and compulsory education up to
  - a. primary level
  - b. **basic level**
  - c. secondary level
  - d. higher secondary level
2. Children with disabilities can get free education up to
  - a. **university level**
  - b. secondary level
  - c. basic level
  - d. primary level

3. Structure of school education in Nepal is
  - a. 8 years
  - b. 10 years
  - c. 12 years**
  - d. 15 years
4. Structure of basic education in Nepal is
  - a. grade 1 to grade 8**
  - b. grade 1 to grade 10
  - c. grade 1 to grade 5
  - d. grade 1 to grade 3
5. In Nepal, age group of secondary level is
  - a. 13 to 17 years children
  - b. 14 to 18 years children**
  - c. 12 to 16 years children
  - d. 15 to 19 years children
6. Which the following statements is related to the aim of secondary level education?
  - a. to produce competent citizens who can contribute to economic development of the nation
  - b. to produce such citizens who are familiar with national traditions, cultural and social heritage
  - c. both a and b**
  - d. none of them
7. What is the main objective of the curriculum offered to the children with intellectual disabilities in Nepal?
  - a. To enable learners to adjust in the school.
  - b. To make them independent to perform daily life activities.
  - c. To prepare them for vocational skills training.
  - d. All of them**
8. The weightage of internal evaluation at grade one is
  - a. 70%
  - b. 60%**
  - c. 50%
  - d. 40%

9. The weightage of external evaluation at grade five is
- 70%
  - 60%
  - 50%
  - 40%**
10. Which of the following statements is correct?
- Examination time is extended to the children with visual impairment
  - Question is printed in large size fonts for the children with low vision
  - Question is provide to blind children
  - All of above**
- **Short answer questions**                      **“Group-B”**
    - What type of curriculum has been suggested to the children with intellectual disabilities?
    - Explain the content delivery process in special and integrated schools in brief.
    - What types of instructional materials have been using for the children with special needs in Nepal? Discuss.
  - **Long answer questions**                      **“Group-C”**
    - What evaluation procedures have been using in special and integrated schools to evaluate students with special needs? Describe in brief.
    - What are the roles of general and special teachers in implementing curriculum in integrated and special schools?

### Points for Discussion

- Discuss current structure of school level curriculum in Nepal.
- Identify the ways applied to deliver the curricular contents in integrated and special schools.
- Find out the instructional materials used for the children with special needs.
- Describe the evaluation procedures applied to assess the academic achievement of the children with special needs.
- Explain the roles of general and special teachers in integrated and special schools.

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