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The Understanding of Curriculum Change

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Abstract:

The curriculum is the key and indispensable part of the academic and training system that contains immense aims of scientific, thought, social, political, cultural, and moral facets. The curriculum is continually changing to suit the needs of changing society and changing knowledge. Curriculum change refers to the process of modifying, revising, or updating the content, structure, and delivery of a curriculum. Changes to a curriculum are necessary to keep up with current research and best practices regarding how to increase student learning and how to track progress. This book chapter has been explaining various issues on the subject of curriculum and curriculum change. It includes definition of curriculum, purpose and factors of developing a curriculum, goals/objectives/content of curriculum, curriculum change, types/forms/importance of curriculum change, curriculum change process, factors affecting curriculum change. It ends by describing the models for curriculum change. The curriculum is the key and indispensable part of the academic and training system that contains immense aims of scientific, thought, social, political, cultural, and moral facets. The curriculum is continually changing to suit the needs of changing society and changing knowledge. Curriculum change refers to the process of modifying, revising, or updating the content, structure, and delivery of a curriculum. Changes to a curriculum are necessary to keep up with current research and best practices regarding how to increase student learning and how to track progress. This book chapter has been explaining various issues on the subject of curriculum and curriculum change. It includes definition of curriculum, purpose and factors of developing a curriculum, goals/objectives/content of curriculum, curriculum change, types/forms/importance of curriculum change, curriculum change process, factors affecting curriculum change. It ends by describing the models for curriculum change.

Keywords: Curriculum, curriculum change, curriculum change process, models for curriculum change

1. Introduction

The curriculum is the backbone of education. It is the key and indispensable part of the academic and training system that contains immense aims of scientific, thought, social, cultural, political, and moral facets. Of note, the fast-growing global technology systems in societies exert pressure on the need for a curriculum that fits the purpose (Tiari, 2019). The curriculum represents a conscious and systematic selection of knowledge, skills, and values, a selection that shapes the way teaching, learning, and assessment processes are organized by addressing questions such as what, why, when, and how students should learn (Stabback, 2016). The curriculum prepares the needed conditions based on learners' needs and positions, albeit it has the most challenging and controversial theoretical recognition aspects. Nevertheless, it requires teachers to design and share experiences that learners will acquire and understand not only theoretical aspects but also practical content (Tiari, 2019). This implies that curriculum entails a system of teaching that includes educational materials and resources and recognizes a teacher as the most substantial part of the education process. It is an important part of an educational program, as it helps to change the behavior of students and fulfills their needs. Therefore, the curriculum, scheme of work, lesson plan, different patterns, and educational design remain the fundamentals of the educational and training system placed in to achieve the learning process for the student.

The curriculum is continually changing to suit the needs of changing society and changing knowledge. With the advancement of science and technology, knowledge is spreading, and society is changing. Change links societal needs to school needs to bring out dynamic personalities that can address societal needs effectively. Change strategies in the curriculum are at the top of the agenda to make the curriculum more attractive and responsive to the socio-economic and labor market needs of the country (Davies, 1994). Change leads to more effective and efficient use of resources. It confirms that curriculum change is inevitable in any society. It should be understood that the key driver to curriculum change success is the development of teachers' knowledge, skills, and attitudes and the alignment of teacher training methods. Of note, the need for curriculum change rests on the fact that lack of clear explanation and inadequate knowledge and skills to

perform the new approach affect the success of changes that should be implemented. This article unveils the nature of the curriculum, its composition, and curriculum change.

1.1. Definition of Curriculum

The curriculum is a vital part of education. It is the heart of the central processing unit of any learning institution. It provides directives for all the educational experiences of the educational program. This means that schools or educational institutions cannot and should not exist without a curriculum. It consists of accumulated knowledge, skills, and attitudes about the past and present, which are combined with predictive assumptions about the future to produce an ordered outline of things to be taught and learned in schooling. The term curriculum is derived from the Latin word '*Currere*,' which means a racecourse/to run a course or a runway on which one runs to reach a goal. Thus, it reflects the learning opportunities planned and carried out by a teacher and students. A curriculum is a plan or program of all experiences that the learner encounters under the direction of a school (Tanner and Tanner, 1995:158). According to Gatawa (1990:8), the curriculum is the totality of experiences of children for which schools are responsible. All this is in agreement with Sergiovanni and Starrat (1983), who argue that curriculum is that which a student is supposed to encounter, study, practice, and master. Beach and Reinhartz (1989:97) asserted that a curriculum outlines a prescribed series of courses to take. In general, curriculum could be considered as the total package of what schools do, making learners become what society expects them to be.

Making its meaning more focused, Marsh (1997:3) constructed a simple definition such as Curriculum, which is taught in school as a set of subjects, content, materials, performance objectives, and anticipated reflection. Earlier, Zais (1976:6-11) spotlighted a set of five components that altogether define a curriculum, such as the program of studies, course content, planned learning experiences, a structured series of intended learning outcomes, and a (written) plan for action. However, a research paper by Posner (1992) emphasizes six components that develop a more concrete understanding of curriculum: scope and sequence, syllabus, content outline, textbooks, course of study, and planned experiences. Ornstein and Hunkins (2004:231-232) sustain that certain curriculum elements are universal and require attention from all curricularists. Content, experiences, and environments are constants regardless of design or development. So, a curriculum without content is no curriculum. A curriculum without experience cannot be delivered or encountered by students. A curriculum without a planned environment cannot be implemented by teachers.

In addition to the same perspective, Posner (1992:4) claims that defining a curriculum is problematic because definitions are not philosophically or politically neutral. People or nations often take a particular political or ethical stance as they define curriculum. Marsh (1997:3) holds a similar view because key players in education represent a diversity of values and experiences, and it is extremely difficult to get a broad public or professional consensus. Because of its variability, the curriculum makes it difficult to conceptualize amongst educationists and educational administrators what curriculum is and, thus, what it should contain. Historically, the task of curriculum development has proven to be neither straightforward nor rapid; rather, it is a highly vibrant and creative process that integrates information from a wide range of sources (Smith & Lovat, 1995). The definitions given by scholars differ. Ralph Tyler (1949), the first scholar to mention the term curriculum, defines it as all the learning of students planned and directed by the school to attain its educational goals (Shirley *et al.*, 2012).

What we mean by the curriculum, what it involves, and who is involved and served by the curriculum are best understood by analyzing the concept of curriculum in a broad context. We thus look at curriculum in terms of definition and approach (an orientation or perspective). We consider the relationships and differences between the foundations and domains of curriculum, the theory, and the practice of curriculum (Ornstein & Hunkins, 2004). Furthermore, a curriculum considers the learners and their interaction with each other, the teacher, and the materials. The output and outcomes of a curriculum are evaluated. Bringing all these points together, the curriculum is viewed as a composite whole, including the learner, the teacher, teaching and learning methodologies, anticipated and unanticipated experiences, outputs, and possible outcomes within a learning institution. Since it provides the framework for developing a coherent set of learning experiences that enables children to reach the identified goals, Copple and Bredekamp (2009) and Villena *et al.* (2015) make explicit the characteristics of curriculum as:

- The curriculum is planned.
- The curriculum has content.
- The curriculum is a process.
- The curriculum is the product of many minds and energies.
- The curriculum has educational quality. It provides direction for quality education.
- The curriculum comprises the experiences of children for which the school is responsible.
- The curriculum is constantly changing, evolving, and responding to the needs of the people and society as a whole.
- The curriculum is the result of a long-time effort. It takes a long time to develop a good curriculum.
- The curriculum provides for the logical sequence of subject matter taken by students. It reflects the fact that learning is developmental. A good curriculum provides continuity of experiences.

1.2. Purpose and Factors of Developing a Curriculum

The main purpose of the curriculum process is to translate broad statements of intent into specific plans and actions. You need to ensure that there is an alignment between the three levels of curriculum: the *planned curriculum* (What is intended by the designers), the *delivered curriculum* (What is taught by the teacher), and the *experienced curriculum* (What is learned by the students). This is not a one-man job; it is all-inclusive, from teachers to the administrative staff and other educational stakeholders.

The purpose of the curriculum customarily includes the following:

- It is based on the social aspirations of society.
- It outlines the aims, goals, and objectives of the program.
- It provides information on how the objectives can be evaluated.
- It suggests instructional techniques and strategies for teaching specific objectives.
- The curriculum offers a balance between planned teacher-initiated activities and planned free activities in the classroom environment.
- In developing a curriculum, several factors should be considered:
 - The learners are the curriculum recipients.
 - The teachers are the curriculum implementers.
 - The teaching and learning process.
 - The society from where the learners come and where they will function after schooling.
 - Politics determine and define goals, content, learning experiences, and the structure of the curriculum.
 - Technology influences curriculum development at every level of learning.
 - The philosophy of education, on which the goals of education hinge.
 - The psychology of learning is the embodiment of the principles for effective teaching and learning methods.
 - The economy of society determines how robust the curriculum is and its effective implementation.
- Resources are the paraphernalia of effective curriculum implementation, without which curriculum development becomes worthless.

1.3. Goals/Objectives of Curriculum

Three categories of goals/objectives are represented in the curriculum. These categories have been interpreted by Bloom (1956) as connecting to the learning process that occurs in three different learning domains: Cognitive, Affective, and Psychomotor.

1.3.1. Cognitive, Referring to Intellectual Tasks (Knowing Abilities)

The cognitive domain deals with the mind and its processes, i.e. mental processes (brain). It is concerned with knowledge development in the brain. It involves knowledge and the development of intellectual skills. This domain deals with how students gain knowledge.

Consists of six levels arranged in order of complexity. You should note the action verbs describing the learning outcomes.

- *Knowledge*: The recall of facts or remembering the information learned in the classrooms.
- *Comprehension*: Meaningful recall and recognition of the learned content, understanding and explaining what students learned in the classroom.
- *Application*: Use the knowledge acquired and comprehended in the first two levels and use learned content in concrete/real-life situations.
- *Analysis*: Meaningful breakdown of communication/structure/content into its constituent parts and revealing the interrelationships among them.
- *Synthesis*: Put parts together or build many disorganized elements/parts to form a whole.
- *Evaluation*: Make judgments about the value of materials, theory, methods, and principles for a given purpose.

1.3.2. Affective, Referring to Feelings and Emotions (Attitudes)

The affective domain includes how we deal with things emotionally, such as feelings, appreciation, enthusiasm, motivations, and attitudes. It emphasizes feeling and value in education. This domain emphasizes emotions and motivation. The five levels are listed from the simplest behavior to the most complex. You should note the action verbs describing the learning outcomes.

- *Receiving*: Is willing to notice a particular phenomenon. Awareness of a particular principle.
- *Responding*: Makes response at first with compliance, later willingly and with satisfaction.
- *Valuing*: Accepting the worth of a thing and commitment to values are important behavioral changes.
- *Organization*: Organize personal value system; determine interrelationships; adapt behaviour to a value system.
- *Characterization*: Generalizes certain values into controlling tendencies, emphasizes internal consistency, and later integrates values into a total philosophy of life or worldview.

1.3.3. Psychomotor, Referring to Muscular Skills (Ability to Do Skills)

The psychomotor domain deals with skills. This domain includes physical movement, coordination, and use of the motor-skill areas. Requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution. The focus is to enable a learner to exhibit the ability to perform something accurately. The categories are listed from the simplest behavior to the most complex. You should note the action verbs describing the learning outcomes.

- *Imitation*: Observing and patterning behavior after someone else, copying an action.
- *Manipulation*: Being able to perform certain actions by memory or following instructions.
- *Precision*: Refining, becoming more exact or precise.
- *Articulation*: Coordinating and adapting a series of actions to achieve harmony and internal consistency.
- *Naturalization*: Mastering a high-level performance until it becomes second nature or natural.

1.4. Content of the Curriculum

The curriculum content shows the totality of what is to be taught in a school system. The content component of the teaching-learning situation refers to the important facts, principles, and concepts to be taught. It is divided into bodies of knowledge, for example, Mathematics, English, and Science. It outlines the desired attitudes and values, including cherished skills. It is determined by prevailing theories of knowledge. Content caters to ideological, vocational, and technical considerations. You should note that the curriculum content must apply to the solution of the problems affecting the society that uses it. The basic question is: If the intended outcome is to be attained, what will the learner need to know? It refers to knowledge, attitudes, skills, aspirations, and behaviors to be acquired and practised. In developing the content, three things are to be kept in mind:

- To identify the scope: it refers to the breadth of knowledge, skills, attitudes, and behaviors. Therefore, defining the scope of the issue helps to determine the expertise needed on the curriculum development team.
- To plan the sequence: It refers to the plan or arrangement of the curriculum topics, lessons, experiences, and activities. If the curriculum content is derived from the intended outcomes and developed from the needs assessment, much of the content will already be obvious.
- To outline the content: It refers to preparing an outline that transforms the intended outcomes into the information or knowledge needed for the learner to achieve the desired outcome. Organize the Knowledge, Attitude, Skills, Aspirations, and Behavior (KASAB) elements into a logical sequence.

1.4.1. Principles of Organizing the Content

The contents should:

- Be relevant to the philosophy, goals, and learning outcomes of the curriculum.
- Be one of a variety of media presentation modes.
- Be accurate and current.
- Preferably involve both local and global content.
- Be suitable for classroom use in terms of ease of use, durability, and packaging.
- Promote hands-on activities and an applied approach to learning.
- Encourage students to question, think, react, reflect, and decide in ways that develop critical thinking and decision-making skills.
- Draw students into group and cooperative learning as well as provide for individual growth.
- Offer choice and flexibility as appropriate to meet needs relating to individuals.

1.5. Curriculum and Learning

Various educators have sought to develop the society-relevant curriculum. Society has a powerful influence on school objectives and the curriculum in general. This is because the curriculum is prepared according to the knowledge, skills, and competencies needed by society. The development and improvement of society depend on the curriculum. Making learning relevant to students' lives is crucial to success. Relevant and stimulating curricula will assist teachers in creating motivating lessons. Curricula should allow personalized forms of teaching and learning to facilitate the acquisition of knowledge and development of skills and competencies to the best ability of each student while preserving the quality of the curriculum content and high expectations. Curricula should allow various teaching methods, which have proven to be beneficial in engaging and motivating students and keeping them in education and instruction. Teachers can facilitate learning by making the educational process easier for students. They can conduct the teaching and learning process effectively and engage students appropriately. Facilitating learning involves teaching students to think critically and understand how the learning process works. Students need to learn how to go beyond the basic facts and question the world around them. The instructional methods can help a teacher move away from standard lesson delivery and toward facilitating a true teaching and learning experience. Teachers can vary methods to respond to a variety of learning styles. They can give students a chance to work independently and in groups to meet the needs of the students in the class (Kelly, 2021).

The implemented curriculum is localized to make it more meaningful to the students and applicable to life in the community. A representative group of school and community stakeholders develops the methods and materials for developing creative thinking and problem-solving. The learning systems are regularly and collaboratively monitored by the community using appropriate tools to ensure the holistic growth and development of the learners and the community. Appropriate assessment tools for teaching and learning are continuously reviewed and improved. Assessment results are contextualized to the learners, local situation, and the attainment of relevant skills. Learning managers and facilitators nurture values and environments that are protective of all children and demonstrate behaviors consistent with the organization's vision, mission, and goals. Methods and resources are learners and community-friendly, enjoyable, safe, inclusive, and aimed at developing self-directed learners who are equipped with essential knowledge, skills, and values to assume responsibility and accountability for their learning.

Mondal and Chandra (2021) described four roles of teachers in curriculum change. In this case, teachers, in their responsibilities connected to curriculum practices, can act in the following ways:

- As a social reformer: The teacher is a social reformer. He played an important role in the betterment of society. He took the responsibility of changing the curriculum in different ways according to the needs of society. The teacher will make sure that the subject is included in the curriculum, considering the needs and requirements of society.

- Understand their students: The teachers are equal to the guardians of the students. He understands students' needs, abilities, attitudes, etc. In the teaching-learning process, students interact directly with the teacher. It is through the curriculum that the teacher interacts with the student. So, the teacher plays an important role in shaping the curriculum according to the needs of the students.
- As an implementer: It needs to be implemented after the curriculum changes. If the changed curriculum is not implemented, it has no worth. The teacher is responsible for the implementation of the curriculum. He can implement the curriculum appropriately. In this way, he helps to change the curriculum.
- As a curriculum evaluator: The first step in curriculum change is curriculum evaluation. The curriculum is evaluated to see if there are any current curriculum errors. This is how it is understood whether the curriculum needs to be changed. The teacher is in charge of evaluating the curriculum. They consider different aspects of it.

1.6. Teaching Methods

The teaching method refers to the general principles, pedagogy, and management strategies used for classroom instruction. These are the broader techniques used to help students achieve learning outcomes, while activities are the different ways of implementing these methods. Teaching methods help students master the content of the course and learn how to apply the content in particular contexts. Your choice of teaching method depends on what fits you, i.e., your educational philosophy, classroom environment, demographics, subject areas, and school mission statement. The teaching methods outlined in a curriculum are the means or ways by which students will engage with the syllabus. Methods deal with teaching and learning experiences. Flexible teaching methods facilitate learning. How will learners acquire the knowledge, attitudes, skills, aspirations, and behaviors needed to attain the intended outcomes? (Hoque, 2016). Any curriculum must provide relevant experiences that must provide students with a capstone experience that gives them a chance to apply their knowledge and skills to solve a challenging problem. The learning experiences should help students to practically become problem solvers. Instructional methods should be supportive of continuous learning by the individual. Be reasonable in terms of cost/usage expectations in a classroom setting (e.g. if using a resource as intended takes more classroom teaching time than is reasonable).

The best way to engage students and help them retain their learning is for the classroom to adopt the learner-centered approach. This approach is based on the underlying philosophy that the learner is the center of the educational process. It means that the curriculum is constructed based on the needs, interests, purposes, and abilities of the learner's knowledge, skills, learning, and potential. In this approach, the students influence the content, activities, materials, and pace of learning. Students learn successfully by applying active strategies. The learner-centered approach often includes active learning, but it goes beyond active learning, as evidenced by Weimer's attention to sharing power and the importance of promoting metacognition. In the learner-centered classroom, the learner is an empowered, active agent in her learning (Weimer, 2013).

Weimer (2013) describes five ways in which learner-centered teaching departs from the traditional instructional paradigm. First, in learner-centered teaching, the students are the ones who must do the work, the thinking, and the problem-solving in class. Second, faculty must demonstrate to students how to do this work. They must help students develop learning skills, not just content knowledge. Third, students must reflect not only on what they are learning but also on how they are learning it (their experience of learning). Faculty should help students move beyond focusing on grades so they can begin monitoring and assessing their progress. Fourth, in a learner-centered classroom, faculty share power to at least some degree with students, thereby giving students some choice and control in the learning experience. Finally, learner-centered classrooms are the ones in which students are the focus of education, and the teacher is the facilitator of the learning process. Learner-centered classrooms foster community and collaboration among students and encourage students to take responsibility for their learning. Students are often more engaged with their work and achieve better academic results.

2. Foundation of the Curriculum Change

The 1960s marked a time of radical change in curriculum reform in the United States of America following Russia's launching of the first unmanned Soviet satellite to orbit the Earth (Trowbridge & Bybee, 1990). The launch was said to have caused panic among Americans who feared that their nation was falling behind technologically. The United States military had generally fallen behind in developing new technology. This event (Sputnik Moment) caused debates and press conferences regarding the technology gap between the United States and other nations. President Barack Obama has described the United States' need to catch up to the rapid development of other countries. The Americans established a goal to produce more scientists who could master modern techniques developed from scientific principles. This resulted in major revisions to school science curricula. Associated with the reforms was a large amount of educational research, and as academics thought about the research results, theories relating to curriculum reforms were developed. So, a large body of innovative literature was developed in the 1960s. Researchers have been benefiting from looking at the ideas in the literature. The 1970s saw a proliferation of curriculum developments in developing nations, following changes in the developed nations in the 1960s. These were mostly adoptions of what was thought to be good practice in developed nations, whose new curricula were used as a basis for reform (Buell, 1986; Lewin, 1985).

2.1. Curriculum Change and Development

Everything in our life is in constant change. It is constantly in the process of becoming something else. Nature laws change at different times and in different places in the Universe. Change is a constant law of nature. It brings improvement (albeit not always) and occurs continuously. So, our world is constantly changing. Change is both inevitable and necessary

in the lives of human beings. With the advancement of science and technology, knowledge is spreading, and society is changing. With that change, many changes are coming in the lives and livelihoods of the people. The curriculum is also changing to keep up with it. That is, an important feature of the curriculum is that it is subject to change. The school curriculum should change to reflect the needs and aspirations of society. Curriculum change is a learning process for teachers and their schools. A good understanding of change and a clear conception of the curriculum are necessary conditions for improved implementation of the new curriculum into practice (Mondal & Chandra, 2021).

Curriculum change means that to replace the old with the new. It is the renewal or replacement of the old curriculum as geared by prevailing social, economic, and technological aspects. It is the creation, selection, organization, and utilization of human and material resources in new ways that result in the higher achievement of curriculum goals and objectives. Hoyle (1972) defines curriculum change as a generic term embracing a whole family of concepts (innovation, development, renewal, and improvement) that are related to curriculum. He rightly argues that the curriculum is continually changing to suit the needs of changing society and changing knowledge and learners. Curriculum change refers to any conscious, deliberate attempt to bring about change in the curriculum of a school or school system (Patterson & Czajkowski, 1979). It is dictated by changes in the economic, social, and technological aspects of society. Change has magnitude and direction and occurs within a definite time frame (University of Zimbabwe, 1995). Technological advancement and explosion of knowledge are some of the basic reasons for varying styles of change. This is because there is no perfect curriculum for all ages since society keeps on changing (Davies, 1994).

Various stakeholders play crucial roles in effecting curriculum change. Students need to be able to change with the curriculum. What better example than for them to see change in action while they are learning? Change in the curriculum is necessitated by various factors in the country or society. They may be connected to political, social, economic, cultural, and environmental issues. Technological advancement and the explosion of knowledge are the basic reasons for varying styles of change. All improvements require changes, but not all changes lead to improvement. Changes could have been positive or negative. Curriculum change is making the curriculum different in some way by giving it a new position or direction. It is the alteration in its philosophy through its aims and objectives, reviewing content, revising its methods, and rethinking its evaluator procedures. Curriculum change reflects society and education in general. It may lead society to change in a particular direction but usually reflects societal change. Educational stakeholders and implementers need to change their beliefs, attitudes, and perceptions and work hard successfully. Teachers need training to be introduced to the changes and improvements and then convinced to adopt and implement the new curriculum. Other educational factors need to be considered and regulated accordingly to align with the requirements of the curriculum. It is important to note that curriculum change is a complex process. Changing the curriculum to suit the needs and aspirations of a particular society does not occur overnight, as curriculum planners and specialists start from the existing curricula document and invest so much of their thought, time, and money to work on the new curriculum (Sowell, 2005).

2.2. Types of Curriculum Change

- **Planned Change:** In this type of change, those who are involved have equal power. It is clear what everyone needs to do. This is the preferred type of change. People have a voice, they agree, and everyone is moving together.
- **Coercion:** This type of change has a serious imbalance of power. One group determines the goals and has the power. All other groups are excluded from the discussion and are expected to obey. This is, unfortunately, an extremely common type of change in education. Often, governments or administrators will create a curriculum and simply dump it on the teachers.
- **Interaction Change:** This type of change involves equal amounts of power among all those who have an interest. The problem is communication and execution. The process for implementation is not thought out and developed. This leads to people who are willing but unsure of what to do.

2.3. Forms of Curriculum Change

University of Zimbabwe (1985), Chikumbu and Makamure (2000), and McNeil (2009) identified several forms of curriculum change according to their complexity:

- **Substitution:** Substitution occurs when a new element substitutes the other that is already present, such as when teachers are required to substitute new textbooks/new equipment for an old one. Competence-based replaces Content-based in the curriculum. Undoubtedly, this kind of change is the easiest to do by teachers; in fact, it is the most common type of change in schools.
- **Alteration:** Alteration exists when new content, items, materials, or procedures are added to existing materials and programs. A change occurs in existing structures rather than a complete replacement of the whole curriculum, syllabus, or course of study. The changes are usually minor, and thus, schools can usually adopt them instantly.
- **Addition:** This is the introduction of a new component without changing old elements or patterns. New elements are added to the existing program without seriously disturbing the main structure and content of the prescribed curriculum. The length/scope of the topic is increased. These could be support inputs such as audio-visual aids, workshops, and equipment.
- **Perturbations:** Perturbations are changes that may at first interrupt the existing program, but later, they can be attuned accordingly by teachers to the ongoing program within a short period; for instance, teachers need to change their class schedules. The changes may affect the time allocated for teaching other subjects, or it may affect other teachers' class schedules, but it could be adjusted shortly.
- **Restructuring:** This involves the rearrangement of the curriculum to implement desired changes. Reorganization of the curriculum sequence without deleting or adding anything. It may also involve the sharing of resources

among a group of schools or institutions or the move of the grade two topic to grade four. Teachers are required to adopt new concepts of the teaching role, new curriculum content, and new textbooks.

- Value-orientation: Value-orientation changes take place when teachers or school staff are sought to adopt the new fundamental philosophies or curriculum orientations. The changes could occur if only they are willing to accept the new values; otherwise, the changes will be short-lived.

2.4. Sources for Curriculum Change

At the national level, curriculum change arises from deliberate policy decisions. In most Southern African countries, nothing happens within the education system until the central authority decides to adopt a new idea (University of Zimbabwe, 1995:66). This change is usually initiated through a circular or statutory instrument. Another impetus for change and innovation is the desire of authorities at various levels to deliberately change established practices to address existing problems or identify new problems and ways of dealing with these problems. Political considerations may be invoked/raised. So, the development of a curriculum fostering positive attitudes toward diversity, inclusiveness, and tolerance should work to ensure that education is compliant with equality legislation. Economic parameters might suggest directions in education, not only in providing the skills demanded by industry and commerce but also the competencies that foster engagement with the economic realities of the time. Technological advancement and explosion of knowledge are the basic reasons for varying styles of change and innovation. For example, computers are being used in almost every endeavor of our society. The curriculum must adapt to this new reality related to computers. It must not only use computers for administrative purposes but also make the computer and related technological advancements part of the curriculum (Chikumbu & Makamure, 2000).

Globalization is a multifaceted ideological construct. Indeed, it is a complicated, multidimensional concept subject to diverse interpretations. Globalization has brought forth some unintended and unexpected consequences for education and curriculum. For instance, scholars have discussed the perception of the Organization for Economic Co-operation and Development (OECD) of globalization and its impacts on education (Henry et al., 2001, as cited in Shirley, 2012). Under the influence of globalization, other significant trends that have come about in educational policy and curriculum include the decentralization of education and curriculum policy-making and the dissemination of multicultural education. Decentralization, marketization, and accountability. Globalization has brought forth significant changes in the policy-making mechanisms in society (Shirley, 2012).

The quality of teachers, principals, and supervisors' knowledge, background, and progressiveness guarantee success in the new dispensation of curriculum changes. Curriculum change aims to have the desired achievement at the end of its implementation. To accomplish this achievement, various education systems adopted outcome-based education, which was followed by the introduction of the new curriculum. The introduction and adoption of outcome-based education brought about many changes in the education system. The outcome-based education has promoted curriculum and assessment based on the constructivist approach and discouraged the traditional teacher-centered approach. The student is the center of interest, and this promotes learning and performance. It has shifted the emphasis of teaching and learning away from rote learning to concrete educational results called outcomes. It is important to know that the failure to consider issues and factors that facilitate and impact teaching, learning, and change leads to a lack of effective implementation of curriculum reforms by educators (Chikumbu & Makamure, 2000).

2.5. Importance of Curriculum Change

Change links societal needs to school needs to bring out dynamic personalities that can address societal needs effectively. Change in terms of the curriculum involves adapting a new educational method. Change leads to more effective and efficient use of resources. The preceding experiences confirm that curriculum change is inevitable in any society. Change may occur in response to external events. So, changing strategies in the curriculum should be at the top of the agenda to make it more attractive and responsive to the socio-economic and labor market needs of the country (Davies, 1994). The change will show the areas where teachers need training and retraining and the provision of structures, resources, and materials that will aid effective teaching and learning processes. Change centered on students' improvement would enable them to explain phenomena, applying their knowledge in daily life. Curriculum change should involve the multiplicity of reforms in schools that build relations around relevant cultural requirements. The change should improve the content and activities of the syllabi to be competent-based, and if this is effectively implemented, students will acquire adequate skills to be competent (Nyamida, 2020).

Thus, according to Hargreaves (2003), school education in a knowledge society has to develop people's capacity for learning and the ability to cope with change promptly and flexibly. Further, curriculum and teaching should be designed to help foster higher-order thinking skills, such as the critical thinking, analytical, and problem-solving skills of students. These are the power to think, learn, and innovate, which is pertinent to surviving or prospering in a knowledge society. Hargreaves (2003) stresses that the best of brain research, cognitive science, and so on must be at the heart of teaching and schooling. His view is referenced by other researchers. To function effectively in our global society, students must learn to be good communicators and problem-solvers. They need to progress beyond the lower-level thinking skills like knowledge and comprehension to higher-level thinking skills such as critical thinking, analysis, synthesis, and problem-solving.

2.6. Teacher Development of Change and Innovation

Dunlop (1995:147) writes that the key to improving the teaching and learning process in school is the professional development of teachers. The school cannot change or improve from what it is without the development of

staff and changing their approach to teaching. Du Four and Berkey (1995:2-3) believe that people are the key source of school change and improvement. The key driver to curriculum change success is the development of teachers' knowledge, skills, and attitudes and the alignment of teacher training methods. Teachers need to understand the reason for curriculum change. Lack of clear explanation, inadequate knowledge, and skills to perform the new approach affect the success of changes that need to be implemented. Educators maintain that the fundamental role of the principal is to assist in creating the conditions that enable staff to develop so that the school can achieve its goals more effectively. The principal should, therefore, identify the strengths and weaknesses of the teachers to provide support and find practical ways of overcoming the limitations of each teacher. The principal should always be vigilant or attentive and consider all issues affecting the staff's productivity, effectiveness, and job satisfaction. He should support the teachers and play a critical role in assisting them in understanding the school's needs and requirements. The principal should see to it that teachers are developed according to their skills and capabilities. Attitudes of principals and teachers towards change: It is important to investigate and identify principals' and teachers' attitudes towards curriculum change. To look at how attitudes towards curriculum change impact the teaching and learning process in educational institutions. This will help to understand some principals' and teachers' attitudes towards reform. How district officials disseminate curriculum information often determines how acceptable a new curriculum will be for principals and teachers (Pratt, 1980:427).

2.6.1. Categories of Attitudes about Change (Pratt, 1980)

- The enthusiasts are characterized by being energetic, accepting challenges, and having high ambitions. They enthusiastically receive and implement a new curriculum.
- The supporters are involved in professional associations and in-service training. They are well-informed and may easily be persuaded to accept innovation, provided the design is thoroughly planned, well-founded, and tested.
- The acquiesces are purposeful. Although they adapt to improvement or development, they will not initiate it. They usually only make contact with their equals and follow the path of least resistance.
- The laggards are usually skeptical towards any change. They act dogmatically, are very rigid in their actions, and will not consider any change unless the majority has already accepted it.
- The antagonists are usually loners and resist any change, any new curriculum, or a revised curriculum if it is aimed at development or improvement.

2.6.2. Factors That Lead to Resistance to Curriculum Change (Pratt, 1980)

- A lack of motivation.
- A lack of clarity regarding the development of the curriculum.
- A lack of ownership.
- A lack of benefits.
- Vulnerability resulting from uncertainty as to what the new curriculum contains.
- A lack of sufficient resources such as material, administrative support, and specialized knowledge.
- Skepticism regarding the credibility of the new curriculum resulting from problems experienced in the other factors.

2.6.3. Teachers' Resistance to Change

Note: Teacher's resistance can be overt (openly criticizing curriculum change) or covert resistance (teachers may appear to support curriculum change but no actions for the change). Czajkowski and Patterson (1980) provided their views about resistance to change or innovation based on:

- A fear of the unknown.
- A fear of new ideas.
- A fear of criticism.
- A lack of motivation.
- A sense of security for that which is in place.
- A lack of self-knowledge in terms of one's own abilities.
- Insufficient support by education leaders.
- Indistinct and faulty teacher training.
- Ambiguity.
- A lack of understanding of the nature and extent of the envisaged change.

2.6.4. Strategies for Monitoring and Supporting Teachers during Change

- Continuous contact with teachers to provide advice, assistance, and encouragement.
- Clear communication to illustrate roles and means of evaluation, explain terminology, and supply answers to frequently asked questions.
- Provision of a support service, explaining timetabling, supplying materials, and creating a climate in which trust and security features.
- Compensation such as praise, reward, acknowledgment, successful implementation, and the opportunity for professional growth.

2.6.5. Commitment as a Prerequisite to Curriculum Change

- Meaningful curriculum renewal is only possible if teachers are committed and there is dynamic leadership from officials.
- A significant change in curriculum will occur through hard work and diligent application.
- Commitment to change can determine the viability/feasibility/practicability of the implementation of the curriculum.
- However, this sits within a sense of commitment (McNeill, 1996) that a team spirit arises and a sense of ownership develops.

2.6.6. Planning and Executing Change

For change to be implemented in the curriculum, a process has to take place. This process involves four major factors.

- The change agent: In your situation, change agents include teachers, school heads, local authorities, or the Ministry of Education. The agent initiates the change of curriculum in general.
- Innovation: It involves executing the change itself, that is, putting it into use or operation.
- The user system: This relates to the person or group of people at which the change or innovation is directed.
- Time: Change or innovation is a social process which takes place over a while.

2.7. Curriculum Change Process

Educational institutions are encouraged to initiate curriculum change, innovations, and improvements through formal processes. Changes could be major, such as new programs, new courses, or changing the courses required for a degree. Changes could be minor, such as changing course descriptions and emphasis and adding a channel, such as offering a course online. When a department proposes a curriculum change, the change and recommendation go to various university levels, and then the Provost makes the final approval. The change process ensures that the curriculum document facilitates the provision of education that imparts knowledge, skills, attitudes, and competencies to students. The main role is to review the school programs and suggest the appropriate changes. Major curriculum change needs to be introduced with great care. There are important lessons from organizational theory that need to be learned if success is to be likely and if change or innovation is to be sustainable (Froyd *et al.*, 2000).

The curriculum is centralized, so the need for change happens at the national level and then moves on to the different levels of the education system up to the schools. In countries where curriculum development is decentralized, each state, province, or region has a curriculum and assessment agency that is responsible for devising, implementing, and assessing certain system-level curricula. In the change process, there are four basic phases namely:

- Need: The need varies from various sources such as teachers, learners, parents, administrators, governments, or some combination of these sources. For the change to be successful those that are associated with the change process should give recognition and acceptance of the need for curriculum change by a substantial majority of those involved.
- Adoption: This means the deliberate acceptance of an innovation to resolve an expressed need. After seeking information about the problem, alternatives may be examined, and this process serves as a step toward consolidation of change. Among the important factors in accounting for the successful adoption of the changes are access to information from decision-makers, alternative innovations in competition, central administrative support for a particular change, etc.
- Implementation: This may be considered as a continuum stretching from the adoption of an innovation until its complete acceptance or institutionalization. In education/curriculum, implementation begins with the initial attempts by educators to effect innovations in various schools or institutions. Innovations will succeed or fail in large measure by how effectively they are implemented.
- Institutionalization: This is when innovation has been used continually over time and, in the process, becomes interwoven into an organizational structure; then, it may be said that institutionalization has occurred.

2.8. Five Logical Steps of Managing the Curriculum Change Process

Alternatively, in addition to the perspectives highlighted in 2.7 above, Gruba *et al.* (2004), in line with Lachiver and Tardif (2002), identify the following five logical steps of managing the curriculum change process:

- An analysis of the current offerings and context.
- The expression of key program aims/objectives in a mission statement.
- A prioritization of resources and development strategies.
- The implementation of the targeted curricula changes.
- The establishment of monitoring tools and processes.

2.9. Three Main Stages Involved in Changing a Curriculum

- It is that of *initiation*, in which ideas for changes are launched, and decisions are made regarding the nature, direction, and extent of change.
- It is said to be one of *legitimizing*, in which the sentiment on behalf of change is being communicated.
- Involves *congruence* of the separate systems of values held by the person or persons seeking to create change and by the person or persons who are the targets or human subjects of the proposed change.

2.10. Conditions for Successful Implementation of Change

What conditions are necessary for users to implement the curriculum change successfully? Potential users of change are more likely to accept it if the following conditions are met (Chikumbu & Makamure, 2000; University of Zimbabwe, 1995)

- The change must be relevant to them.
- It must be feasible in their particular organizational context.
- It must be compatible with the practices, values, and characteristics of their system.
- It must be seen as posing little or no threat to the user group's identity, integrity, and territory.
- The innovation must be shown to be tolerable and non-threatening.
- It must be flexible and adaptable.
- The innovation must yield material or non-material benefits. Gains in social status or recognition could be some of the non-material benefits.

Moreover, Jones (2002) presented five conditions that promote and sustain changes in the curriculum:

- Mutual trust amongst stakeholders.
- Committed and consistent leadership.
- Proceeding with a non-threatening, incremental pace of change.
- The use of purposeful incentives.
- Professional development for academic staff.

2.11. Conditions for Successful Implementation of Change

What conditions are necessary for users to implement the curriculum change successfully?

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- The change must be feasible and achievable in their particular organizational context.
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- Gains in social status or recognition could be some of the non-material benefits.

There are several ways of conceptualizing what drives successful curriculum change. The following seven principles are often used in the process of implementing a new curriculum (Sahlberg, 2005, 2009).

2.11.1. Making Sense of Why a New Curriculum Is Necessary

This typically refers to showing how curriculum change is connected to the overall political economy and social and economic development. The moral purpose of change is the key factor in building a commitment to raising quality and closing the gap in student achievement.

2.11.2. Understanding the Change Process

Implementing a new curriculum requires changes on many fronts. Understanding the complexity and internal dynamics of the change process is conditional on the sustainable implementation of curriculum reforms. It is often difficult and frustrating to do because it requires leaders to stop and think about the aspects of reform that they would not rather do otherwise.

2.11.3. Capacity Building

Capacity is one of the key conditions for successful implementation of curriculum reforms. However, it is often the missing link, even when there is a consensus on the need for change. Capacity building involves policies, strategies, resources, and other actions that are aimed at increasing the collective power of people.

2.11.4. Developing Cultures of Learning

Successful curriculum change involves learning during implementation. A powerful factor of change is learning from one's peers, especially those who are further along in implementing a new curriculum. The principles of learning from each other include (a) developing professional learning communities at the local, school, and community levels and (b) learning from other schools and teachers.

2.11.5. Developing Cultures of Evaluation

Cultures of evaluation must be embedded in the cultures of learning. Contemporary change strategies involve strategies that are labeled as 'Assessment for Learning' that incorporate (a) collecting data from student learning, (b) disaggregating data for more specific understanding, (c) preparing action plans based on the data mentioned above, and (d) communicating students' performance to parents.

2.11.6. Developing Leadership for Change

Good leadership is one of the key conditions for successful curriculum change. Leadership, to be productive and sustainable, must spread throughout the school. Successful managing is not about one's success but about helping others to be successful. Education leaders, more than any others, need to understand these ingredients of successful change.

2.11.7. Utilizing the Ideas That Already Exist in Schools

Schools are full of good ideas about how to improve teaching and help pupils learn. Many curriculum reforms ignore this reality. Recognition of the hidden capacities of schools and teachers, the identification of these passive potentials, and then facilitating the exchange of good ideas and practices that work have been the missing links in some of the education systems that are today performing well.

2.12. Factors Affecting Curriculum Change

Obviously, like everything else, curricula, at any level, are bound to change as a result of global forces, expectations of societies and individuals, developments in science and technology, and the like. Change is inevitable/inescapable. However, when one component of a system is changed, the other components need to be taken into account and considered accordingly. Lachiver and Tardif (2002) explain key factors for change. The first factor initiating change is strong leadership accepted by the academic staff. The key characteristic of such leadership is having the capacity to attract other academic staff to rally behind principled educational objectives that are supported within the environment. The second factor is sharing and accepting the need for change, a point that is often stimulated by noting the discrepancies between the current output and what is desired by employers. The third factor is the extent of a curricular change, whether wide-scale or minor. The fourth factor is that because many academic staff hold embedded teaching and professional practices, the degree of flexibility for departmental staff is considered. Other factors for curriculum change and development are stated as follows:

Financial pressures, Staffing issues, Employer and industry viewpoints, Student viewpoints, Student abilities, Pedagogical argument, and academic merit, University and government regulations, National and international accreditation bodies, and Academic fashion (Gruba *et al.*, 2004; Froyd *et al.*, 2000).

2.13. Teachers and Students, as the Main Stakeholders in the Education System, Tend to Influence Curriculum Change in Various Ways

2.13.1. Teachers

Favor changes in the curriculum because they know that students are much different now than before and the school system is constantly changing as well. Changes in a curriculum are made to ensure that students get as much out of their classes as possible and teachers do not get burned out either. Schools make necessary changes that will help teachers and students get through the year better and with fewer problems and challenges. Most factors that influence a curriculum change are most directly connected to parents, students, and society.

2.13.2. Students

Factors that contribute to a curriculum change vary between the size of the entire student body, budget cuts, the number of teachers in school, and how many classes each student takes a year. Since students need to take a certain amount of classes, the school's curriculum makes it easier for students and teachers to get through at a much faster pace and with fewer problems. Students complain because they believe they are taking too many classes and they do not have enough time to study for them. Changes in the curriculum help to eliminate these problems and more throughout the year.

2.14. Models for Curriculum Change and Innovation

Various scholars have proposed different models for curriculum change and innovation. For instance, Tanner and Tanner (1980), in line with Ronald Havelock (1969), identify three main models of curriculum change and innovation: the Research, Development, and Diffusion (RD&D) model, the Social Interaction (SI) model, and Problem-Solving (PS) model.

2.14.1. The Research, Development and Diffusion (RD&D) Model

In this model, an idea or practice is conceived at the central planning unit and then fed into the system. RD&D is effective where curriculum development is done on a large scale, and ideas have to reach wide geographical areas and isolated users. It is a highly organized, rational approach to innovation. This model is used in areas that have centralized systems of education, such as universities or departments of education.

Following is a logical sequence of activities using the RD&D model:

- Basic research by a central project team that develops new curriculum devices and designs prototyped materials
- Field trials of the prototyped materials and redesign them where necessary
- Mass production of the modified prototyped materials
- Mass dissemination or diffusion of the innovation through courses, conferences, and workshops
- Implementation of the innovation by the users (school, teachers, and pupils).

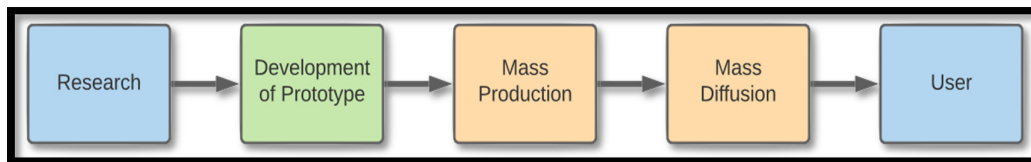


Figure 1: Research, Development and Diffusion Model
Source: Havelock, 1971

2.14.2. The Social Interaction (SI) Model

The model operates through social interaction and emphasizes communication. It stresses the importance of interpersonal networks of information, opinions of leadership, personal contacts, and social integration. The model also has its roots in the notion of democratic communities helping students to be and become. The model stresses the relationship of the individual to other people and society and the instructional methods used by teachers in the classroom to facilitate group work.

The model is student-centered, and students are encouraged to interact with each other in a structured setting. When implementing this strategy, students often serve as facilitators of content and help their peers construct meaning. The students are to question, reflect, reconsider, seek help and support, and participate in group discussions.

The three most common strategies include:

- Group projects, Group discussions, Cooperative learning.
- The interactions are often face-to-face but may also be interactive using online tools and technologies.
- The steps of instruction using social interaction often vary, but they have these steps:

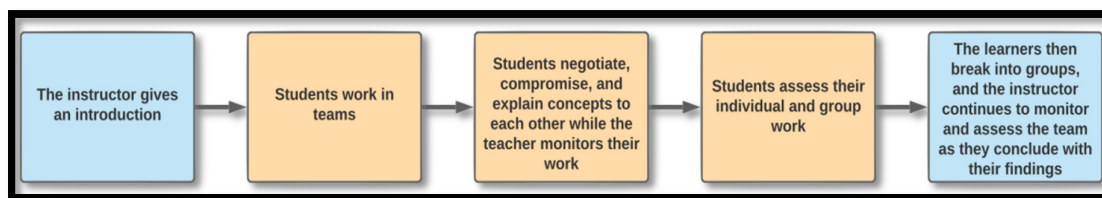


Figure 2: Social Interaction Model
Source: Patel, 2013

2.14.3. The Problem-Solving Model

The Problem-Solving model is referred to as a "periphery-center" approach to innovation. The innovations are initiated, generated, and applied by the teachers and schools based on their needs. Such innovations have strong user commitment and the best chance for long-term survival. In this model, the receiver is actively involved in finding an innovation to solve their unique problem. The model is flexible enough to encompass all types of innovations, including materials, methods, and groupings of learners. The model is local in nature, usually limited in size, and may not be of high quality compared with more centralized approaches to curriculum development.

The model is based on the assumption that innovation is part of a problem-solving process. The following steps are characteristic of the problem-solving model.

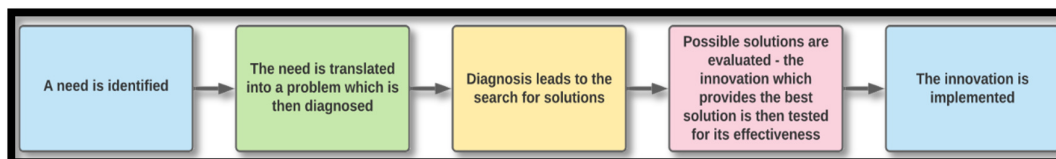


Figure 3: Problem Solving Model
Source: Bishop, 1985

3. Conclusion

The book chapter has been presenting the ideas, knowledge, and understanding linked to curriculum and curriculum change. It provides the meaning of the foregoing concepts as they have been explained by various educators and how these concepts influence the teaching and learning process and the education provision. In this case, the book chapter enlightens on the definition, purpose, goals/objectives, and content of the curriculum. It describes the curriculum, learning, and teaching methods. Furthermore, the book chapter explained various themes of the curriculum change. These include the foundation of the curriculum change, curriculum change and development, types, forms, sources, and importance of curriculum change. Likewise, the book chapter describes the planning and curriculum change process, strategies, models of curriculum change, and factors for curriculum change and development. The educational and curriculum issues explained in this manuscript are very basic in the education system. These concepts are indispensable for curriculum experts and educators because they will help them to work effectively in implementing the curriculum.

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