



Constructivism and Curriculum Development

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Abstract

The present study tries to seek for what constructivists believe regarding curriculum development; they claim that learners construct their own reality or at least interpret it based upon their perceptions of experiences, so an individual's knowledge is a function of one's prior experiences, mental structures, and beliefs that are used to interpret objects and events. What someone knows is grounded in perception of the physical and social experiences which are comprehended by the mind [1]. As language specialists, we should pay close attention to the point that the curriculum is the heart of education, the sharing of learning experiences between the teacher and learner. All else in the system should be derived from this: how learners should be assessed, how teachers should be trained and develop, what textbooks and other learning support materials should be like, how schools and the educational system should be organized and managed, and the allocation of resources necessary for the system to function.

Keywords: Constructivism; Curriculum Development; Content Analysis; Subject-orientated Conceptions

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Introduction

Constructivism

Constructivists believe that learners construct their own reality or at least interpret it based upon their perceptions of experiences, so an individual's knowledge is a function of one's prior experiences, mental structures, and beliefs that are used to interpret objects and events. What someone knows is grounded in perception of the physical and social experiences which are comprehended by the mind. [1].

According to London (1990), constructivism is basically a theory based on observation and scientific study about how people learn [2]. It says that people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences. When we encounter something new, we have to reconcile it with our previous ideas and experience, maybe changing what we believe, or maybe discarding the new information as irrelevant. In any case, we are active creators of our own knowledge. To do this,

we must ask questions, explore, and assess what we know.

According to London (1990) [2], the constructivist perspective owes its mature form to Piaget's ideas (1973) on psychological development of children [3]. Vygotsky's (1978) ideas also contribute a lot to social constructivism [4]. Vygotsky (1978) argues that children construct their conceptual understanding, drawing on the concepts presented by adults and their own experiences in the daily life, thus shifting the focus from cognitive aspect of learning to social context [4]. Viewed from this perspective, as Goodson (1990) states, knowledge is not simply communicated by the teacher, but it is something constructed in the process of social interaction [5]. Thus, the knowledge constructed as the outcome of such a process is an original one, rather than being a totality of personal understanding of each individual involved in the interaction.

Different kinds of constructivism

According to Brooks (1987), different kinds of constructivism, such as radical, cognitive, situated,

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social, cultural, socio-cultural and critical, are encountered in literature. The most common of these are cognitive, radical and social constructivism [6]. Cognitive constructivism is based on the work of Swiss developmental psychologist Jean Piaget. Piaget's theory has two major parts: an "ages and stages" component that predicts what children can and cannot understand at different ages, and a theory of development that describes how children develop cognitive abilities. Social constructivism is related to Vygotsky's ideas and is based on the idea that all knowledge is constructed socially, and is in the social-centered group of constructivism. As a matter of fact, while Piaget (1955) tries to examine the process of acquiring knowledge [7], Glasersfeld (1995) examines the relation between knowledge and reality (radical constructivism), and puts more emphasis on individual elements in the process of constructing the knowledge. On the other hand, both Piaget (1955) and Glasersfeld (1995) explain the learning process by means of individual experiences in daily life [8], and what is understood from those experiences. Thus two kinds are in the individual centered group of constructivism.

The assumptions of constructivism

Merrill (1991) mentions the assumptions of constructivism [9]:

- knowledge is constructed from experience
- learning is a personal interpretation of the world
- learning is an active process in which meaning is developed on the basis of experience
- conceptual growth comes from the negotiation of meaning, the sharing of multiple perspectives and the changing of our internal representations through collaborative learning.
- learning should be situated in realistic settings; testing should be integrated with the task and not a separate activity.

The major theme of Vygotsky's theoretical framework is that of the zone of proximal development. Vygotsky (1978) explains the zone of proximal development [4]: "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers." In this frame, Vygotsky submits practical suggestions to educators indirectly by the zone of proximal development explanations. To put it simply, through interactive communication in collaborative learning environments, learners develop their thinking through language. At the same time, learners also develop their language through thinking.

Constructivist learning environment

Constructivist learning environment is learner-centered, which is mainly based on problem-solving and hands on activities that require active engagement of cognitive processes. Constructivist education enables students to create new knowledge, going far beyond the mere acquiring of knowledge. In its weak applications, they end up with lower thinking skills with the help of the teacher who considerably lifts the burden of learning off the students. Jonassen et al. (1999), note the implications that implementing constructivism has on the role of teacher and student [10]. Specifically, students must wrestle with the responsibility that comes from being truly in charge of one's own learning.

Brooks and Brooks (1999) synthesize five principles to guide teachers in implementing constructivist ideas in classroom settings [11]. First, teachers should pose problems of emerging relevance to students. Second, learning should be structured around primary concepts rather than disparate facts. Third, teachers should seek and value students' points of view. Fourth, curriculum should be adapted to address students' suppositions. Fifth, student learning should be assessed in the context of teaching. Meaning, assessment should be "authentic."

As all of these principles are pursued, the classroom learning environment takes on a constructivist orientation. In fact, Wilson (1996) proposes a definition for such a constructivist learning environment [12]: "A place where learners may work together and support each other as they use a variety of tools and information resources in their guided pursuit of learning goals and problem-solving activities".

Constructivist curriculum development:

The curriculum is the heart of education, the sharing of learning experiences between the teacher and learner. All else in the system should be derived from this: how learners should be assessed, how teachers should be trained and develop, what textbooks and other learning support materials should be like, how schools and the educational system should be organized and managed, and the allocation of resources necessary for the system to function. According to Jonassen (1991), there are three major phases of curriculum development of analysis, design, and evaluation [1].

Content analysis

One of the components of the first phase is content analysis. Content areas do not have strict boundaries since relevancy can be found in multiple disciplines. The teacher can define a major content domain but she cannot limit its scope with arbitrary boundaries. Strommen (1992) states that

context and content are crucial in a constructivist approach and they determine the method and strategies employed in a course [13]. Learning is situated in rich contexts and knowledge gained from a given domain has particular relevance to that domain. Therefore, the goal of constructivist educators is to guide students to think and act like experts. Constructivists are also interested in the learner's prior knowledge. However, the emphasis is not on the learner's prior knowledge but on his cognitive processes, self-reflective skills, and the learning process itself. The goal is to cultivate the learners' thinking and knowledge construction skills.

Design

According to Wilson (1997), in a constructivist design, learners and teachers participate in the design process as characteristic of design. Moreover, the design process has a complex, non-linear structure that sometimes can lead to chaos around big ideas with multi-goals. Active learning method is the key principle of constructivist design, in which learners construct knowledge by means of physical and mental activities and actively engaging with learning activities. These activities might be things like problem solving, doing projects, having real-life experiences, story-writing, developing newspapers, searching, researching, doing experiments, developing puzzles, playing games, as well as story-telling, role playing, skepticism, analysis, synthesis [13]. Constructivist curriculum also focuses on the sharing of individual meaning; and the knowledge constructed by cooperation with peers [14]. Thus, another important method used in a constructivist design is a collaborative learning. The common point of this method is that group members are responsible for both their learning and the learning of group members; the success of the group is rewarded. Other activities are applied in a constructivist design that encourage making sense of the subject matter, exposure to multiple sources of information, and opportunities for students to demonstrate their understanding in diverse ways, such as problem-based learning, inquiry activities, dialogues with peers and teachers.

Evaluation

According to Driver & Oldham (1986), one of the important duties of teachers in a constructivist is to assess the students' learning [14]. Outcomes of constructivist activities are unique and varied, and learning is a reflection of assessment. Thus, learners play an active, effective and critical role in assessment, as well as realize the meaning of what they have experienced via an assessment process. The authentic assessment approach is suitable for constructivist development. In this framework,

learning and assessment processes should link together. Thus, learners continue to learning throughout the assessment process. Authentic assessment includes peer-assessment and self-assessment. In self-assessment processes, learners evaluate their own personal development levels of learning according to the criteria they determine with their teachers. Another important aspect of evaluation in constructivist approaches is the idea of negotiation. When students negotiate among themselves and with the teacher issues relating to content, objectives, expectations, and evaluation components, they are more likely to embrace them and be responsible for accomplishing the tasks. Constructivist teachers allow learners to have an active role in the evaluation process [15]. Allowing learners to evaluate their own work, provides them the opportunity to gain ownership of the evaluation process, thus making them accountable for their own learning. In addition, evaluation of one's own work promotes self-reflexive processes, which is another goal of constructivist learning.

Emergent curriculum

According to Yu-le (2004), the emergent curriculum as a specific type of constructivist curriculum which focuses on the dialogue and cooperation on the basis of emergentism represents the basic characteristics of the curriculum development and major direction in the future [16]. It is the product of the critical reflection of the predefined curriculum, the objective demand of constructivist conceptions of knowledge and the basic content of curriculum returning back to the life-world. Emergent curriculum has the characteristics of "experiential" "creative" and "life". The emergent curriculum can be implemented through the following conditions: to enhance the curriculum consciousness of teachers and students; to establish "I-you" orientated conceptions about the teachers and students and to form the subject-orientated conceptions about the curriculum evaluation.

Emergent curriculum is a constructive curriculum in which the teachers, students, teaching materials and environment interact in the context of dialogue. It departs away from the idea "everything is predefined" and maintains that "everything is developing". Curriculum activity, instead of pure cognitive activity, is the dynamic process in which teachers and students display and create the significance of the life. The development and implementation of the curriculum is completed through the negation and cooperation by the teachers and students, meanwhile the value, meaning and spirit embedded in the curriculum come into being through the mutual understanding of teachers and students.

Yu-le (2004) states that the term “curriculum” in emergent curriculum assumes a totally new meaning [16]. It is no longer known conclusive knowledge, but is a dynamic process in which teachers and students develop and explore knowledge through the dialogue. Though process is also mentioned in the predefined curriculum, the process is predefined; the quality of creation is lost. In emergent curriculum, teaching materials is not a static knowledge system, not the starting point nor the destination of the curriculum, but something to light “the torch of student’s thinking”. The emergent curriculum focuses on the “emergence”, in essence, focuses on the human. “Human development” is the core of emergent curriculum, with the basic purpose of promoting the full realization of individual’s whole life, hence it corresponds to the development trend of the times, the need of the student all-round development and represents basic characteristics and direction of curriculum development in the future.

Characteristics of emergent curriculum

Experiential

Experience, which is personal and tacit, is rooted in the spiritual world of the students. It is through experience that the meaning of the curriculum comes into being. If students are forced to memorize the conclusive knowledge without their exploration and experience, learning does not take place; the rich curriculum meaning faces the risk of being lost. Emergent curriculum manifests the deep level understanding of the curriculum. The researchers have not come to the consensuses of connotation of the curriculum due to its complexity. But they began to shift from focusing on the connotation to focusing on the experience and emergence, which shows that the curriculum value shift from “teaching” to “learning” and predicts that a deep-level reform will come in the curriculum theories and practice. Though the traditional ideas such as “curriculum is discipline” is still influential, current curriculum researcher pay more attention to the “emergence” and stimulation function of the curriculum.

Creative

The process of “emergence” is the process of creation. Emergent curriculum views the student as the unfulfilled life and open existence. “It is this kind of view that provides the opportunity for stimulating the student’s creativity”. Emergent curriculum is not only to promote the students to acquire more knowledge, but also to bring the student’s creativity into full play and liberate the student’s creativity. On the contrary, the predefined curriculum is against the creativity because with the use of simple industrial manufacturing model, all the aspects of curriculum are predefined;

curriculum activities became technical processes. Emergent curriculum believes in the great potential of every student and tries hard to explore their creativity. So the implementation is a process in which the creativity is awoken and stimulated. Liberation and exploration into the creativity depend on the internal power of students, instead of the outside controlling power. According to the German philosopher J. Habermas’ theory on interest, the predefined curriculum embodies the technical interest with the control and efficiency as its value orientation, while emergent curriculum embodies the emancipatory interest, which aims to liberate the individual by stimulating the student’s creativity. Hence emergent curriculum is the source of creativity development.

Life

First of all, emergent curriculum focuses on the uniqueness of life. Emergent curriculum focuses on the individuality and difference between students, and opposes the generality and uniformity. Individuality and difference is the basic feature of the “emergence process”. As each life is unique, education should meet the differences of students. In effect, to promote the development of students’ individuality is the internal need of quality education and new curriculum reform. The predefined curriculum ignores the uniqueness of student life because when the curriculum is predefined, a uniform standard for evaluating the student performance is predefined. On the contrary, emergent curriculum focuses on the student individuality and abandons the pursuit of standard products and tries to promote the individuality development to the fullest.

Secondly, emergent curriculum focuses on the wholeness of the student life. Emergent curriculum insists on the holistic thinking or relative thinking, views the student as a whole and refuses the artificial isolation of student life because students participate in the curriculum as a whole life instead of the incomplete parts and makes the students have an all-round development. Curriculum implementation is not only a cognition process in which students acquire the knowledge, but also a process in which students fully display their creativity and enrich their life; hence students can fully realize their value and develop their subjectivity.

How to implement the emergent curriculum?

To enhance the curriculum consciousness of teachers and students

The implementation of curriculum is actually a dynamic, nonlinear and self-organized process in which the curriculum is being created and meaning is being constructed, so the curriculum goal, content and teaching methods should vary with the

specific context and different students. This process is beyond the limitation of the fixed rigid procedure and allows the “mistakes” and “unexpected events” happen and makes these indefinite factors as important curriculum resources. Curriculum implementation is no longer a definite and closed procedure, but a complex nonlinear activity full of variables. But the implementation of emergent curriculum puts a much higher demands to teachers and students, that is, to enhance their curriculum consciousness urgently.

The traditional role of the teacher cannot meet the need of the emergent curriculum. The teacher is not a passive knowledge transmitter, but an active curriculum researcher and creator. He not only needs to consider what to teach and how to teach, but also why to teach. The teacher begins the curriculum research and innovation rooted in the authentic educational settings, so the teacher turns into a researcher. While the teacher-proof strategy is adopted in the predefined curriculum, the teacher is excluded in the curriculum development and has no right to sound their voice, no right to alter the curriculum and no need to consider the issues related to the curriculum; what the teacher needs to do is just faithfully and effectively implementing the curriculum.

The student is also the subject, creator and constructor in the emergent curriculum, no longer the passive recipients of knowledge. Curriculum implementation is a dynamic process in which the students actively interact with the outside environment and their personal knowledge, life experience and direct experience become important curriculum resources and the student moves from the border of the curriculum to the center.

Teachers have to listen attentively in emergent curriculum. Listening, as a communicative behavior, is the premise of dialogue, and which requires the teacher to listen to the student about their feeling, desire and ideas. It is through listening that the teacher perceives the student as whole and animate individuals and an “outlook of life-based teaching” can be established. Listening does not mean pure auditory response, but requires the teacher commits himself to it wholeheartedly and dives into the sea of student soul, to comprehend its beating and flopping. The teacher and the student think actively and express themselves freely through listening to each other and communicating at an equal status, finally, produce “brand-new fruits”.

Form the subject-orientated conceptions about the curriculum evaluation

The goal-orientated evaluation is employed in predefined curriculum. Though this kind of evaluation pushes the scientific process of

curriculum evaluation, the subjectivity of the evaluatees is ignored owing to the dualism thinking mode, which treats the evaluators as the subjects and the evaluatees as the objects. The simple qualitative methods are used to evaluate the complex evaluatees and focus on the functions of making judgments, appraisal and selecting and ignore the functions of promoting and development. While these ignored functions are restored in emergent curriculum.

First of all, emergent curriculum evaluation is communicative. The community made up of the evaluators and the evaluatees make the evaluation through dialogue and negotiation in the curriculum implementation. The evaluation standards are set by the two participants according to the educational settings and the student differences. The evaluatees are the participants and the subjects too. The curriculum, instruction and evaluation are integrated into an organic whole, which corresponds to the development trends of current world curriculum evaluation. E. G. Guba and Y. S. Lincoln proposed that since 1970s the curriculum evaluation has entered into an era of “co-construction” in which the evaluation is to form “psycho-construction” through negotiation.

Secondly, the emergent curriculum evaluation is dynamic. The dynamic nature of emergent curriculum determines that the evaluation standards are not fixed. Before the evaluation, a flexible general standard is employed and the standards should make certain adaptations as the evaluation is being implemented. Only by this, the functions of curriculum evaluation can be brought into full play. The dynamic nature of the evaluation manifests the complexity of the curriculum evaluation, and indicates the evaluation of emergent curriculum is a long-term process in which the evaluators and the evaluatees need to participate together to get the authentic, rich and whole information of the evaluatees.

Last, the evaluation of emergent curriculum is integral. The goal-orientated evaluation of the predefined curriculum insists on “reductionism” and atom-like separation of the whole-person, while the aim of emergent curriculum is “the cultivation of a whole person”, and students take part in the curriculum activities as integral life, it is inadequate to evaluate the students according to the standardized reductionism conceptions. Evaluation is integral, including the evaluation of the development students made in cognitive aspects such as knowledge and abilities and development in innovative spirits and hands-on abilities.

Conclusion

Constructivists believe that learners construct their own reality or at least interpret it based upon

their perceptions of experiences, so an individual's knowledge is a function of one's prior experiences, mental structures, and beliefs that are used to interpret objects and events. What someone knows is grounded in perception of the physical and social experiences which are comprehended by the mind. (Jonasson, 1991).

The curriculum is the heart of education, the sharing of learning experiences between the teacher and learner. All else in the system should be derived from this: how learners should be assessed, how teachers should be trained and develop, what textbooks and other learning support materials should be like, how schools and the educational system should be organized and managed, and the allocation of resources necessary for the system to function. There are three major phases of curriculum development of analysis, design, and evaluation.

Emergent curriculum is a constructive curriculum in which the teachers, students, teaching materials and environment interact in the context of dialogue. It departs away from the idea "everything is predefined" and maintains that "everything is developing". Curriculum activity, instead of pure cognitive activity, is the dynamic process in which teachers and students display and create the significance of the life. Emergent constructivist curriculum should be developed into language teaching programs to incorporate the above-mentioned benefits.

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