Defining and Developing Curricula in the Context of Cooperative Extension

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Abstract

Effective curricula are considered to be the cornerstone of successful programming in Extension. However, there is no universal operationalized definition of the term *curriculum* as it applies to Extension. Additionally, the development of curricula requires a systematic process that takes into account numerous factors. We provide an operational definition of *curriculum* by describing the parts of a curriculum, discussing the organization of those elements, and recommending theoretical frameworks that complement the learn-by-doing approach used in Extension. We also describe strategies to guide curriculum development, adaptation, and evaluation that will help advance the potential of Extension curricula to achieve their intended outcomes.

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Background

Developing or choosing effective curricula has been described as the "cornerstone of successful Extension programming" (Coleman, Byrd-Bredbenner, Baker, & Bowen, 2011, "Introduction," para. 1). However, despite its common use, there is no universal operationalized definition of the term *curriculum* (Childress, 1977); rather there exists a range of descriptions, metaphors, and qualities of curricula throughout the literature, as evidenced by the following examples:

- a formal coursework that is taken by students (Metcalf & Hunt, 1970);

- the subjects taught at particular levels in school, or a set of tasks to be mastered and concepts to be learned by students (Schubert, 1986);

- a path to be followed (Sprandel, 1975);

- a particular course to run (Wiggins & McTighe, 2005);

- a prescription for learning and teaching (Taba, 1962);

- a map that is a guide for learners (Dewey, 1902);

- an active conversation on a given topic (Bruner, 1992); and

- a moving wheel where the spokes represent discipline-specific knowledge and skills to be learned (Brameld, 1970).

Development of an operationalized definition of the term *curriculum* is important for helping inform educational programming within Extension. According to Null (2011), the question "What is a curriculum?" must be addressed by any educational institution in order for that organization "to be effective—and indeed successful—in any long-term, substantive way" (p. 5). Thus, our premise is that a cohesive definition of *curriculum* as it pertains to Extension programming is important semantically to support clarity in communication and empirically to allow for systematic measurement within and across program areas.

Our principal goal with this article is to propose an operationalized definition of *curriculum* that can be used in the development of new curricula or adaptation of existing curricula and applied to the various learning contexts represented in Extension. We present the basis for the development of our definition by describing the purpose and component parts of a curriculum and discussing the organization of those component parts. We also address theoretical frameworks that complement the learn-by-doing approach used in Extension programming, an approach that is considered to be a "timeless model for transformative education" (Henning, Buchholz, Steele, & Ramaswamy, 2014, "Conclusion," para. 2).

A complementary goal we have is to recommend a systematic approach to curriculum development. Curriculum development is a complex, iterative process that must take into account numerous factors, including learners and their stages of development, educators and their backgrounds and levels of experience, varying contexts in which learning will occur, subject matter content, and pedagogy (Schwab, 1973). Understanding the steps necessary to accomplish this process has proved to be challenging (Kliebard, 1989). Thus, building on our operationalized definition of the term *curriculum*, we describe a stepwise approach to help guide the curriculum development process.

Curriculum: Purpose and Organization

Purpose of a Curriculum

Broadly speaking, the purpose of a curriculum is centered on the advancement of learning (Deng, 2013) and is focused on real-world practice that operates across three domains: the *institutional* domain, which represents the

level of society and societal concerns; the *programmatic* domain, which involves the translation of institutional-level goals into curriculum documents and materials; and the *classroom* domain (learning setting), which encompasses the implementation of documents and materials by educators with their learners (Deng, 2011). Furthermore, a curriculum implies intent—meaning that it plays a role in guiding instruction—and therefore must be viewed as anticipatory with regard to intended outcomes (Johnson, 1967).

More specifically, the purpose of a curriculum is one of practicality, with an emphasis on the individual learner and the context within which learning occurs (Deng, 2013). Null (2011) stated that a curriculum prepares subject matter for educational use in such a manner "that it makes a lasting impact on [learners]" (p. 7). Similarly, Sprandel (1975) emphasized that a curriculum is a means of structuring the relationship between student and teacher toward the goal of nurturing learning.

Curriculum Organization

Learning experiences are the fundamental components of a curriculum and are defined as interactions between learners and their environment (Tyler, 1949). Learning experiences support the acquisition of "abilities, attitudes, habits, appreciations, and forms of knowledge" that make up specific learning objectives (Bobbitt, 1918, p. 42), and the organization of these experiences is vital for achieving the desired curriculum outcomes (Bobbitt, 1918; Taba, 1962; Tyler, 1949, 1977). However, according to Harden and Stamper (1999), organization is an area that has been somewhat overlooked in curriculum planning.

To be effective, learning experiences must be organized sequentially whereby subsequent learning experiences build on previous ones and involve investigating matters more broadly and deeply (Tyler, 1949). The goal of sequential organization is to produce a maximum cumulative effect; in the absence of successive learning opportunities, significant changes in the learner will not occur (Tyler, 1977). Tyler (1949, 1977) referred to the sequential organization of learning experiences as vertical organization.

Another aspect of curriculum configuration is the horizontal organization of learning experiences (Tyler, 1949). As a complement to vertical organization, horizontal organization refers to relationships between the learning experiences in a curriculum and other subject matter areas, real-world situations, or issues germane to the learner. Horizontal organization connects learning more broadly, moving it beyond the individual experience, and relates it to matters of greater significance, including community and social responsibility (Null, 2011; Tyler, 1949).

Curriculum Development in Cooperative Extension

Learning Theories and the Curriculum

It is important for a curriculum to have a theoretical underpinning (Deng, 2011; Taba, 1962; Tyler, 1977). To this end, we propose that Extension curricula be grounded in constructivism, a learning theory that maintains that knowledge is developed through experiences, interactions between learners and their environment (Dewey, 1933; Fosnot, 1996). More specifically, learners construct meaning through interactions with their physical and social environments by developing schemata—mental representations—of their experiences (Nichols, 2000).

Inquiry and experiential learning are constructivist-based pedagogical strategies that support the learning-by-doing approach used in Extension programming. Inquiry is the development of knowledge, skills, and attitudes

through learner-centered investigations and active questioning (Marek & Cavallo, 1997). As an inductive approach to teaching and learning, the inquiry process is steeped in experience and helps learners develop critical thinking skills (Marek & Cavallo, 1997; Prince & Felder, 2006). Over time, learners' understanding increases and matures through continued and more complex interactions. Experiential learning includes three distinct components: a concrete experience that engages learners in exploration, a period of reflection during which the learning experience is discussed and analyzed, and an application phase in which new knowledge and skills are used in real-world situations that helps maximize learning outcomes (Enfield, Schmitt-McQuitty, & Smith, 2007). By grounding Extension curricula in experiential learning, the learning process is situated systematically in two ways: (a) the concrete learning experiences focus on intended outcomes through planned activities but lie external to the learner, and (b) the application of new knowledge and skills in real-world settings provides opportunities for learning that is more personal, or internal to the learner (Anderson, 2007).

Curriculum Development Process

Curriculum development is an eclectic enterprise with complex, interrelated factors and processes to consider (Lunenburg, 2011; Schwab, 1983). However, using a stepwise curriculum development model can simplify the process and improve its effectiveness (Olivia, 2009). Building on models outlined in the literature (e.g., Taba, 1962; Tyler, 1949, 1977; Wiggins & McTighe, 2005), we recommend a seven-step approach for curriculum development in Extension. The steps are identified in Figure 1 and then explained in more detail.

Figure 1.

Curriculum Development Process for Cooperative Extension Programming

1. *Identification of a societal need and associated learning objectives.* This step frames educational goals around an important environmental, economic, or social need and specific strategies necessary to address that need (Tyler, 1977). Framing learning objective elements, such as content knowledge, attitude, skills, disposition, and identity, around authentic societal needs or issues aids learners in making sense of concepts and theories while also finding meaning and connections to the real world.

2. *Organization of content.* Content organization is one of the central challenges of curriculum construction (Taba, 1962) and must be addressed early in the curriculum development process. Curriculum content must be organized in a logical sequence in order to convey meaning accurately (Bruner, 1992); furthermore, attending carefully to this step allows curriculum developers to establish vertical and horizontal organization.

3. *Determination of acceptable evidence of learning.* Learning is about understanding, and understanding is about making meaning in such a way that knowledge can be transferred to independent situations (Wiggins & McTighe, 2005). Thus, once learning objectives have been identified and content has been organized, the type of evidence—performance and/or products—that will be used to determine whether learning was achieved needs to be selected. Strategies educators can use to assess learning that are appropriate for Extension curricula include performing informal checks for understanding using prompts, making observations, participating in dialogues, and reviewing the results of authentic tasks or projects.

4. *Identification and development of learning experiences.* Wiggins and McTighe (2005) described teaching as a means to an end; however, curriculum development must occur in a purposeful fashion and include "deliberate attention on how [learning experiences] should be taught" (Kliebard, 1989, p. 4). Thus, it is important to identify specific learning experiences based on organized content, to determine materials and resources necessary for effective implementation, and to develop learning experiences using effective pedagogical strategies (e.g., inquiry, experiential learning).

5. *Preliminary evaluation.* Prior to conducting pilot testing of a curriculum, it is important that developers commit to a review of the learning objectives, content organization, and sequence of learning experiences. A preliminary evaluation provides a system of checks and balances to ensure that the curriculum has been developed systematically using a set of criteria (Tyler, 1949).

6. *Pilot testing.* Pilot testing focuses on feedback that informs developers of the usability of a curriculum and the potential need for revisions to activities. Specific information that can be obtained during pilot testing relates to elements such as developmental appropriateness of curriculum materials, evidence of understanding among intended audiences, and requisite materials and resources (Linnell et al., 2016).

7. *Outcome evaluation.* Outcome evaluation is a necessary final step in the curriculum development process; it is used to determine whether intended results have been achieved through the use of a curriculum (Olivia, 2009; Tyler, 1949). More specifically, evaluation is a systematic approach to analyzing learners' accomplishments when measured against the specific learning objectives outlined in a curriculum (Wiggins & McTighe, 2005).

Curriculum Commonplaces

In addition to the proposed seven-step curriculum development model, we recommend that individuals involved in developing Extension curricula adhere to a development framework that considers five key factors—content, learners, context, educators, and curriculum making. Referred to as "curriculum commonplaces," these factors help guide the development process (Schwab, 1973).

- *Content.* Subject matter often dominates a curriculum; when this happens, the curriculum is ineffective because other relevant factors—learners, context, and educators—are not addressed effectively, and the imbalance has a negative effect on the potential for learning to occur (Null, 2011). In contrast, if subject

matter is underemphasized, the result can be "an incoherent curriculum" that consists of "disconnected, irrelevant information" and does not help learners understand the discipline (Ricketts, 2013, p. 31).

- *Learners.* The developmental characteristics of the intended learners have implications relative to curriculum development (Merriam, Caffarella, & Baumgartner, 2007; Schmitt-McQuitty, Smith, & Young, 2011). Furthermore, knowledge of learners' prior understanding, skills, interests, and backgrounds must be taken into consideration (Null, 2011). Failure to address the learners sufficiently can result in a curriculum that is not applicable to specific audiences; conversely, an overemphasis on learners can culminate in a collection of learning experiences that lacks organization and is short on relevant content (Ricketts, 2013).

- *Context.* Context is "the setting in which a curriculum is taught" (Null, 2011, p. 31). For example, a curriculum designed for a classroom setting may or may not be applicable for nonformal education programs. Moreover, a curriculum designed for one nonformal learning setting (e.g., an afterschool program) may not be applicable for another nonformal venue (e.g., a camp). Schwab (1983) noted that "the differences from curriculum to curriculum will often be small though crucial, and may sometimes be of a substantial order" (p. 242). Overemphasizing or underemphasizing context can result in a curriculum that does not meet the needs of its intended learners (Null, 2011; Ricketts, 2013).

- *Educators.* Educators represent the principal driving force in how a curriculum is implemented (Null, 2011; Ricketts, 2013). Because educators differ with respect to their backgrounds and experience, it is important that a curriculum provide "content and/or pedagogical support for those who need it, rationales throughout the curriculum for teachers to consider as they interpret it, [and] suggestions for tailoring the curriculum to the particular needs of the students and the context" (Ricketts, 2013, pp. 33–34) (see Spiegel et al., 2005). Underemphasizing this commonplace can lead to the assumption that all educators can and will implement the curriculum as written. Overemphasizing this commonplace can lead to a curriculum that fails to consider other essential factors—content, learners, and context (Null, 2011).

- *Curriculum making.* This commonplace involves curriculum developers in the iterative process of curriculum review and examination in order to maintain a balance among the other commonplaces (Null, 2011). However, curriculum making is often overlooked (Ricketts, 2013). When this happens, an imbalance is created by one or more commonplaces dominating the others, and the resulting curriculum does not achieve its potential (Ricketts, 2013).

A Definition of Curriculum in Cooperative Extension

A curriculum is more than simply subject matter organized into learning experiences. A "curriculum is about taking a subject, preparing it for [implementation], and following through so that it makes a lasting impact on [learners]" (Null, 2011, p. 7). Furthermore, a curriculum is the result of thoughtful, deliberate efforts that are grounded in the use of a systematic approach to the development process. To this end, we propose the following definition for the term *curriculum* in Extension:

A curriculum is a coherent progression of educational experiences that addresses a societal issue or need. These experiences are organized sequentially such that concepts build on one another (vertical organization) and connect to other content areas or real-world situations (horizontal organization). The curriculum needs to be developmentally

appropriate, be grounded in relevant learning theories, and provide necessary resources and techniques for effective implementation with the intended audiences in specified learning settings. Finally, a curriculum must be evaluated empirically and shown to realize intended learning objectives.

Conclusion

We posit that the purpose of a curriculum in Extension is to balance the three domains described by Deng (2013)—*institutional*, *programmatic*, and *classroom*—in a manner that supports instruction and learning effectively. Specifically, an Extension curriculum needs to address important societal issues in a manner that helps realize lasting impacts on the intended audiences. Application of a research-based definition of *curriculum* and a systematic curriculum development model will help advance the potential of Extension curricula to achieve their intended outcomes (Deng, 2011); furthermore, these elements will help accomplish consistency and continuity with respect to the development of new Extension curricula and adaptation of existing Extension curricula.

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