This paper provides an overview of the concept of a “developmental curriculum”, the underlying learning theory, implications for planning and implementation and references for further reading.

A Developmental Curriculum

An Overview

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What is a developmental curriculum?

A developmental curriculum is based on a sociocultural theory of learning, also related to what is known as a constructivist perspective on teaching and learning (Pratt, Arseneau & Collins, 2001). Some have described a developmental view of teaching as one that aims for the learner's developmental level (Pratt, Arseneau & Collins, 2001),. From a developmental perspective, instruction builds upon what students already know. Therefore, it requires that instructors know their students' level of development; that is, what the learners can do now without assistance. Moreover, a true developmental curriculum is based on Vygostky's (1978/1937) theory of teaching and learning, and aims teaching at the learner's *proximal* developmental level: what the learner will be able to do with strategic assistance from the instructor or more expert peers.

The implication, of a developmental curriculum, is that we must be mindful of what our students know and are capable of doing while we continue to challenge them to use their knowledge to learn new knowledge and practices or apply current knowledge in new ways.

This developmental perspective is derived from Lev Vygotsky's concept of the zone of proximal development and a related concept, the zone of distal development (Spear-Ellinwood, 2011; cited by Moll, 2013). It also draws on Moll's & Greenberg's (1990) funds of knowledge theory. Below is an overview of these fundamental concepts.

The zone of proximal development is characterized by the distance between what the learner can do now without assistance and what they can achieve with the strategic assistance of an instructor or more expert peers.

The challenge in learning something new always involves a "learning curve" (Slamecka, 1985, citing Ebbinghaus, 1885). The learning curve is the process through which we develop mastery of knowledge, skills, and practices over time. The length and depth of that curve is determined by learner's and educator's abilities, knowledge, practices, and the strategic guidance that educators provide to assist learners in reaching their goals.

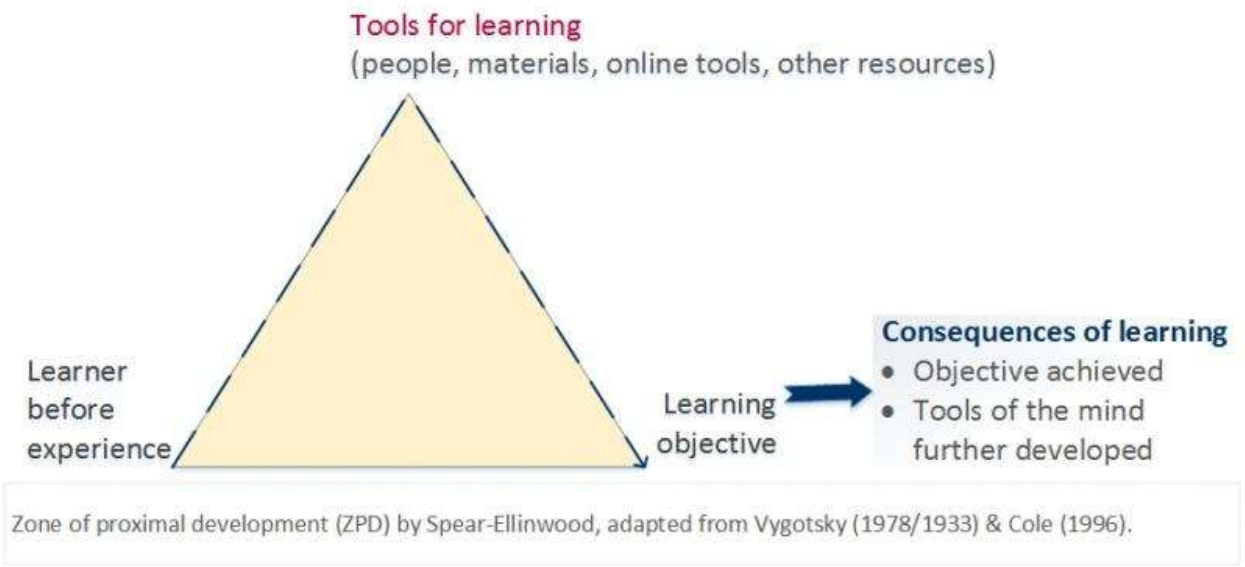

Figure 1 Zone of Proximal Development (adapted from Vygotsky 1978/1938; Cole (1996)).

Learning and development are mediated by the use of tools and human resources.

To mediate that learning curve, educator and learners create zones of proximal development. These are learning situations characterized by the distance between what the learner can achieve on their own and what they could do with the strategic assistance or guidance of an instructor or more expert peer. Zones of proximal development are negotiated, then, through the use of tools - human as well as material resources and practices (Vygotsky, 1978/1933; also Moll, 2013; Cole, 1996; Cole & Engeström, 1993). *See* Figure 1, above.

Learning has concrete outcomes as well as cognitive consequences.

When students learn, they not only achieve specific learning objectives, they also further develop *tools of the mind,* that is, metacognitive strategies, problem-solving skills, and other educational practices that support and mediate future learning (Moll, 2013; Bransford, Brown & Cocking, 1999; Cole, 1996).

A developmental curriculum plans for successive zones of proximal development, strategically increasing educational challenges.

A *developmental curriculum* must plan for a continuum of learning experiences through *successive* zones of proximal development, known as the zone of distal development (Spear-Ellinwood, 2011) (see Figure 2, below). The purpose is to create learning situations that build on prior knowledge and simultaneously challenge learners to use that knowledge in different ways or to develop new knowledge or skills.

In every learning situation, a developmental curriculum contemplates what kind of guidance is needed and which tools might best support the learner in achieving the learning objectives. This sort of educator assistance commonly is referred to as "strategic guidance" (Reiser, 2009). Such assistance is aimed at

enhancing or developing new knowledge or practices, and anticipates ever-increasing challenges over the course of the educational program.

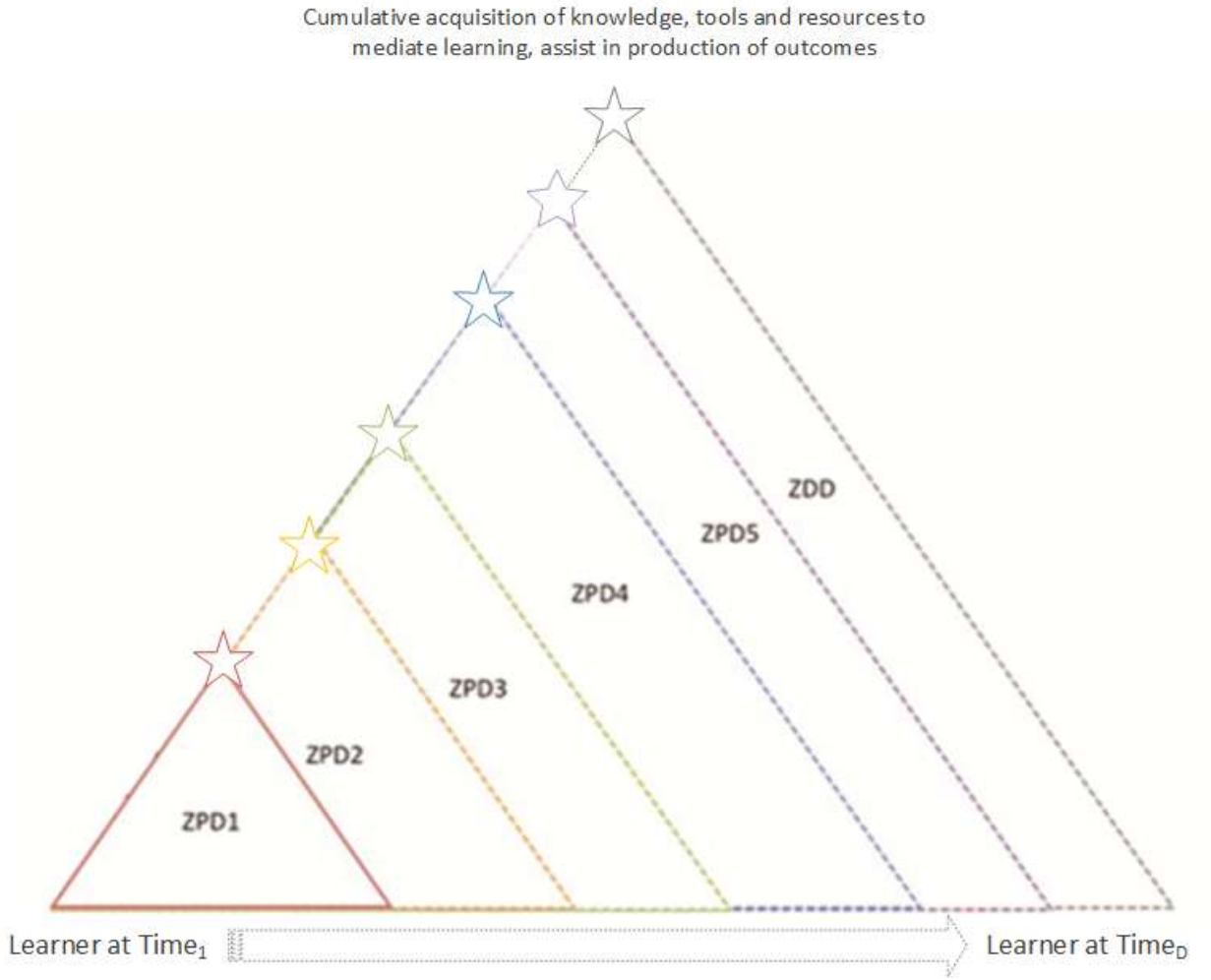

Figure 2 Zone of Distal Development (Source: Spear Ellinwood, 2011)

A developmental curriculum is organized around the purpose of and conditions for learning, the demands placed on the learner and the learners' and educators' funds of knowledge for learning and teaching, respectively.

Planning a developmental curriculum requires educators to consider the:

1. Purpose of learning experience (including external and self-motivations);
2. Conditions for learning (the advantages for or constraints on learning);
3. Funds of knowledge for learning (knowledge and resources available and accessible to the learner);

4. Funds of knowledge for teaching (knowledge and resources available and accessible to the instructors); and

5. Learning demands or level of challenge imposed on the student.

These factors comprise what is known as the organizing circumstance of learning – the totality of circumstances that determines the course of learning in a developmental curriculum (Spear-Ellinwood, 2011*).

A Developmental Curriculum Incorporates collaborative and self-regulated learning experiences.

In preparing students to become autonomous professionals with the expectation to exercise independent judgment, a developmental curriculum should guide students from instructor-dependent to self-regulated learning (Plack & Santasier, 2004; Schön, 1987; 1983) (see Figure 3, page 6). During instructor-led learning experiences, the educator's role is to provide strategic guidance to the learner's development so that the learning objective is proximal, within reach.

To assist students in becoming self-regulated learners, a developmental curriculum must provide:

- opportunities for students to self-assess knowledge,
- gather information using an evidence-based process, and
- to evaluate resources with a critical eye.
- formative and summative feedback concerning students' performances of these skills.

Guiding students toward a habit of reflective practice is essential to lifelong professional learning (*see* Bransford, Brown & Cocking, 1999; Plack & Santasier, 2004; Hiemstra, 1994; Schön, 1987).

Figure 3 The learner's course in a developmental curriculum

The UA COM undergraduate medical curriculum integrates learning experiences that are characterized by instructor-led as well as self-regulated learning activities. Students are encouraged to engage consciously and deliberately in a variety of learning situations, including team-based learning, lectures and labs. As part of an additional teaching modality, case-based instruction, students use a peer network technology that requires reflection before, during and after each learning experience (*see* Plack & Santasier, 2004).

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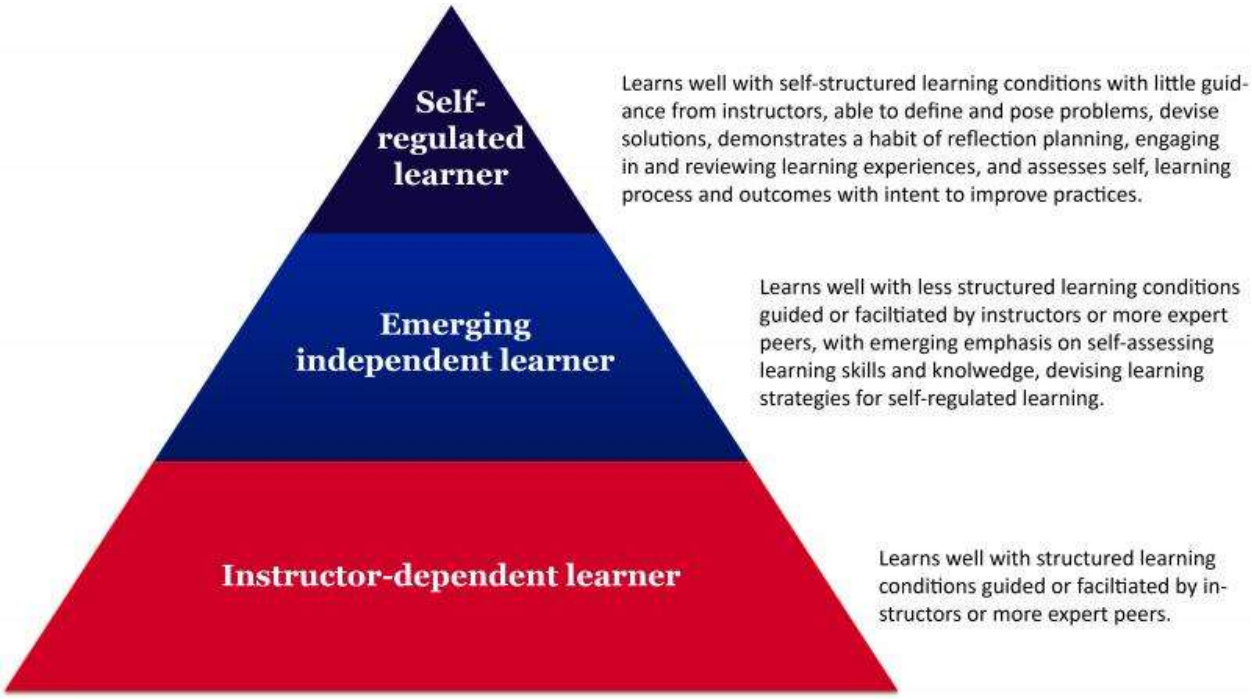

Summary

Planning a developmental curriculum requires consideration of the teacher's and learner's perspectives, and the human resources, knowledge, skills and technology available to teachers and learners to implement the curriculum in a manner that calls on students to apply their current knowledge as they build new knowledge in collaborative as well as self-regulated learning situations.

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