**COACHING AND MENTORING**

H. Chad Lane  
University of Southern California  
Los Angeles, CA  USA  
lane@ict.usc.edu

**Synonyms**  
Apprenticeship; Tutoring; Guided problem solving

**Definition**  
Coaching and mentoring are related concepts that both fall under the general category of *developmental interactions* (D’Abate, Eddy, & Tannenbaum, 2003) and involve the provision of guidance by an expert to a novice who is seeking to acquire specific skills or knowledge. The terms are used commonly in organizational settings, but are also applicable more broadly to academic and physical skill contexts. Guidance from a coach or mentor is delivered in goal-directed ways, such as to help the learner complete a task or gain understanding about a specific concept or perspective. Mentoring is generally understood as a relationship-oriented activity that occurs over longer periods of time and includes career- and psychosocial-related support for the learner. The roots of the term *mentor* lie in Greek mythology where it describes “a relationship between a younger adult and an older, more experienced adult [who] helps the younger individual learn to navigate the adult world and the world of work” (Kram, 1985, p. 2). Coaching is typically thought of as a skill that good mentors possess. It is more focused and involves scaffolding a learner (or protégé) through the steps of a specific task. According to Allan Collins (2006), coaching “consists of observing students while they carry out a task and offering hints, challenges, scaffolding, feedback, modeling, reminders, and new tasks aimed at bringing their performance closer to expert performance. Coaching is related to specific events or problems that arise as the student attempts to accomplish the task” (p. 51).

**Theoretical Background**  
Modern conceptions of coaching and mentoring have their roots in their roots in apprenticeship, the form of teaching and learning dominant throughout most of history (Collins, 2006, p. 47). In an apprenticeship, a master teaches a novice her art and/or skill *in situ* with the focus on practical skill development for real-world tasks. For example, carpenters and bakers very commonly passed along their skills and knowledge via apprenticeships in their actual working environments. This is in contrast to modern schools, where the goal is usually to teach abstract forms of knowledge for the purposes of re-use across varied contexts. The three key components to an apprenticeship are *modeling*, *coaching*, and *practice*. Modeling is mostly passive for the apprentice: he repeatedly observes and studies the master executing the skill while possibly receiving didactic instruction and explanations along the way. Next, the apprentice attempts to execute the skill through practice. This must be supported by guidance from the master since the apprentice will most likely not be able to complete the task on his own in the early stages. As the apprentice continues practicing, the need for coaching diminishes, and the master *fades* the support until the point that the apprentice is able to execute the task independently. Deciding when to deliver and fade this support is at the heart of coaching and may include such pedagogical interventions as hints, feedback, questions, suggestions, corrections, new tasks, explanations, reflection and more (Collins, 2006; Merrill, Reiser, Ranney, & Trafton, 1992).
In an effort to modernize the notion of apprenticeship to account for skills such as reading and mathematics, Allan Collins and John Seely Brown have elaborated on the idea of cognitive apprenticeship. Here, the focus is on cognitive skills and is differentiated from traditional apprenticeship by (1) taking problems not from the workplace, but rather selected based on the skills necessary to solve them, and (2) placing emphasis not on context-specific skills, but rather on generalization and re-use in different settings (Collins, 2006, pp. 48-49).

Not surprisingly, coaching shares many functional similarities with tutoring, a term usually reserved for use in academic and other formal schooling contexts. Analysis of the best expert human tutors and intelligent tutoring systems reveal that they (1) allow students to do as much of the work as possible, (2) frequently intervene after an impasse (a time when the student becomes “stuck” and unsure about how to proceed), and (3) engage in coached problem solving, a step-by-step monitoring and support process based on the ideas of coaching during practice in an apprenticeship (Merrill, et al., 1992). Key decisions that a tutor (or coach) must make involve the selection of appropriate problems, when to intervene, what hints and/or feedback to give, what questions to ask, and how quickly (or slowly) to fade the support over time.

In organizational psychology and business literature, there is limited agreement on the specific activities involved in coaching, mentoring, or more generally, developmental interactions. For example, a literature review on developmental interactions revealed that only 30% of characteristics linked to traditional mentoring were used consistently (D’Abate, et al., 2003, p. 377). However, there is widespread agreement that in addition to coaching, conceptualizations of mentoring tends to include activities focused on career- and psychosocial-related issues (Allen, Eby, Poteet, & Lentz, 2004, p. 128). While the goal of a coaching interaction is usually concrete and focused on skill development, mentoring is more about long-term outcomes and individual development. Mentoring strategies frequently reach well beyond the cognitive growth of the learner. For example, expert mentors routinely engage in relationship building activities such as providing support for the effective management of family and work lives. Other techniques include the assignment of challenging tasks, exposure to new people or career paths, and protection of their protégé in the work environment (Kram, 1985). Studies that seek to demonstrate the efficacy of mentoring programs tend to promote learning and career development focus on objective and subjective outcomes. Objective outcomes include markers of career-related growth, like promotions and compensation. Subjective assessment usually involve psychometric measures of satisfaction, commitment, turnover, and other affective measures (Allen, et al., 2004).

**Important Scientific Research and Open Questions**

For the acquisition of cognitive skills, professional 1-1 human tutoring is generally believed to be the best known method of teaching available in the world since it produces learning gains of roughly two standard deviations above the mean when compared to classroom learning (Bloom, 1984). Researchers of intelligent tutoring systems are often driven to achieve this with computer tutors. To date, the best intelligent tutors are able to achieve a one standard deviation improvement over classroom learning. Mentoring studies have also generally supported the belief that mentoring has a positive effect on career development including positive impacts on objective measures, including compensation and promotion, as well as subjective measures commitment, satisfaction, and expectations for advancement (Allen, et al., 2004).

Important empirical questions remain unanswered about both coaching and mentoring. Consistent patterns do emerge from the study of expert coaches and tutors, such as providing immediate feedback and intervening on impasses, but the question of why specific interventions promote learning, and how individual differences factor into success or failure, remain critical areas for investigation. Also, although fading of support in a coaching session is nearly universal in expert coaching, tutoring, and mentoring, the rate of this fading (how quickly the scaffolding is removed), and the dimensions along which it is best to fade (e.g., timing vs. content), remain as important open questions that deserve study. In the mentoring literature, there
are similar open questions regarding the ideal timing for interventions in career development. Long-term studies are needed that compare mentored vs. non-mentored employees, and uncover why different interventions succeed or fail to promote objective and subjective measures of development in the workplace. Finally, significant open questions remain on the role of learner emotions during coaching and mentoring that require further research. For example, empirical studies to date have produced mixed results with respect to connections between motivational developmental interactions and career advancement (Allen, et al., 2004, pp. 133-134).

Cross-References

→ Deliberate practice
→ Feedback in instructional contexts
→ Feedback strategies
→ Guidance fading effect
→ Guided learning
→ Human-computer interaction and learning
→ Intelligent tutorials and effects on learning
→ Scaffolding learning

References


