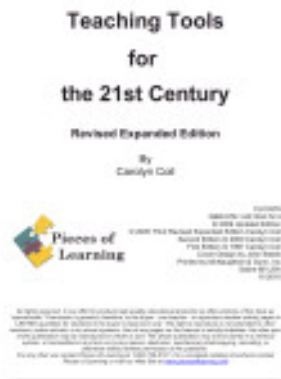


Teaching Tools for the 21st Century 2005 Carolyn Coil



Finally, an environment can be created where the student practices larger procedural components of the operation or the entire operation from start to finish. The procedural components are common to many operations, including placing a laparoscopic port, dissecting out a major blood vessel, and performing a bowel anastomosis. Procedural components such as these can be practiced over and over outside the OR so that the setup and performance would be almost automatic. Theory may have a number of forms. In this article, frameworks, models and concepts are considered important elements of theory and, in some cases, are synonymous with theory. A theoretical framework represents a broad paradigmatic set of assumptions that provides the elements of the theory but without the detail and completeness

(nuances) of a comprehensive theory. A model is a less abstract form of a theory and represents structural relationships among the key concepts. It is a replica and often provides visual simplicity that can be grasped at a glance. However, by itself, it may lack the richness of explanation inherent in a theory. Finally, concepts are the building blocks of a theory and evolve from ideas generated from direct experience. In this way they are less abstract and do not have the coherence of a framework, model or theory. Haluck RS, Krummel TM. Computers and Virtual Reality for Surgical Education in the 21st Century. Arch Surg. Woodcock Johnson Psycho-Educational Battery-Revised. Allen, TX: DLM Teaching Resources. Shane R. Jimerson. \$create(AjaxControlToolkit.ModalPopupBehavior, {"BackgroundCssClass":"Popup-Overlay", "DropShadow":true, "PopupControlID":"ctl00_ucUserActionsToolbar_SubscribeToEtocF null, null,

\$get("ctl00_ucUserActionsToolbar_SubscribeToEtocPopupControl_dummyTargetControl")); While Holmberg makes a great effort to place teaching at the core of his theory, his own structural assumptions and the central role of the self-study learning package limit teaching to one-way communication. The question arises as to whether an inert learning package, regardless of how well it is written, is a sufficient substitute for real book the teacher as both content and learning expert (a tutor does not always fully meet this standard). The role of the teacher was largely simulated by way of written instructions and commentary. It is also interesting to note that there is no recognition that written communication may be qualitatively different from verbal discourse when guiding students. In sum, the organizational assumptions and principles of the industrial model and the dependence upon written communication seriously constrain and limit the role of conversation and the full emergence of a transactional perspective.

Downloads (6 Weeks): n/a · Downloads (12 Months): n/a · Downloads (cumulative): n/a ·

Citation Count: 0. Tools and Resources. Virtual reality holds tremendous promise for the future. Computer systems may be almost as convenient as a text or atlas. All of the equipment required to perform a virtual task or procedure may be contained on a desktop within the computer-generated environment and interface system. These systems are especially well suited to training of video-assisted procedures so that the computer monitor substitutes as a video monitor. At this point, it is worth differentiating abilities from skill. Consistent with the educational literature and concepts of motor-skill learning, abilities will be defined as inherent or innate. Skills, on the other hand, can be learned and refined. A student enters a learning situation with varying degrees of abilities. Through practice and training, skills are then developed.¹² Taking this model further, it indicates that residents and practicing surgeons not only need to learn the operations performed by their predecessors, but to learn entirely new and different types of skills and procedures. At present, mastery of more established techniques is required before moving up to new types of operations. Surgeons need to have skill in traditional open techniques before learning MIS. In an era of compounding technology, the acquisition of new sets of different skills may be necessary multiple times during the course of a career. For these reasons, the same pressures encountered during surgical residency apply to practicing surgeons. Anderson, T. D., and Garrison, D. R. (1997). New roles for learners at a distance. In C. C. Gibson (Ed.) Distance learners in higher education: Institutional responses for quality outcomes. Madison, WI.: Atwood Publishing. In Handbook of research on teaching literacy through the



communicative and visual arts, Vol. Book, *The 21st-Century Classroom: Teaching and Learning with Technology*. Addison-Wesley Longman Publishing Co., Inc. Training surgeons will always require real patients and thoughtful mentors to learn to be intelligent and caring surgeons. Technical proficiency is only a single component in the mix, but it is an essential component. As computers continue to play larger roles in our everyday lives, so too shall they in surgical education. The student could be penalized for poor exposure and setup as in real life. The student may not be able to visualize or access all pertinent structures if the incision is of insufficient length or improperly placed. He or she may be able to experiment with a number of different port-site configurations in a laparoscopic simulation. If the student finds that the computer simulation of the operation does not adequately demonstrate the necessary anatomy, the student could then quit that scenario and go to an explanation of the proper setup for the operation. *Plast Reconstr Surg.* 1993;92:133-135. Article 23. Barnes RW, Lang NP, Whiteside MF. Halstedian technique revisited: innovations in teaching surgical skills. *Ann Surg.* Differences in social adjustment and classroom behavior between children retained in Kindergarten and groups of age and grade matched peers. *Scholarship in Teaching: An Imperative for the 21st Century*. Correspondence and requests for reprints should be addressed to Dr. Fincher, Vice Dean for Academic Affairs, Medical College of Georgia School of Medicine, CB-1847, Augusta, GA 30912; telephone: (706)721-3529; fax: (706)721-7244; e-mail: fincher@mail.mcg.edu. Recent and rapid technological developments raise questions whether distance education theory has reviewed with new, customer of communications technology and the changing educational needs of a learning society. We might ask whether distance education theory has captured the full range of possibilities made available by the rich and diverse developments in the field of communications and information technology? Does distance education as a field of study possess a synthesis of the principles and concepts capable of explaining and predicting developments in distance education in the 21st century?