

Knowledge Avatars™: a powerful e-learning paradigm

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Knowledge Avatars™, or online virtual experts, are more than traditional training products. They automatically incorporate the best teaching strategies, the best motivational strategies, and the most efficient learning environment design. They incrementally improve the skills in your organization by teaching, evaluating, and providing feedback, so that learners are continuously developing their abilities in a natural learning mode.

Knowledge Avatars™ are powerful because they start out as a knowledge map of an expert's knowledge in a particular area of expertise, or knowledge domain. The knowledge map is a "blueprint" that defines the concepts and relationships between concepts in a knowledge domain. As a whole, the knowledge map represents the static knowledge (facts) as well as the active knowledge of an expert (such as problem-solving strategies).

A Knowledge Avatar™ usually incorporates several knowledge domains, thus merging the expertise of one or more people. A "sales" Knowledge Avatar™, for instance, would contain expertise on improving sales, but it would also incorporate teaching strategies of the best pedagogues. Multiple virtual experts, merged into one Knowledge Avatar™, give the learner the best of several experts.

There are many individual differences in how people learn. Knowledge Avatars™ take these differences into account by presenting information in different modalities and by accommodating different learning styles. For example, some people prefer to learn generalities first and focus on specifics later in the learning relationship. Others, prefer to learn specific concepts, one at a time, and integrate them all at the end of their learning excursion.

Individual learning styles may change according to a learner's experience with the knowledge domain. Someone who is reviewing the information after having already learned it will want to be able to jump directly to whatever concept they need a refresher on. A first time learner might prefer to take it more slowly, one concept at a time. Similarly, Knowledge Avatar™ can use multiple modes of content presentation depending on what is most appropriate to illustrate a concept.

Direct and frequent feedback is another important element. Knowing how well they are doing, while learning, gives students the motivation to continue learning. Complete control over what and when they are learning is an important feature of Knowledge Avatars™. Control is a strong motivator because learners feel they are being constructive in their learning. Since Knowledge Avatars™ provide information "as needed" there is faster turnaround to applying new skills to a job.

Knowledge Avatars™ can be available whenever someone needs a refresher on a concept, or whenever there is time to learn, such as at a break between meetings. Busy schedules, frequent interruptions, and changing circumstances are taken care of because the Knowledge Avatar's expertise can be accessed as needed, in small chunks, and in the order that it is needed in. Wireless personal digital assistants, such as some Palm Pilots, even allow people to access Knowledge Avatars™ from a taxi cab!

Knowledge Avatars™ constantly evaluate the learner's knowledge and provide direct feedback about how well the learner is doing. This "knowledge of results" is an essential component of getting real results from skills training. Not only is it important for the learner to know that they are meeting the criteria, it is also important that they know specifically what they are learning. When content is new, it is not always clear to a learner what exactly they have learned. By giving them very pointed activities to test their new knowledge, the learner gets the feedback they need, telling them whether they have achieved the criteria for a particular task. Frequent feedback is a reinforcer. Learners should never have to wonder whether or not they truly understand the concept. If a human tutor were sitting next to the student, the tutor would provide frequent feedback about whether the student is on the right track. Knowledge Avatars™ provide the feedback which acts to encourage the student to continue learning.

Knowledge Avatars™ have a pedagogy knowledge domain built into them. The Pedagogy Master™ is itself a Knowledge Avatar™ about what constitutes great teaching. The information in a Knowledge Avatar™ is not presented in any ad-hoc way. Rather, it is structured to enhance its learnability. The knowledge's structure is made visible to the learner in the form of a knowledge map. Being able to see the complete map of the body of knowledge that they are about to learn is similar to seeing the forest for the trees. The knowledge map allows them to see each concept and how they relate to other concepts in the new knowledge world they are about to enter. Each concept is taught with the idea of providing a good generalization of the concept, ample examples, activities to test the learner's knowledge, immediate knowledge of results from the activity, and then additional examples and activities to take care of any knowledge gaps. This learning loop, done for every concept, allows the student to move ahead, with confidence, that he or she has the prerequisites to tackle the next challenge presented to them in their learning experience.

Knowledge Avatars™ also produce a "flow" experience. In *Flow: The Psychology of Optimal Experience* by Mihaly Csikszentmihalyi, the flow experience is described as a state where the person is completely absorbed by an activity. This state, where the task is both challenging and rewarding, results in a suspension of time and a feeling of great elation. The essential ingredients to produce such absorption in a task include: 1) a feeling that the task is possible, 2) clear goals, 3) immediate feedback, and 4) a sense of having complete control over one's actions. These ingredients are incorporated into Knowledge Avatars™, making learning fun. A sad result of our institutionalized form of learning is that much of the fun is taken out of learning. Knowledge Avatars™, whether they are used in an institution, or by a self-directed learner, enhance the learning experience by incorporating the key ingredients that produce flow.

Knowledge Avatars™ are practical, results-oriented, online virtual experts that incorporate the expertise of masters. They are great teachers upon which is grafted whatever additional expertise your organization needs. By their very nature and structure, Knowledge Avatars™ can grow organically with your organization's needs, giving you the results you need.

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