Information Literacy or Inert Knowledge? Applying Key Principles of Cognitive Apprenticeship to the Library Instruction Session

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Applying Key Principles of Cognitive Apprenticeship to the Library Instruction Session

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Overview

- Information literacy, inert knowledge, inflexible knowledge, and incomplete knowledge
- The instruction paradigm vs. the learning paradigm; learner-centered teaching; active learning
- Cognitive apprenticeship: modeling, coaching, scaffolding, articulation, reflection, & exploration
- Delivering the goods: an engaging, hands-on session that enables the student to acquire vital information-seeking skills
Information Literacy

“To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.”

ACRL Information Literacy Competency Standards for Higher Education

1. The information literate student determines the nature and extent of the information needed.
2. The information literate student accesses needed information effectively and efficiently.
3. The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
4. The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.
5. The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

AASL Standards for the 21st Century Learner

1. Learners use skills, resources, & tools to inquire, think critically, and gain knowledge.
2. Learners use skills, resources, & tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.
3. Learners use skills, resources, & tools to share knowledge and participate ethically and productively as members of our democratic society.
4. Learners use skills, resources, & tools to pursue personal and aesthetic growth.

What is Inert Knowledge?

- “Theoretical ideas should always find important applications within the pupil’s curriculum. This is not an easy doctrine to apply, but a very hard one. It contains within itself the problem of keeping knowledge alive, of preventing it from becoming inert, which is the central problem of all education.”

- Inert knowledge is learning that cannot be used to solve novel problems.

What is Inflexible Knowledge?

Knowledge that “cannot be applied to new but similar situations.”

What is Incomplete Knowledge?

- Knowledge that is “overly general or the brittle product of rote learning.”

The Instruction Paradigm (Traditional)

“The primary learning environment for undergraduate students, the fairly passive lecture-discussion format where faculty talk and most students listen, is contrary to almost every principle of optimal settings for student learning.”

The Learning Paradigm

Our purpose is to “create environments and experiences that bring students to discover and construct knowledge for themselves, to make students members of communities of learners that make discoveries and solve problems.”

Learner-Centered Teaching

- Involving students in firsthand learning
- Giving students choices about and control of their learning
- Teaching students life-long learning skills
- Promoting the relevance of learner-centered teaching

Active Learning

“The process of having students engage is some activity that forces them to reflect upon ideas and how they are using those ideas.”

Cognitive Apprenticeship

- Modeling
- Coaching
- Scaffolding
- Articulation
- Reflection
- Exploration

Modeling

- “Teacher performs a task so that students can observe.”

- This process “involves an expert performing a task so that the students can observe and build a conceptual model of the processes that are required to accomplish it.”

Coaching

- “Teacher observes and facilitates while students perform a task.”
- This process “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.”

Scaffolding

- An “adult controlling those elements of the task that are essentially beyond the learner’s capacity, thus permitting him to concentrate upon and complete only those elements that are within his range of competence.”

Scaffolding

- “Teacher provides supports to help the student perform a task.”
- “Fading involves the gradual removal of supports until students are on their own.”

Cognitive Apprenticeship

- Modeling, coaching, and scaffolding comprise the core of cognitive apprenticeship.
- The application of these three concepts in the classroom by teachers helps “students acquire an integrated set of skills through processes of observation and guided practice.”

Articulation

- “Teacher encourages students to verbalize their knowledge and thinking.”
- This process “includes any method of getting students to explicitly state their knowledge, reasoning, or problem solving processes in a domain.”
- “Teachers can encourage students to articulate their thoughts as they carry out their problem solving.”

Reflection

- “Teacher enables students to compare their performance with others.”
- More specifically, the others might include “an expert, another student, and ultimately, an internal cognitive model of expertise.”

Exploration

- “Teacher invites students to pose and solve their own problems.”
- “Enabling them to do exploration is critical, if they are to learn how to frame questions or problems that are interesting and that they can solve.”

Delivering the goods

- Collaborate with disciplinary faculty members.
- Confirm that students have an assignment—and a topic.
- Get to class early.
- Engage the students in conversation.
- Find out their names, their topics, and how far along they are in the process.
- Ask the students about their expectations for this session (objectives).
Delivering the goods

- Line up some volunteers to “drive.” In other words, have the students do the modeling.
- Use the students’ topics for the demos.
- Ask them where they would like to begin the session. Begin there.
- Offer lots of help, initially (scaffolding).
- Explain the coaching process. Tell them why this session is structured this way.
Delivering the goods

- Ask them a lot of questions and encourage them to do the same—(coaching).
- Ask the driver to tell you why he or she made particular choices (articulation).
- Ask other students how they would do the same search; make suggestions (reflection).
- Leave time for them to work on their own topics (exploration).
Delivering the goods

- Bring chocolate.
- Have some fun.
Bibliography


Bibliography


Questions?

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Thank you for attending

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