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Cognitive Apprenticeship Strategies for the Media Literacy Classroom

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Abstract

Inspired by the apprenticeship model of teaching and learning, two instructors report on their efforts to place current events at the center of a semester-long media and information literacy course. They discuss strategies to harness curiosity about contemporary topics (e.g., misinformation, climate change, algorithms, right-to-repair, blockchain, artificial intelligence, etc.), and create engagement-driven course content. The paper provides concrete examples of activities and assignments used to situate learning in real-world contexts and build students' confidence in navigating information independently. This case study offers insights for other educators seeking to apply cognitive apprenticeship principles to media and information literacy instruction

Keywords: media literacy, information literacy, cognitive apprenticeship, instructional design, pedagogy

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Cognitive Apprenticeship Strategies for the Media Literacy Classroom

We were tasked with developing a one-credit-hour, 15-week media and information literacy course titled IMS 202: Information Studies & Digital Citizenship. In designing this course, we were inspired by the cognitive apprenticeship model of teaching and learning, as described by Collins et al. (1991). This model guided our instructional approach in the classroom, enabling us to craft a course that integrated the theoretical foundations of media and information literacy with its practical applications. Our goal was to blend theoretical concepts and practical skills, enabling students to become more familiar with current information topics. This included understanding how information is produced, navigating through an overwhelming volume of information, and grasping how information influences our worldview.

We encouraged students to contemplate their role in the information world and how they could best explore it during our semester together. Aligning with the cognitive apprenticeship model, our objectives were designed to convey to students that we would work collaboratively toward achieving our goals. Our aim was for the students to leave the class with transferable skills for evaluating and seeking reliable information: skills applicable both inside and outside the classroom, and throughout their lives. We involved students in setting the course goals. We reviewed the course objectives with them and encouraged them to identify the topics in the syllabus that interested them the most or the least. They were also invited to suggest topics for exploration. The students expressed enthusiasm for subjects like misinformation and disinformation, media effects, algorithms, and information privilege. They were also eager to learn about TikTok's algorithm and non-fungible tokens (NFT), topics which we subsequently incorporated into the course schedule. By leveraging current events and creating real-world tasks, we aimed to tap into our students' interests and passions, fostering high engagement and ensuring that the course content remained dynamic and relevant.

IMS 202: Information Studies & Digital Citizenship is offered by the Department of Emerging Technology in Business and Design. This department explores technology's impact on society, combining expertise from business, design, data science, engineering, programming, arts, and humanities. The course examines ethical and legal issues in the

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information age, developing students' awareness of information's societal impact. It teaches critical analysis of everyday technologies and encourages reflection on students' roles as knowledge creators. Open to all students without prerequisites, the course attracts a mix of undergraduates across years. Co-designers Nate Floyd and Jaclyn Spraetz are both instruction librarians at Miami University. Floyd, a student success librarian, supports first-year students and holds graduate degrees in journalism, library science, and mass communication. His research focuses on media history and news literacy. Spraetz, an information literacy librarian, has earned graduate degrees in education and library science and previously taught high school English. She specializes in information literacy outreach and instruction. Both Floyd and Spraetz are members of the Libraries' Learning & Engagement department, which promotes information literacy as an integral part of the Miami University experience.

In preparation for developing this course, we studied "Cognitive Apprenticeship: Making Thinking Visible" (Collins et al., 1991) and consulted the *Framework for Information Literacy for Higher Education* (Association of College and Research Libraries, 2015). We also monitored current events, seeking news stories and topics that could captivate students and provide valuable teaching opportunities. In this article, we introduce the cognitive apprenticeship model of teaching and learning and demonstrate how we adapted it to our media and information literacy course, Information Studies & Digital Citizenship. Readers can access a copy of the syllabus at http://hdl.handle.net/2374.MIA/6992.

The Cognitive Apprenticeship Model

A traditional apprenticeship is a training program that blends on-the-job training with classroom learning (Aldrich, 2014; Douglas, 1968; Wolek, 1999). It is designed to provide individuals with practical experience and skills in a specific trade, craft, or profession. Apprenticeships are prevalent in skilled trades like carpentry and welding as well as sectors such as healthcare, IT, and finance (ASVAB Career Exploration Program, n.d.). In 1991, an article titled "Cognitive Apprenticeship: Making Thinking Visible" introduced a new approach called the cognitive apprenticeship model (Collins et al., 1991). The authors critiqued conventional pedagogical methods and suggested adapting the traditional apprenticeship model to classroom settings to address the flaws they identified in standard teaching practices.

Since then, cognitive apprenticeship has become a well-known, specialized form of apprenticeship designed to develop problem-solving and critical thinking skills (Berryman, 1991; Billett, 2016; Collins et al., 1991; Dennen & Burner, 2008; Fuller & Unwin, 2011). This approach features a mentor who guides, supports, and provides feedback to the apprentices, helping them develop cognitive abilities in a specific area. The cognitive apprenticeship model continues to be widely recognized and utilized in the field of education (Matsuo & Tsukube, 2020). It has been applied in a variety of educational settings, including among middle school students (Akhavan & Walsh, 2020; De La Paz et al., 2024; Lee et al., 2021), undergraduate students, (Corradino et al., 2021; Ploran et al., 2023; Sánchez-Peña et al., 2023), and graduate students (Anderson et al., 2024; Doucette et al., 2020; Minshew et al., 2021).

Collins et al. (1991) outlined significant differences between the traditional apprenticeship model and cognitive apprenticeship. To transform the former into the latter, educators must reveal hidden cognitive processes to students and contextualize abstract tasks in real-world situations to enhance students' understanding of their relevance. In practicing the cognitive apprenticeship model effectively, both the teacher and the student need to verbalize their thoughts, making their mental processes visible to each other. This approach requires the teacher to transform abstract concepts and specific skills into solutions for real-world problems.

Collins et al. (1991) also identified four critical dimensions of a learning environment in their cognitive apprenticeship model: content, method, sequence, and sociology (see Table 1). These dimensions form the foundation for applying cognitive apprenticeship in educational contexts. The first part, content, is about what students need to learn, including facts and problem-solving tricks. The second part, method, describes how teachers help students learn by showing them how to do tasks, guiding them, and encouraging them to think about their work. The third part, sequence, is about the order of learning activities, starting with the big picture and slowly making tasks harder. The last part, sociology, focuses on the social side of learning, where students work on real-world tasks together and help each other learn. All these parts work together to create a learning environment that helps students become skilled like experts.

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Table 1: Four Dimensions of the Cognitive Apprenticeship Model

Content	Method	Sequence	Sociology
• Domain knowledge • Heuristic strategies • Control strategies	• Modeling & coaching • Scaffolding • Articulation & reflection • Exploration	• Global before local • Increasing complexity • Increasing diversity	• Situated learning • Community of practice • Intrinsic motivation • Cooperation

Our paper is structured around these four dimensions, examining each in detail in the next four sections. For each dimension, we first define the term as presented in the original study and discuss Collins et al.'s intended meaning. We then explain how we implemented that specific dimension in our course structure. This approach allows us to provide a comprehensive overview of how we applied the cognitive apprenticeship model to our class, grounded in the original framework proposed by Collins et al. We demonstrate how our course design aligns with and builds upon the cognitive apprenticeship model, offering insights into its practical application in a modern educational setting.

Content: Types of Knowledge Required for Expertise in IMS 202

In the cognitive apprenticeship model, the content dimension is fundamental and encompasses the diverse types of knowledge and skills crucial for attaining expertise. It includes an in-depth grasp of specific content, such as facts, concepts, and procedures as well as implicit or tacit knowledge, involving areas like problem-solving strategies, decision-making processes, and metacognitive skills. The content dimension focuses on the subject matter and expertise that apprentices are expected to learn and master. There are three key content areas that students must master: domain knowledge, heuristic strategies, and control strategies (Collins et al., 1991). We introduced students to the types of domain knowledge, heuristic strategies, and control strategies one must master to be media and information literate.

Domain Knowledge

In the context of reading, domain knowledge includes elements like vocabulary, syntax, and grammar rules (Collins et al., 1991). To read efficiently students must grasp those specific types of domain knowledge. In our media and information literacy class, domain knowledge began with defining concepts such as data, information, and knowledge. We then progressed to understanding misinformation and disinformation. Aligning with our apprenticeship model and its real-world application, we introduced more abstract, relatable

concepts like "truthiness," popularized by comedian Stephen Colbert, and "bullshit," as explained by Harvard philosopher Harry Frankfurt. Truthiness refers to the quality of seeming or being felt to be true, even if not necessarily true. Colbert introduced this term in the context of political satire, emphasizing how some people rely more on their intuition, beliefs, or wishes, rather than facts, evidence, or logical reasoning (Cooke, 2017). According to Frankfurt (2005), bullshit refers to statements made without regard to their truthfulness. Frankfurt distinguishes it from lying, noting that a liar is conscious of the truth and seeks to hide it, whereas a bullshitter is indifferent to the truth and may not even know or care what the truth is. The essence of bullshit, in Frankfurt's view, is not that it is false, but that it is phony. The bullshitter's main concern is not the truth or falsehood of their statements, but rather the effect they hope to achieve by making them. This concept is often used in the context of public discourse, where people may make statements to persuade or impress, without any commitment to the truth of what they are saying (Frankfurt, 2005). Following our introduction of these concepts, we engaged students in readings and discussed a Russian disinformation campaign, encouraging them to draw connections between these concepts, the way in which public officials comment on policies or events, and how the media covers it all.

Heuristic Strategies

In mathematics, a common problem-solving heuristic is to seek a solution for simple cases first and then check whether that solution can be applied more broadly (Collins et al., 1991). In our media and information literacy class, heuristic strategies involved activities like "How to Read a Popular Press Article" and "How to Read a Scholarly Article." Popular press articles are organized in certain ways (summary news lead, nut graph, quotes, attributions, etc.), as are scholarly articles (abstract, introduction, literature review, methods, findings, etc.). These activities are designed to help students comprehend how different types of information are structured, thereby facilitating their reading and understanding of the content. If students can learn how to read a scholarly article efficiently, we hope they can apply that skill in other contexts and courses.

Control Strategies

In mathematics, a control strategy for tackling complex problems involves shifting the focus to a different part of the problem when you encounter a roadblock (Collins et al., 1991). Similarly, if you do not understand a passage, reading comprehension strategies like re-

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reading a passage or taking notes are control strategies. Thus, a control strategy is an intervention used to course-correct during the learning process when we do not get the results we seek. In a media and information literacy cognitive apprenticeship, examples of control strategies include narrowing search results or modifying keywords when initial search attempts do not yield the desired results.

Method: Ways to Promote the Development of Expertise in IMS 202

In the cognitive apprenticeship model, method represents the second key aspect. This dimension focuses on the various approaches used to foster the growth of expert skills, including the instructional tactics and methods used to aid the learning process. This encompasses how the material is presented, structured, and conveyed to learners. Common methods in a cognitive apprenticeship model include modeling, coaching, scaffolding, and offering opportunities for practice and reflection. These methods aim to reveal the thought processes of experts and assist learners in enhancing their cognitive skills (Collins et al., 1991). Through these methods, we demonstrate to students how to approach problems and find solutions.

Modeling & Coaching

While we guided students through numerous activities in our course, one activity particularly suited for modeling and coaching was an exercise on lateral reading, adapted from the Stanford History Education Group (Wineburg & McGrew, 2019). Lateral reading is a technique based on professional fact-checking methods. The paper "Lateral Reading and the Nature of Expertise: Reading Less and Learning More When Evaluating Digital Information" argues that the most effective way to assess the credibility of an unfamiliar information source is to open a new tab (or move laterally) to gather more information about the source (Wineburg & McGrew, 2019). As instructors, we demonstrated this process step by step. We vocalized and articulated our thoughts, ensuring our reasoning was transparent to the students. When prioritizing certain results over others in a Google search, we also made sure to explain our rationale.

Scaffolding

Scaffolding, like modeling and coaching, is a key method in the cognitive apprenticeship model. In the field of education, scaffolding refers to the technique of educators providing temporary support to students as they learn new skills or concepts (Collins et al., 1991). This

is comparable to the scaffolds used in building construction, offering assistance until the learners can sustain themselves. Scaffolding in teaching involves breaking down the learning process into smaller, more manageable segments and providing guidance, assistance, or resources at each step. In our class, we introduced the concept of infographics and reviewed examples of both effective and ineffective ones. We discussed what makes a good infographic, focusing on its characteristics and functions. Then we tasked students with finding and analyzing their own examples of effective and ineffective infographics. We thus provided temporary support as they learned what constitutes an effective infographic and how to identify one.

Articulation & Reflection

Articulation and reflection are two additional methods in the cognitive apprenticeship model, falling under the method dimension. Articulation involves strategies to lead students to voice and refine their understanding of concepts and procedures, and reflection enables them to compare their problem-solving processes with those of experts and peers (Collins et al., 1991). We utilized Google Forms to create pre-class tickets and post-class exit tickets. We shared these online surveys, consisting of multiple-choice and open-ended questions, before and after class. They played a crucial role in promoting student articulation and reflection. Pre-class tickets served multiple purposes: they encouraged student learning, helped us assess what the students had absorbed, and aided us in planning discussion topics and activities. Exit tickets, on the other hand, were essential for sparking the reflection process among students and instructors. These tools helped us gauge our teaching effectiveness and the depth of students' understanding, enabling us to continuously improve our educational approach.

Exploration

Exploration is the final method in the cognitive apprenticeship model. In this context, exploration is a method that encourages student autonomy in executing expert problem-solving processes and defining or formulating the problems to be solved (Collins et al., 1991). This method involves teaching exploration strategies as part of the general learning strategies. It includes setting general goals for students and encouraging them to focus on specific subgoals of interest, or to revise the general goals if they find a more compelling goal to pursue. We began encouraging exploration in the first session when we invited students to suggest topics for us to explore. In the final project, we kept it quite open-ended,

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allowing students to dig deeper into the class topics they were most interested in. This overall approach was designed to encourage students to engage in exploration by independently researching topics and resources.

Sequence: Keys to Ordering Learning Activities in IMS 202

The third dimension, sequence, refers to the order and structure of the learning activities. Sequencing includes first giving students a holistic picture of what they will be learning. Next, the instructor breaks down complex tasks or skills into smaller, manageable components while providing a progression of tasks that gradually increase in complexity and challenge (Collins et al., 1991). This enabled our students to build upon their prior knowledge and develop expertise incrementally. This will also make it easier for students to independently practice their new skill sets outside of the class.

Global Skills Before Local Ones

On the first day of class, we shared the course outline with students to clearly communicate the tasks we expected of them. We divided the course into three distinct units, sequenced to prioritize global skills before local skills. The first unit focused on current events related to the state of information today, where students explored topics such as algorithms, digital surveillance, blockchain, artificial intelligence, and the nuances of misinformation and disinformation. This foundational knowledge set the stage for the second unit, where we dug deeper into the presence and impact of misinformation and disinformation in online content, data visualizations, and research studies featured in popular news media. The objective was to trace and understand these issues in various formats. The third unit aimed to integrate the skills acquired in the first two units, guiding students to contemplate their role in the world of information. This included examining how the information we interact with shapes our understanding of the world and influences our interest in various events and issues. In this final unit, students engaged in numerous learning activities involving news literacy, applying and reflecting on the knowledge and skills they had developed.

Increasing Complexity

We integrated individual learning tasks through a blend of formative and summative assessments. Activities increased in complexity each week while reinforcing the skills and knowledge acquired in previous lessons. These weekly tasks also prepared students for the three summative assignments, one concluding each unit. Besides identifying misinformation

and disinformation, our goal was to make students understand what defines an expert and how to locate experts, particularly when gathering credible sources. We taught the distinct differences between journalistic work found in popular media and academic work published in scholarly journals. We discussed the unique ways legacy and emerging media companies produce and disseminate news, contrasting their approaches with academic publishing. We emphasized the importance of specialized training, professional credentials, and the varying levels of rigor in the review process across these different domains. The discussion highlighted how traditional news outlets, digital-native platforms, and scholarly publications each have their own methods and standards for creating and distributing information.

Students composed summaries of the resources they discovered, which became more intricate as we introduced new research techniques during the course. The summative evaluations began with students identifying a reliable source, then finding a source authored by an expert, and finally, locating at least three credible sources that thoroughly explored a topic discussed in class. Beyond summarizing, students were also required to articulate why their chosen sources were credible before they shared these resources with their peers.

Increasing Diversity

When the creators of the cognitive apprenticeship model discussed increasing diversity, they meant the variety of methods through which an instructor can reinforce the skills being acquired by students (Collins et al., 1991). By presenting students with a range of diverse and distinct challenges, instructors offer them the opportunity to determine which skill is appropriate for a specific scenario. In our class, students were encouraged to decide which kinds of domain knowledge to use and to implement control strategies that assist them in troubleshooting within the scope of media and information literacy. For example, students could draw on domain knowledge acquired earlier in the semester (concepts like misinformation, disinformation, truthiness, and bullshit) to better analyze political rhetoric. Additionally, they could implement control strategies learned previously, such as lateral reading, to evaluate and compare conflicting claims.

Sociology: Social Characteristics of Learning Environments in IMS 202

Sociology is the last dimension in the apprenticeship model and focuses on the social aspects of learning. This dimension emphasizes the importance of social interactions to foster new

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ideas and shared learning experiences in a learner community of practice (Collins et al., 1991). In the cognitive apprenticeship model, learners are encouraged to engage in collaborative activities such as discussions, group projects, and peer feedback. The social dimension includes the role of the expert or master practitioner who serves as a mentor, providing guidance, feedback, and support to the apprentices. When planning this course, we wanted the class to be dynamic, allowing students to share their knowledge and expertise with their peers and articulate their unique connections to the course topics. We aimed to bring the real world into our classroom while creating a space conducive for students to share their ideas, questions, and experiences in our shared learning environment.

Situated Learning

We felt it was crucial to ensure that our class was centered on real-world tasks. We engaged students in analyzing the pros and cons of information technologies (which sparked a lively debate on algorithms), interpreting current events through news, assessing online information, understanding data visualizations and research studies, and recognizing the significance of including marginalized voices and perspectives in news coverage. Every lesson was designed to teach students how to locate information in real-life contexts. By working on these skills in the classroom, we aimed to build students' confidence in independently navigating information. We encouraged students to reflect on classroom lessons to understand how they could apply their learning in real-world situations.

We introduced students to real-world issues in information consumption, aiming to equip them to independently handle complex information tasks. Through these lessons, they progressively improved in critically analyzing media messages and information sources while nurturing their interest in civic involvement. For example, students learned to use framing theory to scrutinize news story coverage and assess whether they were receiving a comprehensive understanding of the topic. Framing is the process of structuring and presenting information in a way that guides audience interpretation and understanding of an issue or event, often by highlighting certain aspects while downplaying others (Gamson & Modigliani, 1987). In a specific lesson, students analyzed news coverage of the U.S. housing crisis, observing how audience perceptions might vary based on whether stories focused on individual incidents or provided a wider context (Iyengar, 1994). After completing this lesson, students developed a deeper appreciation for considering context in news stories. In reflecting on the lesson, students expressed how they planned to apply this understanding in future interactions with news stories.

Community of Practice

In traditional apprenticeships, Collins et al. (1991) observed that apprentices learn not in isolation but rather in a workshop setting, where they learn from and educate their peers. We aimed to create a classroom environment that mirrored this concept of an apprentice's workshop. Collins et al. (1991) noted that a community of practice must be nurtured through common projects and shared experiences. To encourage this, we engaged students in regular polls, pair-based activities, and class discussions centered on their queries. We incorporated reciprocal teaching methods for their summative projects to promote shared learning experiences. Reciprocal peer teaching is an active learning method where students alternate roles as teachers and learners, explaining concepts and directing activities for their classmates under the guidance of the instructor (Muñoz-García et al., 2013).

Communities of practice cannot be imposed, wrote Collins et al. (1991), but they can be cultivated through shared projects and experiences. Accordingly, we facilitated common experiences through polls, collaborative activities, and discussions driven by student-generated questions. Before each class, students had to complete assigned readings and submit their questions for the upcoming discussion (the pre-class ticket we mentioned earlier). The students consistently came to class with insightful questions. Initially, we used both our own questions and students' questions to guide class discussions. As the semester progressed, we found that prioritizing students' questions more effectively engaged students and encouraged their sense of ownership for their learning. We conducted regular polls in class to anonymously gather and compare students' opinions, highlighting similarities and differences. Students expressed their appreciation for these polls that, together with collaborative activities and student-driven discussions, fostered student camaraderie which was evident in the class discussions.

For the summative assignment, students wrote about their chosen reliable sources and shared their findings in roundtable discussions. We employed reciprocal teaching in this context, with students acting as experts on a reliable source they discovered and presenting it to the class. Students were required to provide details about their selected article, highlight key points they wanted to discuss with their peers, and pose a discussion question based on the article. Fellow students were encouraged to inquire further about the article and engage with the discussion questions. Each student had five to ten minutes to share their article and lead the discussion before passing the floor to the next presenter. We designed this format

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to allow students to participate in a manner that suited them best, whether by speaking out loud or writing responses in a shared Google Doc. The top of the document featured student names with links to their articles, main points, and discussion questions, creating a reference point that students could revisit throughout the course.

Intrinsic Motivation

We pondered this question throughout our lesson planning: How can we make students care about the material? We observed that engaging student interest was straightforward because the course focus on misinformation and disinformation likely attracted students with a passion for the subject. We aimed to expand upon their existing interest and introduce them to related concepts and ideas they might not have considered previously. We also aimed to teach them how to exercise agency when evaluating information and to bolster their confidence in identifying reliable sources and sharing them with others.

As we planned the course, it was important to us to ensure that students found it valuable and that we fostered an environment where they could openly share their experiences, interests, and needs. Our introductory survey of students provided a platform for them to communicate any specific support they might need for their individual learning, articulate their personal goals for their course participation, describe strategies they would use to achieve these goals, and suggest topics students wished to be included in the class.

We incorporated reflection questions at the end of each class to help students connect the lessons to their lives. For example, in a lesson concerning the representation of marginalized voices in the news, students examined the distinct insights gained from articles written by individuals directly affected by an issue or event, compared to those authored by third parties. They were prompted to consider what might be overlooked when not reading accounts from those most impacted. These reflection questions asked students to consider actively seeking out marginalized voices and describe the strategies they would use to do this in the future. We wanted them to reflect on the issues they were passionate about and how they approached finding the perspectives of those most affected by these issues.

Cooperation

Within the framework of classroom sociology, we highlighted the significance of collaboration, especially in encouraging cooperative problem-solving. Collins et al (1991) stressed the benefits of students working in unison, serving as a powerful motivator and a means to enhance learning. We encouraged collaboration by involving students in setting

course objectives and selecting topics. Our challenge to students to improve themselves merged cooperation with competition, as they collaborated within groups and competed across groups as part of our classroom activities. This strategy was ideal for teaching complex tasks and fostering a vibrant learning atmosphere.

Conclusion

We found that our application of the cognitive apprenticeship model to our media and information literacy course, IMS 202: Information Studies & Digital Citizenship, provided us with a refreshing and engaging approach to teaching critical skills in the modern information landscape. We were able to create a learning environment that closely mimicked real-world scenarios and fostered students' development of practical, transferable skills.

We structured our course around the four dimensions of content, method, sequence, and sociology. The content dimension allowed us to introduce students to essential domain knowledge, heuristic strategies, and control strategies necessary for navigating the complex world of information. Our method-focused approach, incorporating modeling, coaching, scaffolding, articulation, reflection, and exploration, provided students with the tools to develop expert-like skills in evaluating and interpreting information. The careful sequencing of learning activities, their increasing complexity and diversity, and our movement from global to local skills ensured that students could build on their knowledge incrementally and apply their skills to increasingly challenging tasks. Perhaps most importantly, the sociological dimension of our course created a vibrant community of practice, where students learned not just from us as instructors, but from each other through collaborative activities, discussions, and peer teaching. This approach fostered intrinsic motivation and cooperation, making the learning process more engaging and relevant to students' lives and interests.

The success of this cognitive apprenticeship approach in our media and information literacy course suggests its potential for wider application in similar educational contexts. As the information landscape continues to evolve rapidly, the need for these skills becomes increasingly crucial. Our experience demonstrates that by situating learning in real-world contexts, encouraging exploration and reflection, and fostering a collaborative learning

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environment, we can effectively prepare students to navigate the complexities of the modern information age.

Reflecting on our class, we identified a few areas for improvement, particularly in reciprocal teaching. We occasionally had small groups give informal "lightning talks" about their work, focusing on their process rather than results. These talks were less about what students found and more about how they found it, providing a chance for students to articulate their thought processes. This proved effective, and we plan to increase these opportunities in the future. One of the most beneficial aspects of the cognitive apprenticeship approach was the emphasis on articulation and reflection, enabled through the use of pre-class tickets and exit tickets. These tools allowed us to gauge student comprehension and interest, especially for potentially sensitive topics. We were able to assess student understanding, identify areas of interest or concern, and prepare for class discussions. It also helped us ensure all students could participate comfortably, making classroom discussions less intimidating for us and the students. This strategy created a more relaxed learning environment where everyone felt more at ease while engaging with the material.

Future research could explore the long-term impact of this approach on students' information literacy skills and their ability to apply these skills in various academic and professional contexts. Researchers might also consider how this model could be applied to library instruction that is not tied to a for-credit course. Additionally, investigating how this model can be adapted for online or hybrid learning environments could provide valuable insights for educators facing the challenges of remote instruction.

The cognitive apprenticeship model offers a promising framework for teaching media and information literacy, equipping students with the skills and confidence to become discerning consumers and producers of information in an increasingly complex digital world. As educators continue to grapple with the challenges of preparing students for a rapidly evolving information landscape, the cognitive apprenticeship model provides a flexible and engaging methodology that can be adapted to various educational contexts. Ultimately, by fostering critical thinking, self-reflection, and adaptive learning strategies, the cognitive apprenticeship approach not only enhances media and information literacy but also cultivates lifelong learning skills essential for success in the 21st century.

References

Akhavan, N., & Walsh, N. (2020). Cognitive apprenticeship learning approach in K-8 writing instruction: A case study. *Journal of Education and Learning, 9*(3), 123–142. https://doi.org/10.5539/jel.v9n3p123

Aldrich, R. (2014). The apprentice in history. In P. Ainley & H. Rainbird (Eds.), *Apprenticeship: Towards a new paradigm of learning* (pp. 14–24). Routledge.

Anderson, J., Berryman, K., Dowd, J., Kenny, C., Luib, P., Nkrumah, I., Reilly, L., Retano-Anderson, A., Ronquillo, K., Wadhawan, A., & Birnbaum, S. (2024). Student reflections on learning in a doctoral-level writing course. *Nurse Educator, 49*(5), 284–288. https://doi.org/10.1097/NNE.0000000000001606

Association of College and Research Libraries. (2015). *Framework for information literacy for higher education.* https://www.ala.org/acrl/standards/ilframework

ASVAB Career Exploration Program. (n.d.). *What is an apprenticeship and why should you consider one?* https://www.asvabprogram.com/media-center-article/98

Berryman, S. E. (1991). Designing effective learning environments: Cognitive apprenticeship models. *IEE Brief*. (ED337689). ERIC. https://eric.ed.gov/?id=ED337689

Billett, S. (2016). Apprenticeship as a mode of learning and model of education. *Education+ Training, 58*(6), 613–628. https://doi.org/10.1108/ET-01-2016-0001

Collins, A., Brown, J. S., & Holum, A. (1991). Cognitive apprenticeship: Making thinking visible. *American Educator, 15*(3), 6–11. https://www.aft.org/ae/winter1991/collins_brown_holum

Cooke, N. A. (2017). Posttruth, truthiness, and alternative facts: Information behavior and critical information consumption for a new age. *The Library Quarterly, 87*(3), 211–221. https://doi.org/10.1086/692298

Corradino, J., Gallagher, E. D., Scribner, E., Lazar, K., Brame, S., Fidler, M., & Murdoch, L. C. (2021, October 10–13). *Student experiences and perceptions of skill development in a multi-modal field course: Application of the cognitive apprenticeship framework* [Conference presentation abstract]. Geological Society of America Annual Meeting, Portland, OR, United States. https://doi.org/10.1130/abs/2021AM-370972

https://pdxscholar.library.pdx.edu/comminfolit/vol18/iss2/4
DOI: 10.15760/comminfolit.2024.18.2.4

De La Paz, S., Butler, C., Levin, D. M., & Felton, M. K. (2024). Effects of a cognitive apprenticeship on transfer of argumentative writing in middle school science. *Learning Disability Quarterly, 47*(2), 70–83. https://doi.org/10.1177/07319487221119365

Dennen, V. P., & Burner, K. J. (2008). The cognitive apprenticeship model in educational practice. In M. J. Spector, M. Driscoll, M. D. Merrill, J. van Merrienboer, & M. P. Driscoll (Eds.), *Handbook of research on educational communications and technology* (3rd ed., pp. 425–439). Routledge.

Doucette, D., Clark, R., & Singh, C. (2020). Professional development combining cognitive apprenticeship and expectancy-value theories improves lab teaching assistants' instructional views and practices. *Physical Review Physics Education Research, 16*(2), Article 020102. https://doi.org/10.1103/PhysRevPhysEducRes.16.020102

Douglas, P. H. (1968). *American apprenticeship and industrial education.* Columbia University Press. https://doi.org/10.7312/doug90234

Frankfurt, H. G. (2005). *On bullshit.* Princeton University Press.

Fuller, A., & Unwin, L. (2011). Apprenticeship as an evolving model of learning. *Journal of Vocational Education & Training, 63*(3), 261–266. https://doi.org/10.1080/13636820.2011.602220

Gamson, W. A., & Modigliani, A. (1987). The changing culture of affirmative action. In R. G. Braungart & M. M. Braungart (Eds.), *Research in political sociology*: *A research annual* (pp. 133–177). JAI Press.

Iyengar, S. (1994). *Is anyone responsible? How television frames political issues.* University of Chicago Press. https://doi.org/10.7208/chicago/9780226388533.001.0001

Lee, Y., Levin, D. M., & De La Paz, S. (2021). "Now I've seen what they can do": How implementing a cognitive apprenticeship can impact middle school science teachers' beliefs and practices. *Science Educator, 28*(1), 10–18. https://eric.ed.gov/?id=EJ1303123

Matsuo, M., & Tsukube, T. (2020). A review on cognitive apprenticeship in educational research: Application for management education. *The International Journal of Management Education, 18*(3), Article 100417. https://doi.org/10.1016/j.ijme.2020.100417

Minshew, L. M., Olsen, A. A., & McLaughlin, J. E. (2021). Cognitive apprenticeship in STEM graduate education: A qualitative review of the literature. *AERA Open, 7*(1). https://doi.org/10.1177/23328584211052044

Muñoz-García, M. A., Moreda, G. P., Hernández-Sánchez, N., & Valiño, V. (2013). Student reciprocal peer teaching as a method for active learning: An experience in an electrotechnical laboratory. *Journal of Science Education and Technology, 22*, 729–734. https://doi.org/10.1007/s10956-012-9426-4

Ploran, E. J., Overman, A. A., Lee, J. T., Masnick, A. M., Weingartner, K. M., & Finuf, K. D. (2023). Learning to learn: A pilot study on explicit strategy instruction to incoming college students. *Acta Psychologica, 232*, Article 103815. https://doi.org/10.1016/j.actpsy.2022.103815

Sánchez-Peña, M., Vieira, C., & Magana, A. J. (2023). Data science knowledge integration: Affordances of a computational cognitive apprenticeship on student conceptual understanding. *Computer Applications in Engineering Education, 31*(2), 239–259. https://doi.org/10.1002/cae.22580

Wineburg, S., & McGrew, S. (2019). Lateral reading and the nature of expertise: Reading less and learning more when evaluating digital information. *Teachers College Record, 121*(11). https://doi.org/10.1177/016146811912101102

Wolek, F. W. (1999). The skill development processes of apprenticeship. *International Journal of Lifelong Education, 18*(5), 395–406. https://doi.org/10.1080/026013799293630

https://pdxscholar.library.pdx.edu/comminfolit/vol18/iss2/4
DOI: 10.15760/comminfolit.2024.18.2.4