



CHAPTER 2

The Choice is Yours:

Guiding Graduate Students to Construct Meaningful and Motivating Learning Goals

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Introduction

As adult learners, graduate students often bring rich life and work experiences to their studies. These students may have a wealth of experience in the field but may also be returning to academia for the first time in several years. Librarians who work with graduate students may struggle to find ways to engage students' lived experiences, show them the relevance of information literacy, speak openly about their gaps in knowledge and literature searching, and build confidence in new skills and ways of thinking. Very little literature exists addressing motivation as it relates to information literacy for graduate students. Much of the work on motivation in education focused on children and young adults prior to Knowles' pivotal work on andragogy in the 1970s. Knowles' work represented one of the first formal departures from a passive banking model, wherein students were viewed as knowledge repositories,¹ and toward more active, participant-centered learning. This work emphasizes the need for learners to see the relevance and importance of the material they are to learn (aligning with expectancy-value theory) and to connect this relevance with problems or opportunities in their own lives.²

Grounded in adult learning theory and drawing on goal setting theory, this chapter suggests best practices for librarians interested in using learning goals as a motivational tool during instruction and reports on my use of

student-defined learning goals in an exploratory study with a small group of education PhD students. In this chapter, I will explore students' reflections on their use of learning goals to improve their motivation and consider the related literature.

Related Literature

Needs of Education Graduate Students

Beyond deeper subject expertise, graduate students' needs differ from those of undergraduates. The needs of education graduate students were the particular focus of the small study described in this chapter. In education, graduate students may be returning to school after years spent teaching and may still be working full-time while taking courses or taking distance classes. In their research on outreach to graduate students, Cannady, King, and Blendinger used reference data to identify several challenging areas their education graduate students faced, including lack of awareness of tools like Google Scholar and subject-specific databases, difficulty discerning among format types, limited time, and distance from campus.³ These authors found success in outreach methods such as orientations, flexible consultation scheduling during evenings and weekends, LibGuides, and faculty sharing librarian contact information.⁴ They also emphasized the importance of keeping in mind the six assumptions for adult learners, based on Knowles' andragogy framework.⁵ The six assumptions are paraphrased as (1) adults need to know why the learning is important, (2) adults need to be self-directed, (3) adults have their own life experiences, self-identities, mental models, and biases, (4) adults are ready to learn what they recognize they need to know, (5) adults are oriented toward problem-based or life-based learning that can be applied to solve problems or improve performance, and (6) adults have their own internal motivations and desires in addition to external motivators like grades or salary raises. While these assumptions are valuable for all college students, they may be particularly appropriate for graduate students in professional programs or who are juggling work and family priorities.

In their phenomenographic research, Blummer, Watulak, and Kenton identified similar barriers for education graduate students.⁶ Their survey findings highlighted students' feelings of uncertainty and confusion about where to begin searching and which search tools were best.⁷ Their interview findings showed that while students' research processes included identifying their topic, finding related sources, and developing a final product, students often revisited these steps rather than moving through them linearly.⁸ The researchers noted that convenience was important to students, whether in

full-text online access or in use of public or academic libraries close to home or that they were previously familiar with.⁹ In addition to these needs, library anxiety may impact graduate students in education and other disciplines. Studies demonstrate that when students have high levels of library anxiety, they have lower levels of perceived self-competence and are more likely to procrastinate or avoid aspects of their research, with the result of lower educational outcomes.¹⁰

Goal Setting Theory

Goal setting can be a way of involving adult learners in the learning process and connecting material to their interests.¹¹ Goals are a key part of both expectancy-value theory and social cognitive theories of motivation; they diverged from earlier mechanistic views of human behavior and motivations.¹² Effective goals provide focus, direction, accountability to self and others, and a way to mark progress, and research indicates goals may also be linked to positive well-being.¹³ Locke and Latham offer six summary points related to their many years of work on goal setting:

1. People use past experiences to help them in achieving a newly set goal.
2. If an individual is unable to correlate a goal with a past experience, they will draw from similar contexts and experiences to apply knowledge to the goal.
3. If a task is completely new to someone, they will spend time planning a strategy to help them achieve the goal.
4. Higher self-efficacy is associated with the increased likeliness of developing task strategies.
5. Specific, challenging learning goals yield better results than performance goals by preventing anxiety and performance pressure. When using learning goals, people often focus on finding effective strategies systematically rather than failing to perform or trying a range of effective/ineffective strategies rapidly.
6. Using high-performance goals can be effective when people are trained in a specific strategy. However, if people don't use the best strategy for a situation, their performance is likely to be worse.¹⁴

Instructors may want to consider how to help individuals set goals that are appropriately tailored for their interests and abilities, such as goals that have low-stakes of failure, and to consider whether team-based (rather than individual goals) would be more appropriate to encourage collaboration. Finally, instructors will want to maintain an awareness of individuals' intrinsic motivation levels;¹⁵ this could be achieved through regular check-ins or student self-assessments.

Goal orientation

Investigations into goals have also centered on goal orientation theory, a trait-based understanding of motivation, with performance orientation and mastery/learning orientation thought of as opposing pairs at either end of a continuum.¹⁶ Research has shown that with learning goals, “children are willing to risk displays of ignorance in order to acquire skills and knowledge” and are more likely to “analyze and vary their strategies.”¹⁷ In research with adults, individuals are also more likely to interpret constructive feedback more positively if they have a learning or mastery orientation.¹⁸ Performance goals, in contrast, are often associated with displays of skill, competence, or achievement,¹⁹ such as correctly solving a math problem in front of the class or meeting sales goals for a company’s quarterly report. While they can be valuable motivators and accountability tools, performance goals can be limiting when individuals are focused more on appearing competent or avoiding criticism than when they are focused on growth and learning.²⁰ They can even be associated with unethical behavior and competition in business environments.²¹

Learning goals

In the instructional design field, learning goals and objectives have been used for decades in order to help instructors and learners understand the scope of material to be learned.²² The types of learning goals discussed in instructional design focus on what learners are able to do at the end of instruction,²³ thus aligning more closely with performance or outcome goals as described in goal setting theory. This distinction is important for teaching librarians who are accustomed to using learning objectives or goals as part of lesson planning. In contrast to performance or outcome goals, a learning goal as defined in goal setting theory “frames the goal instructions in terms of knowledge or skill acquisition,” with greater emphasis on processes and progress rather than concrete outcomes.²⁴ There is evidence that encouraging a focus on learning goals can help college students focus on growth rather than exclusively extrinsic rewards or outcomes.²⁵ Intriguingly, Hoyert and O’Dell examined the learning goal or performance goal orientations of undergraduates and found that 52 percent of traditional-aged undergraduates were oriented toward learning goals, compared to 76 percent of the nontraditional group (defined in this study as students twenty-four years and older).²⁶ This may reflect adult students’ and graduate students’ maturity and focus on learning over or in addition to grades.

Properties of effective learning goals

What makes for well-written learning goals? Schunk identified three goal properties that can enhance or detract from the outcomes: goals should be

specific, relatively close or proximal (within, say, one semester rather than five years), and appropriately challenging.²⁷ Research has shown that students who set themselves challenging or difficult goals that are attainable may have a greater incentive to achieve the goal since the feeling of accomplishment would be greater than for an easier goal.²⁸ Latham and Seijts summarize four conditional variables which must be present in order for individuals to reach a goal successfully: (1) the goal must be within their ability level, (2) the resources to achieve the goal must be available, (3) the individual must be committed to the goal, and (4) the individual must have feedback on their progress toward the goal.²⁹ Learning goals work best when individuals are faced with acquiring new knowledge that is complex or takes time to learn and master.³⁰ Information literacy threshold concepts are ripe for learning goals since they are fundamentally complex, thorny, and transformative.³¹

One study has shown that when participants have pre-created goals assigned to them by others, their intrinsic motivation decreased, though a cause for the decrease was not fully understood.³² Other studies suggest that performance can be similar between self-set and assigned goals when the level of challenge is the same and the reason for the goal is understood.³³ Though the literature on learning goals has not yet borne out this theory, a connection between self-set goals and high goal commitment may exist. Perhaps learners are more likely to “buy-in” to their goals when they create them, have control over the goals or participation in setting them, or at least understand and believe in the reasons behind setting the goal.³⁴

Goal setting frameworks

Goal setting frameworks and advice abound in both practitioner-oriented and scholarly materials, blogs, and websites.³⁵ I found no evidence in the literature of empirically validated methods for instructing participants in creating their own learning goals, and the work of goal-setting theorists does not define a particular method.³⁶ In the scholarly literature, healthcare and mental health researchers have developed and validated a version of the SMART (Specific, Measurable, Assignable, Realistic, Time-related) goal-setting system for performance outcomes. The acronym, developed by Doran, is frequently adapted (variations in the acronym abound and have been expanded to SMARTER).³⁷ Researchers have explored SMART rubrics to evaluate goal setting quality and used these models in training with participants.³⁸ While SMART is widely used, it has been critiqued for not including affective components or environmental context.³⁹ SMART’s focus on specificity and measurability seem to be better aligned for performance rather than learning goals.

I explored a method called QUEST for learning goals, developed by Tim Gallwey during his individual coaching of business leaders. QUEST stands

for Qualities the individual would like to cultivate, Understandings they would like to improve, Expertise they would like to develop, Specific (such as a timeframe within the next few weeks), and Time they can reasonably commit to the goal.⁴⁰ Due to its flexibility and emphasis on growth rather than outcomes, an adapted version of the QUEST method was chosen for an exploratory study with graduate students who created their own learning goals for a literature review assignment.

Exploratory Study

This chapter contains qualitative findings related to learning goals from the exploratory study, with the following research questions: (1) How can information literacy instructors use learning goals as a motivational teaching tool? (2) How do education graduate students describe their interests in furthering their own information literacy practices through writing learning goals? Student participants attend a four-year public research institution in the Western United States and were recruited from a small graduate seminar offered in the education department. The total number of study participants was nine graduate students. Students were required to complete a major literature-based paper as 50 percent of their course grade. Though a small sample size ($n=9$) is not enough to generalize from, trends are noticeable and provide inspiration for further research and practice.

Table 2.1

Learning Goals Instructions

You may have had previous training or experiences with these skills in an academic or work context. You're encouraged to draw on these experiences as you complete the following questions, considering what you currently know and the areas you would like to focus on during the semester.

You will be asked to define 1 to 3 learning goals for yourself to focus on this semester. Think back on your experiences and strengths and think ahead to how you plan to use these types of research skills in the future. The questions below can be used to guide your planning. Keep goals specific enough to achieve within this semester rather than long-range goals that might need months or years to develop.

- Which qualities would you like to see more of in yourself as a researcher?
- What skills could you develop that would enable you to search the literature more effectively? What skills are you learning that you could apply to your present or future job?
- What would be helpful to develop within the next few weeks?
- How much time can you reasonably give to this goal?

Table 2.1 (continued)**Learning Goals Pre-Activity**

- When you finish your graduate program, in what kind of positions or work environment do you see yourself?
- In your career, how important will the following skills be?
 - Efficiently searching scholarly literature
 - Critically evaluating sources for credibility and reliability
 - Organizing, annotating, and synthesizing sources
- Tell me about your previous experiences searching the literature, writing literature reviews, or organizing and synthesizing several sources. What has been a struggle in the past? What has come easily for you in the past?

Given your prior experiences and future aspirations, what are 2 or 3 learning goals you would like to set for yourself to improve your literature review strategies and processes?

Example Learning Goal

Goal: Try several search strategies to improve targeted searching. I want to spend less time sorting through results and re-doing searches I've already done.		
Specific Strategy or Task	Estimated Time to Complete	Date to Complete
• Try using AND to narrow searches	10 mins	Jan. 28
• Create search log to track search strings and results	10 mins	Feb. 1
• Choose subject headings to use in addition to keywords in the databases	20 mins	Feb. 10
• Meet with librarian for feedback on search strings	30 mins	Feb. 15
What makes me care about this goal? I know that improving search efficiency and tracking will make me feel less stressed. I sometimes have to continue my searches several days apart and often feel like I'm repeating the same work. I think I would avoid searching and procrastinating less if I had better strategies for approaching searches.		

- Set between one and three goals
 - List your first goal, followed by specific strategies, actions, or tasks that you could do to grow towards this goal. Think about a few tasks that could each fit within an hour or less

Goal:		
Specific Strategy or Task	Estimated Time to Complete	Date to Complete
What makes me care about this goal?		

Goal:		
Specific Strategy or Task	Estimated Time to Complete	Date to Complete
What makes me care about this goal?		

Goal:		
Specific Strategy or Task	Estimated Time to Complete	Date to Complete
What makes me care about this goal?		

- Is there anything else you'd like to share or feel that the librarian should know?

Table 2.1 (continued)**Mid-Semester Check-In**

- Please describe your topic and scope of your project.
- What progress have you made so far?
- Revisiting the learning goals you set for yourself, what should your next steps be?
 - What are specific strategies, actions, or tasks that you could do within an hour to grow towards these goals?
- What help do you need?

Learning Goals Post-Activity

- Think about your previous experiences searching the literature, writing literature reviews, or organizing and synthesizing several sources after the research workshops. What has changed about your approach, if anything, since completing the three research workshops?
- When organizing, annotating, and synthesizing your literature, what processes have you decided to change, if any?
- Thinking back on your experiences and strengths and thinking ahead to how you plan to use these types of research skills in the future, please briefly reflect on the 2 to 3 learning goals you set for yourself to focus on during this semester.
- Is there anything else you feel the librarian should know?

Students completed a pre-activity designed to help them generate their own learning goals and a post-activity that asked them to reflect on their learning goals. After the pre-assignment, I visited the class for three short research workshops throughout the semester, with the content of the workshops described in the Appendix 2A. I sent students a short list of questions as a mid-semester check-in after the second workshop. Personalized follow-up emails were sent to students after the third session to address individual questions and learning goal strategies. A revised copy of the learning goals exercises is shown in table 2.1.

Reflections on goal setting

In a post-activity, students reflected on their learning goals. Qualitative data from the surveys were coded during two phases: a first phase of hand-coding using descriptive, in vivo, and values coding methods,⁴¹ and a second phase of coding used focused and pattern-coding.⁴² Several students recognized a need for goals with manageable, intermediate steps. For example, one student said, “I don’t think I set specific enough goals, so they weren’t that helpful to me. I should work on writing more specific actionable goals” (participant 1). Two students reported having forgotten about their goals from the start of

the semester (participants 2 and 5) and indicated in discussion that more frequent email or in-person follow-up from the librarian with specific strategy suggestions related to their goals would be helpful in the future. Others indicated they found the goal-setting experience helpful: “It was useful as a reflective tool,” and one student noted “especially when [the librarian] checked in about them [the goals] and offered suggestions” (participants 2 and 4). Another student stated that her initial goals of efficiency and streamlining “will come with time possibly. Or they will not come at all and these are simply not efficient processes” (participant 5), referencing an in-class discussion of linear and nonlinear aspects of the research process.

Table 2.2 details students’ metacognitive and affective perceptions of using learning goals as well as their changes to searching behavior from the post-activity. Students indicated they needed time and practice to continue working on their goals. One student confirmed the importance of finding a process that “works for me and still allows me to play the academic game” (participant 5). Another student realized their former approach of employing broad keywords often resulted in a glut of results and, ultimately, “too many articles that stay unread” (participant 2). Another student similarly recognized a need to focus on a few articles initially and then fill in the gaps, saying “[t]he alternative, that I am trying to avoid, is to follow the research in an interesting direction that is not actually productive” (participant 1). One student realized they had strong reactions against aspects of research and writing that felt dehumanizing, stating, “I don’t think this process can be done well void of connection with other people ...also the structure of academic writing is frustrating to me. It feels cold and inauthentic making the process horrible” (participant 5). As these quotes illustrate, when students reflect on these processes they are better able to put supports in place for themselves. Participant 5, for example, could consider research collaborations, rather than solo authorship, to honor her need for connection and collaboration.

Table 2.2. Post-Activity Metacognitive and Behavior Themes

Overarching Theme	Subcomponents
1. Metacognitive and affective awareness	<ul style="list-style-type: none"> • Recognizing progress may take time • Customizing research processes and workflows • Improving scope and avoiding overly broad searches • Recognizing parts of the research process as nonlinear • Conflicting emotions about academic writing • Valuing human network as part of the research process
2. Changes to behavior	<ul style="list-style-type: none"> • Recognizing strategies to refine searching • Increased knowledge of search operators • Considering switching citation managers

Students had similar comments about changes to their searching behavior becoming more focused after discussing strategies to refine searching, such as, “It has helped me to be more targeted rather than just putting my keywords into Google Scholar and scrolling through what comes up” (participant 2). Other students valued learning advanced strategies with search operators that they felt helped them with “utilizing the power of the database” (participant 1). Finally, after in-class discussions of pros and cons of citation managers, one student reported “thinking strongly about switching to Zotero” (participant 4) to better meet their needs. Students’ comments and coded themes suggest the process of setting and reflecting on learning goals contributed to students’ metacognitive and affective awareness of the research process. Students recognized where they might want to change strategies in the future, valued finding processes that work for them, and recognized the role of their emotions during the literature review project.

Discussion and Recommendations

This chapter explores learning goals as a motivational tool for library instruction. I conducted a small exploratory study with early career PhD students; the students set learning goals to strengthen their abilities to conduct research, annotate, and write a literature review. Qualitative responses show student awareness of growth in their research skills and that students valued the opportunity to improve. While not generalizable, the study suggests that learning goals can support student motivation through tracking growth and encouraging reflection. The exploratory study aligns with the existing literature on the benefits of goal setting and the use of learning goals.

Librarians may encounter limitations in trying to design instruction for students whose learning goals are vastly different. During the second workshop, I attempted a “choose your own adventure” structure so that students could work on areas of greatest interest or need related to their learning goals. In retrospect, more structure for the second workshop combined with one-on-one consultations with each student would have been more effective to address their individual needs and concerns. Ultimately, providing a range of resources for exploration outside of class time can be helpful when the needs and learning goals differ widely, as can individual email follow up or consultations with the students.

Seven Practices for Teaching Goal Setting with Graduate Students

How can we guide graduate students to create effective, motivating learning goals? The seven recommendations are intended to assist librarians’ reflection

and planning when using learning goals during instruction. While these recommendations were written with graduate students in mind, they lend themselves to adaptation for adult students or a general student population as well.

1. Discuss learning versus performance goals. An emphasis on learning goals and an in-class discussion about the differences between learning and performance goals may help relieve anxiety and produce more productive goal setting and reflection.⁴³ Student comments in this exploratory study indicated that students valued thoroughness and completeness in searching; they were also deeply committed to social justice work, helping others, and understanding and contributing to the field. They wanted to perform well in their research and writing. In fact, affective analysis of qualitative comments suggests issues of perfectionism and lack of confidence may be paralyzing or limiting for some students who want to perform well. Onwuqgbuzie and Jiao identified both of these issues within their “Anxiety-Expectation Meditation model of library anxiety,” a predictive model that was able to show the relationship between library anxiety and graduate students’ performance on a written research proposal that required extensive library research.⁴⁴ To alleviate and mitigate these concerns, librarians could have a discussion with students about scholarly expectations in the field and their graduate student journey toward becoming professional scholars. This activity could help identify areas for students to focus on in improving their research abilities as well as validate students’ prior educational and professional experiences, as Keller suggests in his work on motivation for adult learners.⁴⁵ Reframing prior notions of goal setting can also be a helpful way to refocus students toward a mastery frame where importance is placed on “practice, feedback, and errors are emphasized as learning opportunities.”⁴⁶

2. Break goals into specific, actionable pieces. From thirty interviews with a range of graduate students who had left their program, successfully completed their program, or were current students in a program, Collins found “specific, documented goals, measurable goals, challenging goals, and goal assessment” to be impactful in students’ perceptions of their persistence or lack of persistence in their graduate programs.⁴⁷ Librarians can guide graduate students toward focused, specific goals by helping them identify a super-ordinate goal, then engage in task analysis to break a large or vague goal such as “improve searching efficiency” into smaller component parts that could be tied to specific goals.⁴⁸ Reflections on what students perceived as strengths and struggles in the pre-activity showed differences in their metacognitive awareness. Some students initially had very clear, specific ideas of what they would like to work on, compared with others who wrote more generic goals. By the post-activity, students recognized the need for more specific, actionable goals. This finding is borne out in the literature through Latham’s work on superordinate goals versus action step goals,⁴⁹ where super-

ordinate goals are big picture, such as “better note taking and record keeping,” and action steps might be “use a synthesis matrix to record notes for the next week.” Popular works and game-design literature on micro goals, mini goals, or daily goals also support this technique.⁵⁰

3. Show examples of goals. In coaching students toward writing SMART goals, Dembo and Seli offer sample goals, giving a generic or overly broad version as a “poor” example and a “better” example that more closely follows the SMART acronym.⁵¹ These examples of goals are intended to help students write their own goal statements more effectively. Research with education graduate students also indicates that having students practice identifying qualities of strong goals may be helpful before they set their own goals.⁵² These researchers and others also noted that even as adults, some students were not able to accurately evaluate their own capabilities. Therefore, increasing practice in metacognitive awareness and self-reflection alongside goal setting is crucial.⁵³

4. Make sure the goals are important to students. Research indicates that a person’s “goal commitment” is crucial to whether they will follow through with action toward accomplishing the goal.⁵⁴ Thus, activities that ground goal setting in graduate students’ own values, interests, and career aspirations may help ensure goal commitment and persistence.⁵⁵ A dissertation study with STEM graduate students found that priming students to reflect on what they would like to accomplish academically and professionally and how having strong research skills will help get them there.⁵⁶ Consider asking a Likert question such as, “On a scale of 1 to 5, how much do you care about this goal?” or a more open-ended question such as, “Why do you care about this goal?” Additionally, discussing commitment as a group or in consultations could help ensure that students only commit to working toward goals they are genuinely invested in. Participating in a community of practice around their research goals is also thought to help increase goal commitment for graduate students.⁵⁷

5. Discuss expectations of efficiency. Help students understand that parts of the research process are inherently nonlinear and rely on creativity and insight. Such processes may resist efficient workflows. Efficiency was a frequent concern for students during each aspect of the research process in the exploratory study: searching, organizing and annotating, and synthesizing. While teaching students a linear and fast research process would be ideal, librarians recognize that so much of searching, organizing, and synthesizing isn’t straightforward at all. The findings of Blumer, Watulak, and Kenton support this idea; they noticed their graduate students struggled to feel confident that they had found all of the relevant research on their topics and frequently went back to find additional materials during the writing stage.⁵⁸ Further, compromised information processing and task-unrelated thoughts and be-

haviors are thought to be two of the negative impacts of library anxiety.⁵⁹ Awareness of the hallmarks of being overwhelmed can help adjust students' expectations, help them recognize the affective highs and lows of research, encourage help-seeking behavior, and hopefully keep students feeling engaged in their learning goals and the research process even when they encounter challenges. This is one of the primary benefits of shifting from a performance to a mastery mindset for research strategies.

6. Model coping and elicit task strategies. Help students recognize that for a major project, such as a literature review, they are building and framing their own mental models for their field and integrating large amounts of new information while constructing these schemas, all of which take time. This approach can help students feel self-compassion and encourage them to feel comfortable seeking help from the librarian, instructors, or peers. Research suggests that librarians can model research-related coping and task strategies for students, such as looking for patterns in search results to inform the next iteration of a search string. Modeling responses to a messy or unsuccessful search can help students recognize when they may want to switch strategies.⁶⁰ Dembo and Seli suggest that after students have identified goals, they ask themselves three questions to consider which strategies they might use towards attaining the goal: "How would other people achieve this goal? Who can help me achieve this goal? How have I achieved similar goals in the past?"⁶¹ Listing strategies that answer these questions may prevent students from getting stuck when things don't go perfectly.

7. Build relationships through feedback. Learning goals can help extend instruction in meaningful ways. Working closely with a group of graduate students over the course of an entire semester may feel like a luxury for librarians who are accustomed to one-shot research workshops or student-initiated research consultations. Regardless of the session length, Booth advocates for extending instruction through pre-session activities and post-session follow-up, where time permits.⁶² Even with a one-shot, a librarian could use a pre-session survey asking students to define their specific goals for the workshop and provide names and email addresses. These data could allow the librarian to follow-up with personalized recommendations, strategies, or links to additional sources.

Since discussion with students is seen as a critical component of goal setting, guidelines for goal-setting conversations can be helpful for librarians, such as Symonds and Tapps' Goal Discussion Checklist for teachers.⁶³ If time allows, goal setting in person or during one on one appointments can be ideal to create well-formed outcomes and help build long-term coaching relationships with graduate students.⁶⁴ Zimmerman and Moylan suggest using microanalytic questions—short open- or closed-ended questions that could be used for written feedback from students—can help stimulate self-regulation

and motivational beliefs. For example, a short question could be used to help a student reflect on whether their current research strategies or processes are successful or unsuccessful.⁶⁵ For managing progress and making adjustments once goals have been set, feedback from librarians and instructors on student progress is extremely important, as is students' self-reflection on progress toward the goal.⁶⁶ Goal setting for research skills could be an ideal way to partner with teaching faculty, who can help support goal setting and feedback throughout the semester.

Conclusion

Experimenting with learning goals as a motivational tool can be a rich area of exploration and growth for librarians, teachers, and graduate students. More research and practical studies are needed to show how best to coach adult students in crafting their own learning goals related to library research. Yet, the existing body of literature on goal setting suggests that benefits include greater engagement, persistence, and metacognitive awareness, qualities that align well with our profession's current focus on metaliteracy, metacognition, and threshold concepts. While not generalizable, the current exploratory study suggests goal setting may engage with students' lived experiences and future aspirations, increase their perceived relevance of information literacy through self-set goals, and build confidence in new skills and ways of thinking by encouraging a mastery instead of a performance mindset.

Appendix 2A. Contents of Three Research Workshops

First Workshop: Efficient Searching

30 minutes

- Search operators
- Subject headings in ERIC database
- Keyword matrix to organize search concepts
- Takeaway: Commit to spend 10 minutes this week exploring Subject Headings related to your literature review topic

Second Workshop: Analysis & Insight

1 hour

- Kuhlthau's Information Search Process
- Choose Your Own Adventure in small groups: "analysis" (such as search logs, synthesis matrices, and productivity tools) or "insight" (such as concept mapping and citation maps)
- Group discussion
- Takeaway: What one tool or strategy might you try in the next week? What would be most helpful as your next step?

Third Workshop: Synthesis

1 hour

- Common literature review problems
- Writing examples of literature review synthesis
- Discussion of students' research process and learning goals
- Takeaway: Individualized advice sent via email

Endnotes

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